# UPEI Calendar 2025-2026

# UPEI Calendar 2025-2026

*UNIVERSITY OF PRINCE EDWARD ISLAND*

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# 2025-26 Academic Calendar Cover Notes

**2025-2026**
**Academic Calendar**

Office of the Registrar
University of Prince Edward Island
550 University Avenue
Charlottetown, Prince Edward Island
C1A 4P3
Admissions 902-566-0439
Transcripts 902-566-0684
Fax: 902-566-0795
Email: registrar@upei.ca
Web: http://upei.ca/registrar

## NOTES

1. Contents of this calendar are subject to continuing review;
2. Students, upon registering, agree to be, and shall be, bound by the regulations and policies of the University of Prince Edward Island as published in the Academic Calendar or otherwise enacted by the University;
3. The University of Prince Edward Island reserves the right to alter anything described herein without notice, and every student registering shall be deemed to have agreed to any such alteration whether made before or after said registration. This agreement and the rights and obligations of the parties hereunder shall be governed by the laws of the Province of Prince Edward Island. Any action or proceeding for relief under this contract shall be brought in the Province of Prince Edward Island;
4. The University of Prince Edward Island does not accept responsibility for any loss, damage, or interruption of classes suffered by a student as a result of strikes, lockouts, weather, or any other cause beyond the reasonable control of the University.
5. UPEI reserves the right to refuse admission to any applicant.

PART I

# ABOUT THE UNIVERSITY OF PRINCE EDWARD ISLAND

# 1. History

*The University of Prince Edward Island recognizes and acknowledges our location on the unceded, ancestral lands of the Mi'kmaq People, in their traditional and current territory of Mi'kma'ki.*

Education is a key component of the Truth and Reconciliation Commission of Canada's Calls to Action. UPEI is committed to advancing reconciliation through higher education, and our establishment of the UPEI Faculty of Indigenous Knowledge, Education, Research, and Applied Studies in 2021 is an important step. As a community, we have started a journey of growth to realize the role we must play in promoting an understanding of Indigenous history and culture and supporting respectful relationships. Their history is our history.

The University of Prince Edward Island has a long-standing tradition of academic excellence dating back to the early 19th century, with roots in its founding institutions: Prince of Wales College (est. 1834) and Saint Dunstan's University (est. 1855). UPEI values its heritage and proudly embodies historic symbols of SDU and PWC in positions of honour within the shield that anchors the University's official coat of arms, and on its flag.

**The Early Years**

Commitment to education as a primary factor in PEI's development can be traced to PEI's earliest legislative council debates. Lieutenant-Governor Edmund Fanning (1786–1805) promoted the view that education was central to progress and that it should be seen as a priority, along with the enhancement of agriculture, fisheries, commerce, and population growth.

In 1820, Kent College School opened in Charlottetown, and a larger building known as the Central Academy was constructed from 1834 to 1836 near the corners of Kent Street and Weymouth Street. Central Academy provided Island youth with "educational qualification enabling them to take their place in the various professions and vocations of life with advantage to society and honour and credit to themselves." A teacher training institution called the Normal School opened in 1856.

Central Academy was upgraded in 1860 and renamed Prince of Wales College, in honour of the visit of His Royal Highness Edward Prince of Wales, later King Edward VII. In 1879, the College became co-educational, and the Normal School became part of it. In 1965, Prince of Wales College was elevated to university status.

Saint Dunstan's University was founded by the Roman Catholic Diocese of Charlottetown to educate lay leaders for Catholic society and young men who wished to enter a seminary. St. Andrew's College, which preceded SDU, was founded in 1831 under the leadership of Bishop Angus MacEachern. Saint Dunstan's College was established in 1855 by Bishop Bernard MacDonald on the property that today serves as the UPEI campus. The College received a provincial degree-granting charter in 1917 but did not award its first bachelor's degrees until the spring of 1941.

Starting in 1892, SDU was affiliated with Université Laval, awarding joint degrees, but following the decision to start granting its own degrees, SDU had severed its relationship with Laval by 1956. By the mid-20th century, the College had expanded into a small liberal arts university, having become co-educational in 1942.

In 1969, the Government of Prince Edward Island, under the leadership of Premier Alex B. Campbell, passed the University Act, which led to the creation of one university for the province. In September of that year, the University of Prince Edward Island welcomed its first students.

**The Provincial University**

The University's Charlottetown campus reflects the character of UPEI on many levels—a complementary blend of old and new, of tradition and innovation. Original SDU buildings have been renovated tastefully to retain the integrity of design while meeting modern standards, and many new academic, administrative, and residence buildings have been integrated into the UPEI campus.

The depth of UPEI's academic heritage is reflected in the buildings and scholarships named in honour of education pioneers and benefactors and in personal, day-to-day connections. Graduates of SDU and PWC taught at UPEI, children and grandchildren of former faculty and staff attended the University, and many families proudly continue to report multi-generational alumni connections to the institution.

The University has a long history of welcoming international students, and many graduates remain actively engaged with UPEI as part of the local community or networked through professional and collegial worldwide relationships. Alumni of UPEI, SDU, and PWC—now numbering more than 30,000—whether in Prince Edward Island, elsewhere in Canada, or abroad—maintain a close sense of connection with their University.

**UPEI: Fifty Years and Beyond**

In 2019, UPEI celebrated its 50th anniversary and showcased the many important developments in its academic and research programs over its five decades.

Since then, the University has continued to grow its academic programming, adding undergraduate and graduate programs, faculties, and schools to meet the ever-changing demands of industry and society. UPEI has expanded beyond the Charlottetown campus, opening the UPEI Cairo Campus in Egypt in 2018, and the Canadian Centre for Climate Change and Adaptation in St. Peters Bay, PEI in 2022.

Underlying the University's programs and activities is a commitment to rigorous study and inquiry, belief in the value of knowledge, lifelong capacity-building, and the development of the whole person—along with a sense of community at UPEI and in its local, regional, national, and international contexts. Faculty in all disciplines produce research and scholarly works of national and international calibre while prioritizing UPEI's well-earned reputation for high-quality teaching characterized by individual attention.

The University of Prince Edward Island is fortunate to have been served by a succession of outstanding Chancellors and Presidents/Vice-Chancellors, installed as follows:

**Serving as Chancellor:**

The Honourable Thane A. Campbell, CC, MA, LLD

- May 14, 1970

Gustave Gingras, CC, MD, FRSA, LLD, FRCP(c)

- May 12, 1974

David Macdonald Stewart, CM, CStJ, KLJ, FRSA, FHS(c), Hon LLD, Hon DBA

- October 1, 1982

The Honourable Gordon L. Bennett, OC, BSc, MSc, LLD, DCL

- March 9, 1985

Doris H. Anderson, OC, BA, LLD

- October 24, 1992

Norman Webster, CM, BA, MA, DCL

- November 2, 1996

William Andrew, Dip Eng, BEng

- March 6, 2005

Don McDougall, BComm, MBA, LLD

- March 30, 2014

Hon. Catherine Callbeck, CM, OPEI, LLD

- September 29, 2018

**Serving as President and Vice-Chancellor:**
Ronald J. Baker, OC, BA, MA, LLD

- May 14, 1970

Peter P. M. Meincke, BSc, MA, PhD

- September 23, 1978

C. W. J. Eliot, CM, BA, MA, PhD, DCL

- October 19, 1985

Elizabeth R. Epperly, BA, MA, PhD

- October 14, 1995

Lawrence E. Heider, DVM

- August 16, 1998 (acting)

H. Wade MacLauchlan, BBA, LLB, LLM, CM

- October 3, 1999

Alaa S. Abd-El-Aziz, BSc, MSc, PhD

- July 1, 2011

# 2. Mission

The University of Prince Edward Island, founded on the tradition of liberal education, exists to encourage and assist people to acquire the skills, knowledge, and understanding necessary for critical and creative thinking, and thus prepare them to contribute to their own betterment and that of society through the development of their full potential. To accomplish these ends, the University is a community of scholars whose primary tasks are to teach and to learn, to engage in scholarship and research, and to offer service for the benefit of our Island and beyond.

# 3. Vision

The University of Prince Edward Island will be a leader in delivering outstanding experiential learning opportunities that encourage our students to develop to their full potential in both the classroom and the community. Driven by discovery, UPEI will be a destination for those eager to advance our world by creating new knowledge. Together, we will foster the development of tomorrow's leaders who will emerge from their studies ready to excel and contribute to the betterment of our local and global communities.

# 4. Values

Accountability and Integrity • Excellence • Respect and Collegiality • Shared Responsibility

# 5. Accreditation

The University of Prince Edward Island is a member of the Association of Universities and Colleges of Canada, the International Association of Universities, and the Association of Atlantic Universities.

# 6. Governance and Structure

The University is governed by a Board of Governors and a Senate, instituted under the terms of the provincial University Act. The twenty-six-member Board consists of nine members appointed by the Lieutenant Governor-in-Council; the Chancellor of the University; the President of the University; the President of Holland College; two members elected from the Senate; two members elected from the faculty; two members elected from the alumni; two members elected from the student body; and six members elected by the Board.

The Senate is composed of the President of the University; the Vice-Presidents of the University; the Deans of Faculties and Schools; the Registrar; the University Librarian and Director of the Office of Skills Development and Learning; six members of the student body, at least one of whom is a mature or part-time student, or both; the President of the Student Union; one member of the Board of Governors; one member of the Alumni Association; and twenty-two members elected from the full-time teaching faculty.

The courses offered by the University lead to degrees in Arts, Science, Business Administration, Education, Music, Veterinary Medicine, Nursing, and Radiography. At its Convocation Exercises in May 2017, the University conferred 686 bachelor degrees, 64 DVM degrees, 134 master degrees, 10 doctoral degrees, 20 diplomas, and 26 certificates.

The University of Prince Edward Island is divided into the faculties of Arts, Business, Nursing, Science, Education, and Veterinary Medicine, and the schools of Mathematical and Computational Sciences and Sustainable Design Engineering. The schools of Sustainable Design Engineering and Mathematical and Computational Sciences fall under the Faculty of Science.

Undergraduate and graduate degrees are offered in all UPEI faculties.

# 7. University Powers

The University of Prince Edward Island was incorporated in 1969 by an Act of the Prince Edward Island Legislature. As amended in 1998, the Act empowers the University "to establish and maintain such faculties, schools, institutes and departments, chairs and courses... as are deemed necessary to carry out its purpose... and to grant earned certificates, diplomas and degrees at all levels."

# 8. Academic Costume

University gowns should be of black worsted or similar material with full sleeves, and reach to within twelve inches of the floor. Graduates of the University of Prince Edward Island shall be permitted to wear the University hood, with borders coloured as follows:

Bachelor of Arts: White
Bachelor of Applied Arts in Journalism: Crimson
Bachelor of Integrated Studies: Silver Gray
Bachelor of Business Administration: Drab
Bachelor of Business in Tourism and Hospitality: Burgundy
Bachelor of Business Studies: Red
Bachelor of Education: Light Blue
Bachelor of Music: Pink
Bachelor of Music Education: Mauve
Bachelor of Science: Golden Yellow
Bachelor of Science in Applied Climate Change & Adaptation: Golden Yellow and Aquamarine
Bachelor of Science in Biotechnology: Fuchsia
Bachelor of Science in Applied Health: Maroon with Royal Blue
Bachelor of Science in Sustainable Design Engineering: Orange
Bachelor of Science in Nursing: Apricot
Bachelor of Applied Science in Radiography: Blue and Gold
Bachelor of Child and Family Studies: Gold and Purple
Bachelor of Wildlife Conservation: Russet
Bachelor of Environmental Studies: Olive Green
Doctor of Veterinary Medicine: Grey
Master of Education: Light Blue Velvet
Master of Science: Golden Yellow Velvet
Master of Science in Sustainable Design Engineering: Orange Velvet
Master of Veterinary Science: Peacock Velvet
Master of Arts: White Velvet
Master of Applied Health Services Research: Royal Blue Velvet
Master of Business Administration: Drab Velvet
Master of Nursing: Apricot Velvet
Master in Global Affairs:  Light Blue Velvet with Gold piping
Doctor of Philosophy: Grey and Green Velvet
Doctor of Psychology:  Gold Velvet

# 9. Degrees, Diplomas, and Certificates

## UNDERGRADUATE PROGRAMS

**Bachelor of Arts Degree (Majors)**
Anthropology
Applied Communication, Leadership, and Culture
Canadian Studies
Diversity and Social Justice Studies
Economics
English
History
Modern Languages (French, Spanish)
Music
Philosophy
Political Science
Psychology
Religious Studies
Sociology
Sociology/Anthropology

**Bachelor of Arts (Minors)**
Acadian Studies
Anthropology
Asian Studies
Canadian Studies
Catholic Studies
Christian Studies
Classics
Diversity and Social Justice Studies
Economics
English
Fine Arts
French
History
International Studies
Island Studies
Korean Studies
Medieval and Renaissance Studies
Music
Philosophy
Political Science
Psychology
Religious Studies
Social Studies of Science
Sociology
Spanish
Theatre Studies
University Writing

**Bachelor of Arts (Honours & Honours Conversion)**
Anthropology
English
History
Philosophy
Psychology
Sociology
Sociology/Anthropology

**Additional Degree Programs – Arts**
Bachelor of Applied Arts in Journalism
Bachelor of Integrated Studies
Bachelor of Music
Bachelor of Music Education

**Bachelor of Science Degree (Majors)**
Actuarial Science
Analytics
Biology
Chemistry
Computer Science
Financial Mathematics
Foods & Nutrition
Kinesiology
Mathematics
Physics
Psychology
Statistics

**Bachelor of Science (Minors)**
Biology
Biotechnology
Chemistry
Computer Science
Environmental Studies
Foods & Nutrition
Mathematics
Medical and Biological Physics
Physics
Psychology
Statistics

**Bachelor of Science (Honours & Honours Conversion)**
Biology
Chemistry
Computer Science
Foods & Nutrition
Mathematics
Physics
Psychology
Statistics

**Additional Degree Programs – Science**
Bachelor of Applied Health in Paramedicine
Bachelor of Applied Science in Radiography
Bachelor of Environmental Studies
Bachelor of Wildlife Conservation
Bachelor of Science in Applied Climate Change and Adaptation
Bachelor of Science in Biotechnology
Bachelor of Science in Sustainable Design Engineering
Bachelor of Science in Nursing

**Business Administration Degrees**
Bachelor of Business Administration
*Bachelor of Business Administration (Honours & Honours Conversion)*
*Bachelor of Business Administration (Minor)*
Bachelor of Business in Tourism & Hospitality
Bachelor of Business Studies

**Co-operative Education Programs**
Biology
Business
Chemistry
Economics
Environmental Studies
Foods & Nutrition
Kinesiology
Mathematical and Computational Sciences
Physics

**Education Degrees**
Bachelor of Education
Baccalauréat en éducation—français langue seconde

**Veterinary Medicine Degree**
Doctor of Veterinary Medicine

## Certificates and Diplomas

**Certificates**
Accounting Certificate
Business Certificate
Public Administration Certificate
Certificate in Adult Education
Certificate in Educational Leadership in Nunavut

**Diploma**
Public Administration Diploma

## Specializations

**Biology Specializations**
Life Sciences
Environmental Biology

**Business Specializations**
Accounting
Entrepreneurship
Finance
International Business
Marketing
Organizational Management
Tourism and Hospitality

**Education Study Foci**
International Education
Indigenous Education
Adult Education

**Environmental Studies Specializations**
Environmental Thought and Practice
Island Environments and Sustainability
Environmental Innovation and Change Management

**Journalism Specializations**
General Journalism
Law and Politics
International Affairs
Business and Economics
Environment and Health
Science and Technology
Arts and Entertainment

**Mathematical and Computational Sciences Specializations**
Specialization in Video Game Programming
Specialization in Business Analytics
Specialization in Data Analytics
Pre-Professional Specialization (Actuarial)

**Physics Specializations**
Medical and Biological Physics

## GRADUATE PROGRAMS

Master of Applied Health Services Research
Master of Arts
Master of Business Administration
Master of Education
Master of Nursing
Master of Science—Faculties of Science and Veterinary Medicine
Master of Science in Sustainable Design Engineering
Master of Veterinary Science
Doctor of Philosophy—Faculties of Education, Science, Sustainable Design Engineering and Veterinary Medicine
Doctor of Psychology —Faculty of Arts
Doctor of Applied Health

# 10. Faculty and Academic Officers

## Faculty

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Abbas, Farhat, PhD (Newcastle University UK)
Adjunct Professor of School of Climate Change and Adaptation

Acharya, Bishnu, BEng (Institute of Engineering Nepal), MEng (Asian Institute of Technology), PhD (Dalhousie)
Adjunct Professor of School of Climate Change and Adaptation

Adamsson, Jay, BSc (Dalhousie), MSc (Ottawa), PhD (Carleton)
Adjunct Professor of Mathematical and Computational Sciences

Adeyanju, Charles, BA, (Nigeria), BA (York), MA (Guelph), PhD (McMaster)
Associate Professor of Sociology & Anthropology

Ahmed, Marya, BSc, MSc (Laurentian), PhD (Alberta)
Associate Professor of Chemistry and Engineering

Altman, Jennifer, MA (California State), MA, PhD (University of Louisville)
Assistant Professor of Psychology

Alvarez, Alexander, BSc, MSc (Cuba), PhD (France)
Assistant Professor of Mathematical and Computational Sciences

Antadze, Nino, BSc (Tbilisi, Georgia), MSc (Lund, Sweden), MSc (CEU, Hungary), PhD (Waterloo)
Associate Professor of Environmental Studies

Arfken, Michael E., BA (Texas), PhD (Tennessee)
Associate Professor of Psychology

Arias de Sanchez, Gabriela, BEd (Rio Cuarto, Argentina), MEd, PhD (UPEI)
Assistant Professor of Education

Augustine, Patrick, PhD (Carleton)
Assistant Professor, School of Climate Change and Adaptation

Badescu, Sanda, BA, BSc (Timisoara), MA, PhD (UWO)
Associate Professor of French

Baker, Joseph, BPhEd, MEd (Brock), PhD (Queen's)
Adjunct Professor of Applied Human Sciences

Barabé, Denis, BSc, MSc (Montréal)
Adjunct Professor of Biology

Barkema, Herman, DVM, MSc, PhD (Utrecht)
Adjunct Professor of Health Management

Bastante, Pamela, BA, MA (Simon Fraser), PhD (British Columbia)
Associate Professor of Modern Languages

Bateman, Scott, BSc (UPEI), MSc, PhD (Saskatchewan)
Adjunct Professor of Mathematical & Computational Sciences

Behzadan, Nazanin, BA (Alzahra University), MA (York), PhD (Ryerson)
Assistant Professor of Economics

Bell, Brandi, BA (Hons)(Ottawa), MA (Simon Fraser) PhD (Concordia)
Adjunct Professor of Nursing

Benlamri, Rachid, BSc (University of Constantino Algeria), MSc, PhD (University of Manchester UK)
Adjunct Professor of School of Climate Change and Adaptation

Bernard, Paul, BSc, PhD (UPEI)
Assistant Professor of Physiology

Berrue, Fabrice, MSc (Manchester), MSc (Montpellier), PhD (Univ. de Nice-Sophia Antipolis)
Adjunct Professor of Chemistry

Bethell, Richard, BA, PhD (New Brunswick), Post-Doctoral Fellow (Calgary)
Adjunct Professor of Chemistry

Bissessur, Rabin, BSc (Manitoba), MSc (Rochester), PhD (Michigan State)
Professor of Chemistry

Blake, Elizabeth, BA, BEd (New Brunswick), MEd (UPEI)
Assistant Professor in Education

Bolufe-Rohler, Antonio, BSc, MMath, PhD (Universidad de la Habana)
Assistant Professor of Mathematical & Computational Sciences

Bourassi, Emilia, DVM (France), MSc (UPEI), Diplomate, American College of Veterinary Internal Medicine (Small Animal)
Assistant Professor of Small Animal Medicine

Bourque, Andrea, BSc (NSAC), DVM, MVSc (UPEI), Diplomate of the American College of Veterinary Pathologists
Adjunct Professor of Pathology and Microbiology

Bourque, Laura, BSc (Mt. A), MSc, DVM (UPEI), DVSc (Guelph), Diplomate American College of Veterinary Pathologists
Adjunct Professor of Pathology and Microbiology

Braceland, Mark, BSc, PhD (Glasgow)
Adjunct Professor of Pathology and Microbiology

Braithwaite, Ann, BA (Concordia), MA (McGill), PhD (Rochester)
Professor of Diversity and Social Justice Studies

Bressan, Nadja, BSc (Universidade de Caxias do Sul), MSc, PhD (University of Porto)
Assistant Professor of Engineering

Brinklow, Laurie, BEd (UBC), BA (Victoria), MA (UPEI), PhD (Tasmania)
Assistant Professor of the Institute of Island Studies

Brown, Carolyn Peach, BSc (Hon) (Acadia), MSc (Guelph), PhD (Cornell)
Professor of Environmental Studies

Brown, Susan, BA (Dalhousie), MA (Guelph), PhD (Oxford)
Associate Professor of History

Bryanton, Janet, BScN (UNB), MN (Dalhousie), PhD (McGill)
Professor Emerita and Adjunct Professor of Nursing

Budu-Amoako, Ebo, BSc (Ghana), MSc (Calgary), PhD (UPEI)
Adjunct Professor of Health Management

Buote, Melanie, DVM, PhD (UPEI), Diplomate American College of Veterinary Pathologists
Assistant Professor of Anatomic Pathology

Burka, John F., BSc (Toronto), MSc, PhD (Guelph)
Professor Emeritus of Biomedical Sciences

Burke, Maxim R., BSc (Moncton), MSc, PhD (Toronto)
Professor of Mathematical and Computational Sciences

Burns Murphy, Jennifer, BSc, MSc, DVM (UPEI), Diplomate American Board of Veterinary Practitioners – Equine
Assistant Professor of Equine Ambulatory & Reproductive Services

Burns, Margie, BScN (UNB), MN (Dalhousie), PhD (McGill)
Assistant Professor of Nursing

Burns, Patrick, BVSc (Australia), MANZCS, Diplomate, American College of Veterinary Anesthesia & Analgesia
Associate Professor of Anesthesiology

Burton, Shelley, DVM (Saskatchewan), MSc (UPEI), Diplomate American College of Veterinary Pathologists
Professor of Clinical Pathology

Butler, Stephen, BA, BSc (Trent), PhD (Ottawa)
Professor of Psychology

Cai, Wenlong, MSc, PhD (Auburn)
Adjunct Professor of Pathology & Microbiology

Cairns, David, PhD (Carleton)
Adjunct Professor of Biology

Cameron, Marguerite, BSc, DVM, PhD (UPEI)
Adjunct Professor of Health Management

Câmpeanu, Cezar, MSc, PhD (Bucharest)
Professor of Mathematical & Computational Sciences

Carey, Anne Marie, DVM (UPEI)
Lecturer in Community Practice

Carroll, Timothy E., BBA (UPEI), MBA (Saskatchewan)
Associate Professor of Business Administration

Carrothers, Andrew, BScEE (UNB), MBA, PhD (McMaster), CFA, PEng.
Associate Professor of Business Administration

Cartmell, Christopher, BSc (Bangor), PhD (St. Andrews)
Adjunct Professor of Chemistry

Cassidy, Christine, BScN (Prince Edward Island), MN (Dalhousie), PhD (Dalhousie)
Adjunct Professor of Nursing

Ceballos, Alejandro, DVM (Caldas, Columbia), MSc (Austral de Chile), PhD (UPEI)
Adjunct Professor of Health Management

Champion, Stephen, BSc, MEng (UNB), MBA (Dalhousie)
Assistant Professor of School of Sustainable Design Engineering

Charlton, Patricia, BSc (St. Francis Xavier) MEd (St. Francis Xavier) PhD (New Brunswick)
Adjunct Professor of Nursing

Chen, Xiao, BPhil (Sun Yat-Sen), MA (Michigan), PhD (Toronto)
Assistant Professor of Business

Cheverie, J. Charles, BA (SDU), MSc, PhD (CUA)
Professor Emeritus of Biology

Chilton, Lisa, BA, MA, PhD (York)
Professor of History

Christensen, Jette, DVM, PhD (Royal Veterinary and Aquaculture University)
Adjunct Professor of Health Management

Chung, Edward Y. J., BA, MA, PhD (Toronto)
Professor of Religious Studies

Clancey, Noel, BSc (Mt. St. Vincent), DVM, MVSc (UPEI), Diplomate American College of Veterinary Pathologists
Assistant Professor of Clinical Pathology

Clark, Fraser, MSc (Queen's), PhD (UPEI)
Adjunct Professor of Biomedical Sciences

Clark, Larry, BS (Florida), MA (New Hampshire), PhD (Simon Fraser)
Adjunct Professor of Economics

Cockram, Michael, BVM (London), PhD (Liverpool), Member of the Royal College of Veterinary Surgeons
Professor of Animal Welfare

Cohen, Annabel, BA (McGill), ARCT (Royal Conservatory of Music), MA, PhD (Queen's)
Professor of Psychology

Coll, Doreley Carolina, BA, MA (Alberta), PhD (Toronto)
Associate Professor of Spanish and Latin American Studies

Comeau, Luc, BSc (Moncton), MSc (Quebec), PhD (Dalhousie)
Adjunct Professor of Health Management

Compton, Sharon, BSc, MEd (Alabama), PhD (Alberta)
Adjunct Professor of Applied Human Sciences

Conboy, Gary A., BSc, DVM, PhD (Minnesota), Diplomate American College of Veterinary Microbiologists
Professor Emeritus and Adjunct Professor of Pathology & Microbiology

Côté, Etienne, BSc (Rutgers), DVM (Cornell), American College Veterinary Internal Medicine and ACVIM (Cardiology)
Professor of Small Animal Medicine and Cardiology

Courtenay, Simon, BSc, MSc (Western Ontario), PhD (UBC)
Adjunct Professor of Biology

Courtenay-Hall, Pamela, BA, BEd, MA (Windsor), MA (Notre Dame), PhD (Toronto)
Associate Professor of Philosophy

Couture, Anthony, BA, MA (Windsor), PhD (McMaster)
Associate Professor of Philosophy

Crane, Brownyn, DVM (UPEI), MS (Florida), Diplomate American College of Theriogenologists
Associate Professor of Health Management

Creighton, Catherine, DVM (UPEI), MSc (UPEI), Diplomate American College Veterinary Anesthesia and Analgesia
Associate Professor of Anesthesiology

Crook, Alice, BSc (Bishops), DVM (Guelph)
Adjunct Professor of Health Management

Cusack, Lara, BSc., DVM (AVC)
Assistant Professor of Zoo, Exotic & Wildlife Animal Medicine

Dallmeier, Fransisco, BSc (Central University), MSc, PhD (Colorado State)
Adjunct Professor of School of Climate Change and Adaptation

Daoud, Dounia, MSc (Claude Bernard University Lyon), PhD (Universite du Quebec)
Adjunct Professor of Biomedical Sciences

Daoust, Pierre-Yves, DVM (Montreal), PhD (Saskatchewan), Diplomate American College of Veterinary Pathologists
Professor Emeritus and Adjunct Professor of Pathology & Microbiology

Davidson, T. Jeffrey, DVM (Guelph), MSc (UPEI)
Professor of Large Animal Ambulatory

Davies, Michael H., BSc, MSc, PhD (Queens)
Adjunct Professor of Biology

Dawson, Susan D., BA (Rutgers), PhD (Pennsylvania)
Professor of Anatomy

Dennis, Robert H., BA (Queen's), MA (Memorial), MA (UNB), PhD (Queen's)
Assistant Professor of Religious Studies

Desserud, Donald, BA, MA (Dalhousie), MA (UNB), PhD (Western Ontario)
Professor of Political Science

Di Santo, Aurelia, MA, PhD (Toronto)
Adjunct Professor of Education

Dohoo, Ian R., DVM, PhD (Guelph)
Professor Emeritus of Health Management

Doiron, Jason, BA (Hons) (UPEI), PhD (New Brunswick)
Associate Professor of Psychology

Doiron, Raymond, BA, BEd (UPEI), MA, PhD (UBC)
Professor Emeritus of Education

Doran, Gregory, BA (Western Ontario), MA, PhD (UNB)
Professor of English

Dorsey, Inge, BA (UPEI), BEd (Mount Saint Vincent), MEd (St. Mary's)
Lecturer University 100

Doucette, Tracy, BA, PhD (UPEI)
Associate Professor of Psychology

Dowbiggin, Ian, BA (McMaster), MA (Toronto), PhD (Rochester)
Professor of History

Doyle, Aimie, DVM (UPEI), MSc (Illinois), Diplomate American College of Veterinary Surgeons
Associate Professor of Large Animal Surgery

Drake, M. Patrice, BSc (UPEI), Nursing Diploma (PEI School of Nursing), BN (UNB), MN (Memorial)
Assistant Professor of Nursing

Duffy, J. Regis, BA (SDU), MSc, PhD (Fordham)
Adjunct Professor of Chemistry

Dufour, Simon, DVM, PhD (Montreal)
Adjunct Professor of Health Management

Dumas, Andre, BSc (Quebec), MSc (Laval), PhD, (Guelph)
Adjunct Professor of Health Management

Dundas, James, BSc, DVM (Michigan), MVSc (Saskatchewan), Diplomate American College of Veterinary Surgeons
Assistant Professor of Small Animal Surgery

Elce, Yvonne, DVM (Guelph), Diplomate American College of Veterinary Surgeons
Associate Professor of Health Management

ElSohaby, Ibrahim, BVSc, MVSc (Egypt), PhD (UPEI)
Adjunct Professor of Health Management

Epperly, Elizabeth, BA (UPEI), MA (Dalhousie), PhD (London)
Professor Emeritus of English

Erskine, Ronald, BSc, DVM (Illinois), MS, PhD (Pennsylvania)
Adjunct Professor of Health Management

Etkin, Nola, BSc (Ottawa), PhD (Alberta)
Professor of Chemistry

Evans, Gary, Dip CS, BA, HBComm, MBA (Windsor), PhD (Liverpool John Moores University)
Professor of Business Administration

Farooque, Aitazaz, BEng (Pakistan), MSc, PhD (Dalhousie)
Associate Professor of School of Climate Change and Adaptation

Fast, Mark, BSc (Dalhousie), MSc (UPEI), PhD (Dalhousie)
Professor of Fish Health

Fenech, Adam, BA (Hons) (Toronto), MES (York), PhD (Toronto)
Associate Professor of School of Climate Change and Adaptation

Finch, Sarah, BSc (Manitoba), MSc (McGill), PhD (Saskatchewan), RD
Assistant Professor of Foods & Nutrition

Fitzgerald, Anne Marie, BA. BEd (Western Ontario), MED (College of New Jersey), EdD (Lehigh)
Assistant Professor of Education

Fitzpatrick, Shannon, BSc (St. Mary's), MMath (Waterloo), PhD (Dalhousie)
Associate Professor of Mathematical and Computational Sciences

Fofana, Bourlaye, MSc, PhD (Belgium)
Adjunct Professor of Biology

Foley, Peter, BSc (UPEI), MSc (Acadia), DVM (UPEI), Diplomate American College of Veterinary Internal Medicine
Associate Professor of Small Animal Medicine

Foster, Adam, BSc (Simon Fraser), MSc (Guelph), PhD (Simon Fraser)
Adjunct Professor of Biology

Fraser, Russell, BSc, DVM (Guelph), MSc (Edinburgh), DVSc, PhD (Guelph), Diplomate American College of Veterinary Pathologists
Assistant Professor of Anatomic Pathology

Furlong, Anne, BA (Memorial), PhD (University College, London)
Associate Professor of English

Gabriel, Martha, BA (Toronto), MEd (MSVU), PhD (Ottawa)
Professor Emerita of Education

Gardner, Ian, BVSc (Australia), MPVM, PhD (Davis)
Professor Emeritus of Health Management

Garland-Baird, Lisa, BScN (UPEI), MN (Dalhousie), PhD ((Alberta)
Adjunct Professor of Nursing

Gauthier, Rachelle, BEd, MEd (UPEI), PhD (Moncton)
Assistant Professor of Education

Giberson, Donna J., BSc (Calgary), MSc, PhD (Manitoba)
Professor Emerita of Biology

Gill, Daphne, BA (Hons), PhD (UPEI)
Adjunct Professor of Biomedical Sciences

Gilmour, Robert, PhD (Syracuse, New York)
Professor of School of Sustainable Design Engineering

Gilroy, Cornelia, DVM, MVSc (UPEI), Diplomate American College of Veterinary Pathologists
Associate Professor of Clinical Pathology

Gitau, George, BVM (Nairobi), MSc (Guelph), PhD (Nairobi)
Adjunct Professor of Health Management

Godbout, Andrew, MSc, PhD (Calgary)
Assistant Professor of Mathematical and Computational Sciences

Goddard, J. Tim, BEd, MEd (Saskatchewan), PhD (Calgary)
Professor Emeritus and Adjunct Professor of Education

Gottschall-Pass, Katherine, BSc (St. FX), PhD (Saskatchewan), RD
Professor of Foods & Nutrition

Graham, Catherine, DVM, MVSc (Saskatchewan), Diplomate American College of Veterinary Pathologists
Adjunct Professor of Pathology & Microbiology

Graham, Susan, BBA (UPEI), MBA, MPA (Dalhousie), EdD (Phoenix)
Assistant Professor of Business Administration

Grant, Jon, BSc (Duke), PhD (South Carolina)
Adjunct Professor of Health Management

Gray, Frances M., AMus, BMus (McGill), MMus, DMus (Indiana)
Professor Emerita of Music

Greenwood, Spencer, BSc, MSc (Guelph), PhD (Dalhousie), DVM (Guelph)
Professor of Biomedical Sciences

Greer, Scott, BA (Memphis), MS, PhD (York)
Associate Professor of Psychology

Groman, David B., BA (Lafayette), MSc (Connecticut), PhD (Idaho)
Adjunct Professor of Pathology and Microbiology

Guo, Linyuan, BA (China), MEd, PhD (Alberta)
Associate Professor of Education

Haileslassie, Hiwot Abebe, BSc, MSc (Ethiopia), PhD (Saskatchewan)
Assistant Professor of Applied Human Sciences

Hale, Lawrence R., BSc (Simon Fraser), PhD (McMaster)
Associate Professor of Biology

Haltli, Brad, BSc (Thompson Rivers), MSc (Dalhousie)
Adjunct Professor of Biomedical Sciences

Hamilton, Stephanie M., BSc (Williamsburg), DVM, MVSc (Virginia Tech), Diplomate American College of Veterinary Anesthesia and Analgesia
Associate Professor of Anesthesiology

Hammell, K. Lawrence, BSc, DVM (Guelph), MSc (UPEI)
Professor of Fish Health

Hanna, Paul, DVM (Guelph), MSc (UPEI), Diplomate American College of Veterinary Pathologists
Adjunct Professor of Pathology & Microbiology

Hartwig, Sunny, BSc, MSc, PhD (Toronto)
Associate Professor of Biomedical Sciences

Heider, Lawrence E., DVM (Ohio State), Diplomate American College of Veterinary Preventive Medicine
Professor Emeritus of Veterinary Medicine

Heider, Luke, DVM (UPEI), PhD (Ohio State), Diplomate American College of Veterinary Preventive Medicine
Assistant Professor of Ruminant Farm Service and Public Health

Herbert, Rosemary J., BN, RN, MN (Dalhousie), PhD (McGill)
Adjunct Professor of Nursing

Hewko, Sarah, BSc, MHA (UBC), PhD (Alberta), RD
Assistant Professor of Foods & Nutrition

Hickey, David, BA (UPEI), MA (UNB), PhD (Western)
Assistant Professor of Applied Communication, Leadership and Culture

Hoddinott, Katie, BSc (Dalhousie), DVM (UPEI), DVSc (Guelph), Diplomate American College of Veterinary Surgery
Assistant Professor of Small Animal Surgery

Hoersting, Raquel, BA (Universidad San Francisco de Quito), MS, PhD (North Texas)
Assistant Professor in Psychology

Hori, Tiago, BSc, BEd, MSc (Sao Carlos), PhD (Memorial)
Adjunct Professor of Pathology and Microbiology

Horrocks, David, G. C., BMath, MMath, PhD (Waterloo)
Associate Professor of Mathematical and Computational Sciences

Hsiao, Amy, BSc (Massachusetts), MS, PhD (Carnegie), MBA (Memorial)
Professor of School of Sustainable Design Engineering

Hu, Yulin, BSc (Jilin, China), MSc (McGill University, QC), PhD (Western University, ON)
Assistant Professor of School of Sustainable Design Engineering

Hudson, Amanda, BSc (UPEI), MSc, PhD (Dalhousie)
Adjunct Professor of Health Management

Hurnik, Daniel, DVM (Guelph), MSc (UPEI)
Professor of Ambulatory/Swine

Hurta, Robert, BA, BSc, MSc, PhD (Manitoba)
Professor of Biology

Igboeli, Okechukwu, DVM, MSc (Nigeria), PhD, MBA (UPEI)
Adjunct Professor of Biomedical Sciences

Islam, Shafiqul, BSc, MSc (Dhaka), MSc, PhD (Concordia)
Professor of Mathematical and Computational Sciences

James, Melissa, BA (UPEI), MBA (Windsor), PhD (Lancaster)
Associate Professor of Business Administration

Jelley, Blake, BA, MA, PhD (Western)
Professor of Business Administration

Jia, Ye, BA, MA, PhD (Western)
Associate Professor of Economics

John, Emily, BSc (Victoria), DVM (Saskatoon), MSc (UPEI), Diplomate American College of Veterinary Internal Medicine
Assistant Professor of Large Animal Medicine

Johnson, Gerald, DVM (Guelph), Diplomate American College of Veterinary Pathologists, Veterinary Aquatic Studies
Professor Emeritus of Pathology and Microbiology

Johnson, Stewart, BSc (Victoria), MSc (Dalhousie), PhD (Simon Fraser)
Adjunct Professor of Health Management

Jones, Megan, BSc (Kings, Dalhousie), DVM (UPEI), PhD (Georgia), Diplomate American College of Veterinary Pathologists
Assistant Professor Wildlife Anatomic Pathology

Kakeu, Justin, BA, MA (Dschang), MA (ENSEA), PhD (Montréal)
Assistant Professor in Economics

Kamunde, Collins, BVM, MSc (Nairobi), PhD (Ontario)
Professor of Biomedical Sciences

Keefe, Gregory, BSc (NSAC), DVM (Guelph), MSc (UPEI)
Professor of Farm Service

Khedhiri, Sami, PhD (USC, Los Angeles)
Associate Professor of Mathematical and Computational Sciences

Kibenge, Frederick S. B., BVM (Makerere), PhD (Murdoch), Diplomate American College of Veterinary Microbiologists
Professor of Virology

Kibenge, Molly, BVM (Makerere), MSc, PhD (UPEI)
Adjunct Professor of Pathology and Microbiology

Kilfoil, Maria, PhD (Memorial)
Associate Professor of Physics

Kirby, Christopher, BSc (Dalhousie), MSc, PhD (Waterloo)
Adjunct Professor of Chemistry

Klassen, Greg, BSc, MSc (Guelph), PhD (Toronto)
Adjunct Professor of Biology

Kolahgar, Sam, MSc (Shahid Beheshti University), MBA (Northern Iowa)
Assistant Professor of Business

Krause, Jürgen, MSc, PhD (Germany)
Professor of Business Administration

Krautwurst, Udo, BA, MA (Manitoba), PhD (Connecticut)
Associate Professor in Sociology & Anthropology

Kujundzic, Nebojsa, BA, MA (Sarajevo), PhD (Waterloo)
Professor of Philosophy

Kulijeet, Grewal, B.Eng, M.Eng (Patlala India), PhD (Ropar, India)
Assistant Professor of School of Sustainable Design Engineering

Lacroix, Christian R., BSc, MSc (McGill), PhD (Guelph)
Professor of Biology

Lamont, Leigh, DVM (Guelph), MSc (Illinois), Diplomate American College Veterinary Anesthesia and Analgesia
Professor of Anesthesiology

Landry, Stephanie, BSc (McGill), DVM (UPEI)
Lecturer of Small Animal Surgery

Landry, Thomas, BSc, MSc (Moncton)
Adjunct Professor of Health Management

Lavoie, Carlo, BA (UMCE), MA (UQAR), PhD (UWO)
Associate Professor of French

Lawther, Derek W., BSc, MSc, PhD (Dalhousie)
Associate Professor of Physics

LeBlanc, David C., BSc (UNB), MSc (UBC)
Associate Professor of Mathematical & Computational Sciences

Lee, Scott, BA (MUN), MA (Western), PhD (Toronto)
Associate Professor of French

Lemm, Richard, BA (Simon Fraser), MA (Queen's), PhD (Dalhousie)
Professor of English

Li, Xiang (Sean), BSc (Hua Zhong), PhD (Australia)
Adjunct Professor of Biology

Liang, Lena Jigen, BEc, BA (China), MSc, PhD (Guelph)
Assistant Professor of Business

Ling, Kathy, BSc, DVM (UPEI)
Lecturer in Community Practice

Linkletter, Barry, BSc (UPEI), PhD (McGill)
Associate Professor of Chemistry

Liu, Michael T. H., BSc (SDU), MA (St. FX), PhD (Ottawa)
Professor Emeritus of Chemistry

Liu, Suqi, PhD (University of Ottawa)
Adjunct Professor of School of Climate Change and Adaptation

Lofstedt, Jeanne, BVSc (Pretoria), MS (Iowa), Diplomate American College of Veterinary Internal Medicine
Adjunct Professor of Health Management

López, Alfonso, DVM (Tamaulipas, Mexico), MSc, PhD (Guelph)
Professor Emeritus and Adjunct Professor of Pathology and Microbiology

Macartney, Gail, BScH (Queen's), MSc(A) (McGill), NP (Toronto)
Assistant Professor of Nursing

McAuley, Alexander, BA (UNB), BEd, MA (Queen's), EdD (Toronto)
Associate Professor of Education

McBurney, Scott, BSc Wildlife Biology (Guelph), DVM (UPEI)
Adjunct Professor of Pathology and Microbiology

McCallum, Jason, HBSc (Waterloo), PhD (Guelph)
Adjunct Professor of Biology

McClure, Carol, BA (Amherst College), DVM (Cornell), MVSc (Wisconsin-Madison), PhD (UPEI)
Adjunct Professor of Nursing

McClure, J Trenton, DVM (Louisiana State), MSc (Wisconsin-Madison), Diplomate American College of Veterinary Internal Medicine—Large Animal
Professor of Large Animal Medicine

McConkey, Sandra, DVM (Guelph), PhD (UPEI), Diplomate American College of Veterinary Pathologists
Associate Professor of Biomedical Sciences and Pathology and Microbiology

MacDonald, Dany, BA (Bishop's), MA, PhD (Queen's)
Associate Professor of Kinesiology

MacDonald, Edward, BA (UPEI), MA, PhD (Queen's)
Professor of History

MacDonald, Gordon W., BSc (Dalhousie), MSc, PhD (Toronto)
Professor of Mathematical and Computational Sciences

MacDonald, Jo-Ann, BN (St. FX), MN (Dalhousie), PhD (McGill)
Professor of Nursing

MacDonald, Ron, BSc (UCCB), BEd, MEd (St. FX), PhD (South Australia)
Associate Professor of Education

McDuffee, Laurie, B.S. (Colorado), DVM (Colorado State), PhD (California), Diplomate American College of Veterinary Surgeons
Professor of Large Animal Surgery

MacFadyen, Joshua, BA (UPEI), MA (Waterloo), PhD (Guelph)
Associate Professor in Applied Communication, Leadership and Culture

MacFarlane, Amy, BBA (Acadia), CA (British Columbia)
Assistant Professor of Business Administration

McIntyre, John, BA (Simon Fraser), PhD (McGill)
Associate Professor of English

McIsaac, Michael, BSc (UPEI), MMath, PhD (Waterloo)
Associate Professor Mathematical & Computational Sciences

McKenna, Peter, BA, MA, PhD (Dalhousie)
Professor of Political Science

McKenna, Shawn, BSc, DVM, PhD (UPEI)
Professor of Ruminant Farm Service

McKenzie-Gopsill, Andrew, BSc-Hons (Trent), PhD (Guelph)
Adjunct Professor of Biology

MacKinnon, Stacey, BSc, MSc, PhD (Calgary)
Associate Professor of Psychology

MacLaine, Brent, BEd (UPEI), MA (East Anglia), PhD (UBC)
Professor Emeritus of English

MacLean, Jen, BSc, DVM (UPEI)
Lecturer of Radiology and Diagnostic Imaging

MacLellan, Deborah, BSc (UPEI), MSc (Alberta), PhD (Saskatchewan)
Professor Emerita of Applied Health Sciences

MacLellan, Michael, BSc, MSc (Waterloo), PhD (Laval)
Assistant Professor of Kinesiology

MacMillan, Kathleen, BSc, MSc, DVM (UPEI), Diplomate American Board of Veterinary Practitioners – Equine
Associate Professor of Ambulatory Equine Service

McNiven, Mary A., BScAgr (Guelph), Agr. Dr. (Swedish Univ. of Agricultural Sciences)
Adjunct Professor of Health Management

MacQuarrie, Colleen, BA (UPEI), MA (Carleton), PhD (Simon Fraser)
Professor of Psychology

MacQuarrie, Stephanie, BSc (Mt. Allison), PhD (Virginia Polytechnic Inst.)
Adjunct Professor of Chemistry

McRuer, David, BSc (Mt. A), MSc (Carleton), DVM (UPEI), Diplomate American College of Veterinary Preventive Medicine
Adjunct Professor of Pathology & Microbiology

McSorley, Grant, BEng (McGill University), PEng, PhD (École Polytechnique de Montréal)
Assistant Professor of School of Sustainable Design Engineering

Mady, Tarek, B.Comm (Alexandria University), MSc (Louisiana), PhD (Norfolk, Virginia)
Associate Professor of Business Administration

Marchbank, Douglas, BSc, PhD (UPEI)
Adjunct Faculty of Chemistry

Markham, R.J. Frederick, BSc, PhD (Guelph)
Adjunct Professor of Pathology and Microbiology

Martin, Chelsea, DVM (UPEI), PhD (Ohio State), Diplomate of the American College of Veterinary Pathologists
Associate Professor of Anatomic Pathology

Martinson, Shannon, BSc (UNB), DVM, MVSc (UPEI), Diplomate American College of Veterinary Pathologists
Associate Professor of Anatomic Pathology

Mellish, Martha, DVM (UPEI), Diplomate American College of Theriogenologists
Assistant Professor of Equine Ambulatory

Mercer, Nicholas, PhD (U. of Waterloo)
Assistant Professor of Environmental Studies/Island Studies

Messier, Philippe, BSc (Montreal), MA (Laval), PhD (McGill)
Assistant Professor of Sociology & Anthropology

Miller, Tess, BSc (York), BEd (Toronto), MEd, PhD (Queen's)
Professor of Education

Milne, David, BA (Queen's), MA, PhD (Toronto)
Professor Emeritus of Political Science

Mitchell, Jean, BA (UPEI), MA (Carleton), MA, PhD (York)
Associate Professor of Sociology & Anthropology

Moak, Peter, BSc (Massachusetts), BSc (Pennsylvania), DVM (Minnesota)
Assistant Professor of Small Animal Surgery

Moffatt, Lyndsay, BA (Hons), BEd (Toronto), MA, PhD (British Columbia)
Associate Professor of Education

Montelpare, William, BPHE (Hons) (Lakehead), MSc (Ottawa), PhD (Toronto)
Professor of Applied Human Sciences

Moran, James E., BA, MA, PhD (York)
Professor of History

Muckle, Anne, DVM, MSc, PhD (Guelph)
Adjunct Professor of Clinical Bacteriology

Muirhead, Tammy, BSc (NSAC), DVM, MSc (UPEI), Diplomate American College of Veterinary Internal Medicine
Associate Professor of Biomedical Sciences

Murphy, J. Patrick, BSc, MSc, PhD (Dalhousie)
Assistant Professor of Biology

Murray, Christina, BA, BScN (UPEI), MN, PhD (Alberta)
Associate Professor of Nursing

Murray, Malcolm, BA, MA, PhD (Waterloo)
Professor of Philosophy

Murray, Shannon, BA (Dalhousie), MA, PhD (Alberta)
Professor of English

Myers, Sharon, BA (Mt. Allison), MA (St. Mary's), PhD (New Brunswick)
Assistant Professor of History

Nagarajan, Palanisamy, BA, MA (Mysore), PhD (Kansas)
Professor Emeritus of Economics

Naterer, Greg,
Professor of School of Sustainable Design Engineering

Nelson, Carolanne, BSc (Alberta), PhD (UBC)
Adjunct Professor of Applied Human Sciences

Neudorf, Cordell, BSc, MD (Saskatchewan), MHSc (Toronto)
Adjunct Professor of Health Management

Ngo, Trung Dung, MSc (Southern Denmark), PhD (Aalborg University)
Professor of School of Sustainable Design Engineering

Nguyen, Hai, BSc-Hons, MSc, PhD (University of Ottawa)
Adjunct Professor of Biology

Nilsson, Thomy, BSc (Rensselear), MSc, PhD (Alberta)
Professor Emeritus of Psychology

Noronha, Christine, PhD (McGill)
Adjunct Professor of Biology

O'Brien, Debbi, BSc (UPEI), PhD (UNB)
Clinical Psychologist

Ogilvie, Adam, BSc (Dalhousie), DVM (UPEI), DVSc (Guelph), Diplomate American College of Veterinary Surgeons – Small Animal
Associate Professor of Small Animal Surgery

Ogilvie, Timothy, DVM, MSc, LLD (Guelph), Diplomate American College of Veterinary Internal Medicine
Professor Emeritus of Health Management

O'Meara, Martha, MA, PhD (Universitat de València)
Assistant Professor of Psychology

Opps, Sheldon, BSc (Guelph), MSc (Toronto), PhD (Guelph)
Professor of Physics

Ortenburger, Arthur, BS (Bacteriology), BS (Vet Sci), DVM (Washington State), MS (Michigan State)
Adjunct Professor of Health Management

Osgood, Elizabeth, BSc (Arizona), MSc (Texas), PEng, PhD (Dalhousie)
Assistant Professor of School of Sustainable Design Engineering

O'Sullivan, Lynne, DVM, (UPEI), Diplomate American College of Veterinary Internal Medicine – Cardiology
Professor of Cardiology

Overall, Karen, BA, MA, VMD (Pennsylvania), PhD (Wisconsin-Madison), Diplomate American College of Veterinary Behaviorists
Associate Professor of Health Management

Palmer, Stephanie, BSc, MSc (McGill University), PhD (University of Leicester)
Adjunct Professor of School of Climate Change and Adaptation

Patey, Ariana, BA (Hons) (Memorial), MA (School of Oriental and African Studies), PhD (Heythrop)
Visiting Assistant Professor in Religious Studies

Patterson, Michelle, BSc, PhD (UPEI)
Adjunct Professor of Physics

Pearson, Jason, BSc, Btech (Cape Breton), PhD (Dalhousie)
Associate Professor of Chemistry

Peters, Rick, BSc (Guelph), BEd (Western Ontario), MSc, PhD (Guelph)
Adjunct Professor of Biology

Peters, Wayne, DipEng (UPEI), BSc, MSc, PhD (UNB)
Associate Professor of School of Sustainable Design Engineering

Pettingill, Peter, BA (McMaster), MSW (Wilfred Laurier), MSc (McMaster)
Adjunct Professor of Health Management

Phillips, Nia L., BS (Mississippi), MA, PhD (Kansas)
Associate Professor of Psychology

Pittman, Jeremy, BSc, MSc (Regina), PhD (Waterloo)
Adjunct Professor of Biology

Polson, James, BSc, MSc (Guelph), PhD (UBC)
Professor of Physics

Power, Christopher, BScHon, MSc, PhD (University of Western Ontario)
Associate Professor of Mathematical and Computational Sciences

Pratt, T. K., BA, MA (Toronto), PhD (London)
Professor Emeritus of English

Proudfoot, Kathryn, BSc (California), MSc, PhD (British Columbia)
Associate Professor of Health Management

Pye, Charlotte, BSc, DVM (UPEI), DVSc (Guelph), Diplomate American College of Veterinary Dermatology
Assistant Professor of Dermatology

Quail, Jacqueline, BSc, MSc (Saskatchewan), PhD (McGill)
Adjunct Professor of Health Management

Quantick, Robin, BA (Trent), BEd (Queens), MEd (Queens), PhD (Trent)
Adjunct Professor of Education

Quijon, Pedro, BSc, MSc (Chile), PhD (Memorial)
Associate Professor of Biology

Raab, Oriana, BA (Simon's Rock College of Bard), DVM (St. George's), MVSc (UPEI),
Diplomate American College of Veterinary Internal Medicine
Assistant Professor of Small Animal Medicine

Raiswell, Richard, BA (Carlton), MA, PhD (Toronto)
Associate Professor of History

Randall, James, BA, MA (York), PhD (Washington)
Professor Emeritus of Island Studies

Rankaduwa, Wimal, BA, MSc (Peradenyia), MA, PhD (Dalhousie)
Professor of Economics

Rashchupkina, Yuliya, BA, MA (Dahl East-Ukrainian University), MPA (Nebraska at Omaha), PhD (University of Massachusetts)
Assistant Professor of Political Science/Climate Change and Adaptation

Rath, Suzanne, BA (University of British Columbia), PhD (Queen's University)
Assistant Professor of Business

Reed-Jones, Rebecca, BSc, MSc, PhD (Guelph)
Associate Professor of Kinesiology

Richards, Judy Lynn, BASc (Guelph), MA, PhD (Western Ontario)
Associate Professor of Sociology & Anthropology

Riley, Chris, BSc, BVSc, (Melbourne), MSc, PhD (Saskatchewan)
Adjunct Professor of Health Management

Riley, John, BSc (UNB), PhD (Dalhousie)
Adjunct Professor of Chemistry

Ritter, Caroline, DVM (Hannover), PhD (Calgary)
Assistant Professor of Health Management

Riveroll, Angela, BSc, PhD (Dalhousie)
Adjunct Professor of Pathology & Microbiology/Climate Change and Adaptation

Robb, S. Andrew, BA (UBC), MA (Simon Fraser)
Professor Emeritus of History

Rodriquez-Lecompte, Juan Carlos, DVM, MSc (Columbia), PhD (UPEI)
Professor of Immunology

Rodgers, Marianne, BScH (Mt. Allison), PhD (Simon Fraser)
Adjunct Professor of Chemistry

Ross, P. Joel, BSc (UNB), PhD (Ottawa)
Assistant Professor of Biology

Rossiter, Melissa, BSc (UPEI), MSc (MSVU), PhD (Guelph), RD
Associate Professor of Foods & Nutrition

Rowan, Carol, BA (Trent), Dip. Ed (Bishop's), MA (Victoria), PhD (UNB)
Adjunct Professor of Education

Ryan, Catherine L., BSc (St. Mary's), MA, PhD (Carleton)
Professor of Psychology

Saad, Nasser, BSc (Ain Shams), MSc, PhD (Concordia)
Professor of Mathematical and Computational Sciences

Saksida, Sonja, BSc, DVM, MSc (Guelph)
Assistant Professor of Health Management

Saksida, Tina, BSc (Hons), PhD (Toronto)
Associate Professor of Business Administration

Sanchez, Javier, DVM (Rio Cuarto), PhD (UPEI)
Professor of Epidemiology

Saunders, Travis, BSc (Calgary), MSc (Queen's), PhD (Ottawa)
Associate Professor of Kinesiology

Scarth, Katherine, BA (Dalhousie), BA (Hons), MA (Memorial), PhD (Warwick)
Associate Professor in Applied Communication, Leadership and Culture

Sentance, James, BA, MA, PhD (Carleton)
Associate Professor of Economics

Shaw, Darcy, DVM, MVSc (Saskatchewan), MBA (Royal Roads),
Diplomate American College of Veterinary Internal Medicine
Professor Emeritus and Adjunct Professor of Companion Animals

Shaw, Stephanie, B.Eng (McMaster), MASc, PhD (Guelph)
Assistant Professor of Sustainable Design Engineering

Shilton, Wendy, BA, MA, PhD (Toronto)
Associate Professor of English

Shin-Bouey, Sung Ha, BMus, OpDip (Toronto), MMus (Victoria)
Associate Professor of Music

Silva-Opps, Marina, BSc, MSc, PhD (Montreal)
Associate Professor of Biology

Singh, Amreek, BVSc, AH (Col of Vet Sc, Mathura, India), MSc, PhD (Guelph)
Professor Emeritus of Veterinary Medicine

Smith, Philip, BA (Texas at Dallas), MA, PhD (Western Ontario)
Professor of Psychology

Smitheram, Verner, BA, PhilM (Toronto)
Professor Emeritus of Philosophy

Snow, Kathy, BSc, BEd (UPEI), MA (Bath) EdD (Calgary)
Associate Professor of Education

Sorensen, Dale, BMus (UPEI), MMus (Northwestern), DMA (Toronto)
Assistant Professor of Music

Speare, David, DVM, DVSc (Guelph)
Professor of Fish Pathology

Spears, Jonathan, BSc, DVM, MVSc (UPEI)
Associate Professor of Biomedical Sciences

Springer, Stevan, BSc (UNBC), MSc (Simon Fraser), PhD (Washington)
Assistant Professor of Biology

Srebrnik, Henry, BA, MA (McGill), MA (Brandeis), PhD (Birmingham)
Professor of Political Science

Stevens, Don, BSc (Victoria) MSc, PhD (UBC), PDF (Stanford)
Adjunct Professor of Biomedical Sciences

Stevens, Jason, BSc (Memorial), MA (Carleton), PhD (Dalhousie)
Associate Professor of Economics

St-Hilaire, Andre, BSc (Royal Roads Military College), MAS (UNB), PhD (Université du Québec)
Adjunct Professor of Biology

Stoughton, Ben, BSc, DVM (Florida), PhD (Texas), Diplomate American College of
Veterinary Internal Medicine
Assistant Professor of Large Animal Medicine

Strachan, Leisha, BPEd, BEd (Manitoba), MHK (Windsor), PhD (Queen's)
Adjunct Professor of Applied Human Sciences

Strong, Jessica, BA, BMP (Indiana), MA, PhD (Louisville)
Assistant Professor of Psychology

Stryhn, Henrik E., MSc (Copenhagen), PhD (Royal Veterinary & Agricultural University)
Professor of Biostatistics

Stull, Jason, BA (Vermont), VMD (Pennsylvania), MPVM (California), PhD (Guelph)
Assistant Professor of Epidemiology

Sweeney-Nixon, Marva I., BSc (Mt. Allison), MSc, PhD (Dalhousie)
Professor of Biology

Swingler, Andrew, BEng (Lakehead), PEng, PhD (UBC)
Associate Professor of School of Sustainable Design Engineering
Takano, Yoshiyuki, BA, MA (Trinity Western), PhD (UBC)
Assistant Professor of Psychology

Taylor, Jennifer P., BSc (UPEI), MSc, PhD (Toronto), RD
Professor of Foods & Nutrition

Teather, Kevin, BSc (Brock), MSc (Queen's), PhD (Carleton)
Associate Professor of Biology

Thakur, Krishna, BVSc (Nepal), MSc (Purdue), PhD (UPEI)
Assistant Professor of Infectious Disease Epidemiology

Thorne, Carolyn, BEd, BPE (Memorial), MEd (Toronto), PhD (South Australia)
Assistant Professor of Education

Tilleczek, Kate, BA Honours (Wilfrid Laurier), BEd (Nipissing), MA (Laurentian), PhD (Toronto)
Adjunct Professor of Education

Tobin vandenHeuvel, Gailene, BSc (Dalhousie), MSc, MBA, PhD (UPEI)
Adjunct Professor of Pathology & Microbiology

Trivett, Andrew, DipEng (Dalhousie), BEng (TUNS), PhD (Massachusetts)
Associate Professor of School of Sustainable Design Engineering

Tsuma, Victor, BVM (Nairobi), PhD (Sweden)
Adjunct Professor of Health Management

van den Heuvel, Michael R., BSc, PhD (Waterloo)
Professor of Biology & Biomedical Sciences

Vanleeuwen, Charlene, BASc (Guelph), BEd (Ottawa), MEd, PhD (UPEI)
Adjunct Professor of Education

VanLeeuwen, John, DVM, MSc, PhD (Guelph)
Professor of Farm Service

Velaidum, Joe, BA, MA, (Wilfrid Laurier), PhD (McMaster)
Associate Professor of Religious Studies

Veugelers, Paul, MSc (Wageningen), PhD (Amsterdam), PFD (British Columbia)
Adjunct Professor of Health Management

von Eccher, Magdalena, BMus (Lethbridge), MMus (British Columbia), DMus (McGill)
Assistant Professor of Music

Wagner, Brian D., BSc (Dalhousie), PhD (Western Ontario)
Professor of Chemistry

Wagner, Donald M., BA, MAcct (Waterloo), PhD (UBC)
Associate Professor of Business Administration

Wang, Xiuquan, BSc (Taiyuan University of Technology), MSc (North China University), PhD (Regina)
Associate Professor of School of Climate Change & Adaptation

Wang, Yanwen, BSc, MSc (Gansu, China), PhD (Alberta)
Adjunct Professor of Biomedical Sciences

Wang, Yingwei, BE, ME (HIT, China), PhD (Waterloo)
Associate Professor of Mathematical & Computational Sciences
Adjunct Professor of Pathology and Microbiology

Waterman, William, CPA (New Brunswick), CMA (New Brunswick), MBA (Moncton)
Assistant Professor of Business

Weeks, Lori, BSc (UPEI), MSc (Maine), PhD (Virginia Tech)
Adjunct Professor of Education

Whelan, William, BSc (UPEI), MSc, PhD (McMaster)
Professor of Physics & Biomedical Sciences

Whyte, Shona, BSc, PhD (Aberdeen, Scotland)
Adjunct Professor of Pathology and Microbiology

Wichtel, Jeffrey, BVSc, PhD (Massey), West, Michael, BSc (Dalhousie), DVM (UPEI),
Diplomate American College of Veterinary Internal Medicine
Adjunct Professor of Health Management

Wiebe, Sean, BA, BEd, MA (British Columbia)
Associate Professor of Education

Wohlgemut, Esther, BA (McGill), MA, PhD (Ottawa)
Associate Professor of English

Wright, Brendan, MA (U of Kings College), PhD (U of British Columbia)
Assistant Professor of Asian Studies

Wright, Glenda M., BSc, PhD (Toronto)
Professor of Anatomy

Wyeth, Russell, BSc (Victoria), PhD (Washington)
Adjunct Professor of Biology

Xu, Huimin, MSc, PhD (Toronto)
Adjunct Professor of Pathology and Microbiology

Yao, Luifang, BEng, MEng, PhD (McMaster University)
Assistant Professor of Business

Yason, Carmencita V., DVM, MSc (Philippines), PhD (Cornell),
Diplomate American College of Veterinary Microbiologists
Adjunct Professor of Pathology and Microbiology

Ye, Qiang, BEng, MEng (Harbin Institute of Technology), PhD (Alberta)
Adjunct Professor of Mathematical and Computational Sciences

Zerpa, Carlos, BSc, MEd, PhD (Lakehead)
Adjunct Professor of Applied Human Sciences

Zhang, Michael, BSc (Zhejiang), MA (Xiamen), PhD (Western Ontario)
Adjunct Professor of Applied Human Sciences

Zinck, Andrew M., BMus (Acadia), MMus (Alberta), PhD (Toronto)
Associate Professor of Music

Zuccolo, Jonathan, BSc (Simon Fraser), PhD (Calgary)
Adjunct Professor of Pathology & Microbiology

## Librarians

Betty Jeffery, BA (Acadia), MLS (McGill)
Librarian Emerita
Donald S. Moses, BA (UPEI), MLS (Western)
University Librarian

Melissa Belvadi, BA, MLS (California)
User Experience & Collections Librarian

Simon Lloyd, BA (Kings College), MLS (Dalhousie)
University Archives & Special Collections Librarian

## Board of Governors

The Chancellor of the University

- Hon. Catherine Callbeck, CM, OPEI, LLD

The President and Vice-Chancelor of the University (Interim)

- Greg Keefe, BSc, DVM, MSc

The President of Holland College of Applied Arts and Technology

- Alexander (Sandy) MacDonald

Nine members appointed by the Lieutenant-Governor-In-Council:

- Jim Bradley
- Charles Curley
- Albert Fogarty
- Kathy Hambly

- Geraldine Johnston
- Brian Thompson

Two members elected by and from the Senate of the University:

- Rabin Bissessur, BSc, MSc, PhD
- Adam Fenech, BA (Hons), MES, PhD

Two members elected by and from all the members of the teaching staff of the University:

- Tim Carroll, BBA, MBA
-

Two members elected by and from the Alumni of the University:

-

- Perlene Morrison

Two members elected by and from the student body of the University:

-
-

Six members elected by the Board:

- Shannon MacDonald, Chair of Board of Governors
- Kateri Coade
- Peter Hayes
- Alex MacBeath
- Stan MacPherson

## Senate

The Senate of the University of Prince Edward is constituted as follows:

Ex Officio

- Greg Keefe, BSc, DVM, MSc
  Interim President (Chair)

- Tara Judson, BBA, CPA, CA
  Interim Vice-President, Administration and Finance
- Greg F. Naterer, B.Math, MASc, PhD (Waterloo), FCSME, FASME, FEIC, FCAE, P.Eng.
  Vice-President, Academic and Research

- Sharon Myers, BA, MA, PhD
  Interim Dean of Arts

- Nola Etkin, BSc, PhD
  Dean of Science

- Miles Turnbull
  Dean of Education

- Tarek Mady, B.Comm, MSc, PhD
  Dean of Business Administration

- John VanLeeuwen, DVM, MSc, PhD
  Interim Dean of Veterinary Medicine

- Christina Murray, BA, BScN, MN, PhD
  Dean of Nursing

- Marva Sweeney-Nixon, BSc, MSc, PhD
  Associate VP (Research) & Dean of Graduate Studies

- Wayne Peters, PEng, PhD
  Interim Dean of Sustainable Design Engineering

- Gary Evans, BA, BComm, MBA, PhD
  Interim Dean of Indigenous Knowledge, Education, Research and Applied Studies
- Donald Moses, BA, MLIS
  University Librarian

Alumni Representative – Sjors Reijers (2026)
Board Representative – TBD
Students:

- Camille Mady (2024)
- Noah Manholland (2024)
- Owen Brown (2024)
- Anna MacLaren (2024)
- Sasha Nandlal (2024)
- TBD

**Elected by the Teaching Faculty**
**Term expires 30 June 2024**

- Etienne Côté, BSc, DVM, Diplomate ACVIM and ACVIM (Cardiology) – Companion Animals AVC
- Melanie Buote, BSc (Hon), DVM, DACVP, PhD – Path/Micro, AVC
- Doreley Coll, BA, MA, PhD – Modern Languages, ARTS
- *Robert Dennis, BA, MA, MA, PhD – Religious Studies, ARTS
- **Carlo Lavoie, BA, MA, PhD – Modern Languages, ARTS
- Barry Linkletter, BSc, PhD – Chemistry, SCIENCE
- Cathy Ryan, BSc, MA, PhD – Psychology, ARTS
- W. Ben Stoughton, DVM, PhD, DACVIM (LA) – Health Management, AVC
- ***Andrew Trivett, BEng, ScD, Peng – Sustainable Design Engineering, SCIENCE (Faculty at Large)

- Travis Saunders, BSc, MSc, PhD –Applied Human Sciences, SCIENCE

**Term expires 30 June 2025**

- Alyson Campbell, BScN, PhD – NURSING
- Bill Waterman, CPA, CMA, MBA – BUSINESS
- Paul Bernard, BSc, PhD – Biomedical Sciences, AVC
- ****Ann Braithwaite, BA, MA, PhD – Diversity and Social Justice Studies, ARTS
- Rachelle Gauthier BEd, MEd, PhD – EDUCATION

**Term expires 30 June 2026**

- Patrick Joseph Augustine, PhD – Indigenous Knowledge, Education Research and Applied Studies (Member at Large)
- Kim Mears, MLIS, AHIP – LIBRARY (Member at Large)
- Richard Raiswell, BA, MA, PhD – History, ARTS
- Magdalena von Eccher, BMus, MMus, DMus – Music, ARTS
- James Sentence, BA, MA, PhD – Economics, ARTS
- William Montelpare, PhD – Applied Human Sciences, SCIENCE
- TBD

**Non-Voting**

• Mike Arfken – President, UPEI Faculty Association

* Charles Adeyanju, BA, MA, PhD-Sociology/Anthropology, ARTS (Sabbatical replacement for Robert Dennis, BA, MA, MA, PhD –Religious Studies, ARTS, July 1, 2023 – December 31, 2023)

**TBD (Temporary replacement for Carlo Lavoie, BA, MA, PhD – Modern Languages, ARTS, July 1, 2022 – June 30, 2024)

***Amy Hsiao BS, MS, MBA, PhD (Sabbatical replacement for Andrew Trivett, BEng, ScD, PEng –Sustainable Design Engineering, MEMBER AT LARGE, January 31, 2023 –December 31, 2023)

****Joshua MacFadyen, BA, MA, PhD-Applied Communication, Leadership and Culture, ARTS (Sabbatical replacement for Ann Braithwaite, BA,MA,PhD–Diversity and Social Justice Studies, ARTS, July 1, 2023 to December 31, 2023)

# University Officials

- Antoinette Perry – Lieutenant Governor of the Province of Prince Edward Island—Visitor
- Hon. Catherine Callbeck, CM, OPEI, LLD – Chancellor
- Greg Keefe, BSc, DVM, MSc – Interim President and Vice-Chancellor
- Peter P. M. Meincke, RMC, BSc, MA, PhD – President Emeritus
- H. Wade MacLauchlan, CM, BBA, LLB, LLM – President Emeritus
- Norman Webster, CM, BA, MA, DCL – Chancellor Emeritus
- J. Regis Duffy, CM, BA, MSc, PhD – Chair Emeritus of the Board of Governors
- Tara Judson, BBA, CPA, CA – Interim Vice-President, Administration and Finance
- Greg F. Naterer, B.Math, MASc, PhD, FCSME, FASME, FEIC, FCAE, P.Eng. – Vice-President, Research and Academic
- Sharon Myers, BA, MA, PhD – Interim Dean of Arts
- Tarek Mady, B.Comm, MSc, PhD – Dean of Business Administration

- Miles Turnbull – Dean of Education
- Christina Murray, BA, BScN, MN, PhD – Dean of Nursing
- Nola Etkin, BSc, PhD – Dean of Science
- John VanLeeuwen, DVM, MSc, PhD – Interim Dean of Veterinary Medicine
- Wayne Peters, PEng, PhD – Interim Dean of Sustainable Design Engineering
- Gary Evans, BA, BComm, MBA, PhD – Interim Dean of Indigenous Knowledge, Education, Research and Applied Studies
- Marva Sweeney-Nixon, BSc, MSc, PhD – Associate Dean of Graduate Studies
- Anne Marie Carey, DVM – Associate Dean of Academic & Student Affairs
- Susan Connolly, BA, LL.B – Interim Vice-President, People and Culture
- Dana Sanderson, BBA, MBA – Chief Information Officer
- Fred Horrelt – Associate Vice-President, Facilities Management and Construction
- Breanne MacInnis, MBA, CPA, CMA – Interim Comptroller
- Yuqin Gong, BA, MS, PhD – Institutional Research Officer
- Donald Moses, BA, MLIS – University Librarian
- Greg Clayton, BEng – Director, Facilities Management
- Blair Vessey, BSc – Director, Information Technology Systems & Services
- Nicole Phillips, BComm – Director, Communications and University Relations
- Zhaohui (Jerry) Wang, BA, MA, PhD – Associate Director, International Relations
- Anne Bartlett, BA, BEd, MEd – Director, Student Affairs
- Virginia Wickstrom, BEd(HRD), CPHR – Manager, Human Resources

PART II

# CALENDAR DATES AND REGULATIONS

# 11. Calendar Dates

**Note:** *Not all programs follow these dates. Please check with your program.*

## UPEI Calendar Dates 2025-2026 (All programs except Doctor of Veterinary Medicine and Bachelor of Education)

| | |
|---|---|
| **FALL SEMESTER (SEPTEMBER–DECEMBER 2025)** | |
| **SEPTEMBER 2025** | |
| **3 Wednesday** | Classes Begin |
| **7 Sunday** | **Final** date to apply to graduate for Fall Semester |
| **12 Friday** | **FINAL DAY FOR REGISTRATION, FOR CHANGING COURSES OR SECTIONS, FOR CANCELLATION OF COURSES OR SECTIONS, FOR CANCELLATION OF COURSES WITH FULL REFUND** |
| **16 Tuesday** | **All Fall Semester Fees due.** |
| **30 Tuesday** | National Day for Truth and Reconciliation. No classes |
| **OCTOBER 2025** | |
| **13 Monday** | Thanksgiving Day. No classes. |
| **14-17 (Tues-Fri)** | Mid-semester break. No classes. (Does not apply to BEd and EMBA). |
| **31 Friday** | Last day for discontinuing courses – 50% tuition refund. **No discontinuations after this date**. |
| **NOVEMBER 2025** | |
| **11 Tuesday** | Holiday in lieu of Remembrance Day. No classes |
| **30 Sunday** | **Final Date to apply to graduate for Winter Semester.** |
| **DECEMBER 2025** | |
| **4 Thursday** | ***Final Day** of Fall Semester Classes |
| **9-18 (Tues-Thur)** | ****EXAMINATIONS.** No examinations will be held during the period 23 November to 9 December inclusive without the permission of the Chair and Dean. Note: Please see Academic Regulation #13. |
| **14 Sunday** | Exams afternoon and evening only |
| **23 Tuesday** | End of Fall Semester. Course grades to be submitted to Registrar's Office by noon on this date. |

| | |
|---|---|
| **WINTER SEMESTER (JANUARY–MAY 2026)**<br>**All programs except Doctor of Veterinary Medicine and Bachelor of Education (all programs)** | |
| **JANUARY 2026** | |
| **12 Monday** | Classes Begin |

| | |
|---|---|
| **23 Friday** | **FINAL DAY FOR REGISTRATION, FOR CHANGING COURSES OR SECTIONS, FOR CANCELLATION OF COURSES OR SECTIONS,<br>FOR CANCELLATION OF COURSES WITH FULL REFUND** |
| **27 Tuesday** | **All Winter Semester Fees Due.** |
| **FEBRUARY 2026** | |
| **16 Monday** | Islander Day. No classes. |
| **17-20 (Tues-Fri)** | Mid-semester break. No classes. (Does not apply to BEd and EMBA). |
| **17 Tuesday** | **Registration** begins for 2026 Summer |
| **23 Monday** | Classes resume |
| **27 Friday** | Last day for discontinuing courses – 50% tuition refund. **No discontinuations after this date.** |
| **APRIL 2026** | |
| **3 Friday** | Good Friday. No Classes |
| **6 Monday** | Easter Monday. No Classes |
| **14 Tuesday** | Final Day of Winter Semester Classes |
| **17-27 (Fri-Mon)** | ****EXAMINATIONS.** No examinations will be held during the period 30 March to 14 April inclusive without the permission of the Chair and Dean. **Note:** Please see Academic Regulation #13. |
| **30 Thursday** | End of Winter Semester. Course grades for graduating students to be submitted to the Registrar's Office by noon on this date. |
| **MAY 2026** | |
| **4 Monday** | Course grades for all students (not graduating) to be submitted to Registrar's Office by noon on this date. |
| **12 Tuesday** | **CONVOCATION MORNING (Faculty of Veterinary Medicine and Faculty of Nursing)** |
| **13 Wednesday** | **CONVOCATION MORNING (Faculty of Business and Faculty of Engineering)** |
| **14 Thursday** | **CONVOCATION MORNING (Faculty of Arts, Faculty of Education, and Faculty of Graduate Studies)** |
| **15 Friday** | **CONVOCATION MORNING (Faculty of Science)** |
| **19 Tuesday** | **Registration date** for students with 4th year standing |
| **21 Thursday** | **Registration date** for students with 3rd year standing |
| **25 Monday** | **Registration** date for students with 2nd year standing |

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|---|---|
| **26 Tuesday** | **Registration** date for all other students |

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| **SUMMER SEMESTER (May-August 2026)** |
| **All programs except Doctor of Veterinary Medicine and Bachelor of Education (all programs)** |
| **FEBRUARY 2026** |

| | |
|---|---|
| **17 Tuesday** | **Registration** begins for **2026 Summer (including First and Second Summer Sessions)** |

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|---|
| **FIRST SUMMER SESSION 2026** |
| **NOTE: For courses that do not follow the regularly scheduled Summer Session dates published here, please note the unique First day, Last day, Add, Drop, and Discontinuation deadlines published here. Tuition and fee payment deadline matches the Add/Drop date for each course.** |
| **MAY 2026** |

| | |
|---|---|
| **11 Monday** | First Summer Session classes begin |
| **15 Friday** | Last day to register late for First Summer Session courses; last day to cancel registration for full refund; last day for changing courses or sections. |
| **18 Monday** | Victoria Day. No classes. |

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| **JUNE 2026** |

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|---|---|
| **4 Thursday** | Last day to discontinue from First Summer Session courses.* |
| **18 Thursday** | **Final Day** of First Summer Session classes. |
| **22-23 (Mon-Tues)** | **Exams** for First Summer Semester |
| **26 Friday** | First Summer Session grades must be submitted to Registrar's Office by noon. |

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| **SECOND SUMMER SESSION 2026** |
| **NOTE: For courses that do not follow the regularly scheduled Summer Session dates published here, please note the unique First day, Last day, Add, Drop, and Discontinuation deadlines published here. Tuition and fee payment deadline matches the Add/Drop date for each course.** |

| | |
|---|---|
| **29 Monday** | Second Summer Session classes begin. |

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| **JULY 2026** |

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|---|---|
| **1 Wednesday** | Canada Day. No classes |
| **3 Friday** | Last day to register late for Second Summer Session courses; last day to cancel registration for full refund; last day for changing courses or sections. |
| **17 Sunday** | Final Day to apply to graduate for Summer Session. |
| **23 Thursday** | Last day to discontinue from Second Summer Session courses.* |

| AUGUST 2026 | |
|---|---|
| **6 Thursday** | **Final Day of Second Summer Session classes**. |
| **10-11 (Mon-Tues)** | Exams for Second Summer Semester courses. |
| **14 Friday** | Second Summer Session grades must be submitted to the Registrar's Office by noon. |
| **21 Friday** | Gold Cup and Saucer Day. No Classes |
| **28 Friday** | Final Day of Summer Semester (for Internships, COOP placements and other learning delivered over the full Summer Semester (May through August)) – Grades must be submitted to the Registrar's Office by noon for these courses. |

**NOTE: For courses that do not follow the regularly scheduled Summer Session dates published here, please note the unique First day, Last day, Add, Drop, and Discontinuation deadlines published here. Tuition and fee payment deadline matches the Add/Drop date for each course.**

****Should a final exam, scheduled within the exam period, be cancelled due to storm conditions or other unforeseen circumstances, the Registrar's Office will reschedule the exam. Cancelled exams will be rescheduled to the earliest possible date within the exam period (normally, this would occur at the end of the exam period to avoid other previously scheduled exams). Updates will be posted to the University website.**

# Calendar Dates 2025-2026 (Veterinary Medicine)

**1st ACADEMIC SEMESTER (MAY-DECEMBER 2025)**

**MAY 2025**

5 Monday First day of Fourth Year Rotations – Summer Semester

**19 Monday Victoria Day – No classes**

**AUGUST 2025**

11 Monday First day of Fourth Year Rotations – Fall Semester

21 Thursday First Year Orientation

25 Monday Pre-Clinical Classes begin

**SEPTEMBER 2025**

1 Monday Labour Day – No classes

30 Tuesday National Day for Truth and Reconciliation- No classes

**OCTOBER 2025**

13 Monday Thanksgiving Day – No classes

**NOVEMBER 2025**

11 Tuesday Remembrance Day – No classes

28 Friday Final Day of Fall Semester Classes

29-Dec 13(Sat Sat) Final Examinations

30 Sunday Final date to apply to graduate

**DECEMBER 2025**

23 Tuesday End of First Semester. Course grades to be submitted to the Registrar's Office by noon on this date.

NOTE: The North American Veterinary Licensing Examination (NAVLE®) is available during a four-week testing window in November-December. For further information, please refer to www.icva.net/navle

2nd ACADEMIC SEMESTER (JANUARY-MAY 2025)

**JANUARY 2026**

5 Monday First day of Fourth Year Rotations – Winter Semester

5 Monday Pre-clinical Classes begin – Winter Semester

**FEBRUARY 2026**

12-13 (Thurs-Fri) Mid-semester break (except 4th year rotations). No classes

16 Monday Islander Day. No classes

**APRIL 2026**

3 Friday Good Friday. No classes

6 Monday Easter Monday. No classes

17 Friday Final day of Winter Semester classes

19 Sunday Final day of Fourth year rotations

18 April-May 1 (Sat-Fri) Final Exams

30 Thursday End of Second Semester. Course grades for 4th year students to be submitted to Registrar's Office by noon.

**MAY 2026**

4 Monday Course grades for 1st, 2nd, and 3rd year students to be submitted to Registrar's Office by noon on this date.

4 Monday First day of Fourth Year Rotation – Summer Semester

12 Tuesday Convocation

NOTE: The North American Veterinary Licensing Examination (NAVLE®) dates are in April. Please refer to www.icva.net/navle

## Calendar Dates 2025-2026 (Bachelor of Education)

NB- This Calendar applies to students commencing their BEd program in 2024. For those students entering the program in 2025, please see the 2025-26 Academic Calendar.

***Note: For courses that do not follow the regularly scheduled Summer Session dates published here, please note the unique First day, Last day, Add, Drop and Discontinuation deadlines publi for each course**

**SUMMER SEMESTER (May-August 2025)**

| | |
|---|---|
| **MAY 2025** | |
| **1 Thursday** | Mandatory Program Orientation for all incoming students |
| **5 Monday** | **First day of classes in Summer Session 1** |
| **9 Friday** | **Last day to register late for First Summer Semester courses; last day to cancel registration for full refund; last day for changing courses or sections. For refund sched consult the following link in my UPEI** |
| **15 Thursday** | No classes (UPEI Convocation). |
| **19 Monday** | Victoria Day – No classes |
| **21-23 (Wed-Fri)** | Observation in schools (no classes on campus. |
| ***Note: For courses that do not follow the regularly scheduled Summer Session dates published here, please note the unique First day, Last day, Add, Drop and Discontinuation deadlines publi CourseSectionDateReport.pdf . Tuition and fee payment deadline matches the Add/ Drop date for each course** | |
| **JUNE 2025** | |
| **24 Tuesday** | Last day of classes in First Summer session |
| **25-30 (Wed-Mon)** | Study Break. No classes |
| **JULY 2025** | |
| **1 Tuesday** | Canada Day. No classes |
| **2 Wednesday** | **First day of Second Summer Session** |
| **9 Wednesday** | Last day to register for first summer session courses; last day to cancel registration for full refund; last day for changing courses or sections. |
| **15 Tuesday** | First Summer session grades must be submitted to the Registrars Office by noon. |
| ***Note: For courses that do not follow the regularly scheduled Summer Session dates published here, please note the unique First day, Last day, Add, Drop and Discontinuation deadlines publi CourseSectionDateReport.pdf . Tuition and fee payment deadline matches the Add/ Drop date for each course** | |
| **AUGUST 2025** | |
| **15 Friday** | Gold Cup Day- No classes |
| **29 Friday** | **Last Day of classes in Second Summer Session** |

**Fall Semester (September- December 2025)**

| | |
|---|---|
| **SEPTEMBER 2025** | |
| **1 Monday** | Labour Day. No Classes |
| **2 Tuesday** | In school professional development day |
| **3 Wednesday** | First day of Fall classes |
| **4-9 (Thur-Tues)** | In-school observation days (campus classes suspended during these observation days) |
| **8 Monday** | Second Summer Session grades must be submitted to the Registrar's Office by noon. |
| **12 Friday** | Final day for registration, for cancellation of courses with full refund; All fall semester fees due. |
| **30 Tuesday** | National Day for Truth and Reconciliation- No classes |
| **OCTOBER 2025** | |
| **13 Monday** | Thanksgiving Day- No classes. |
| **15 Wednesday** | Fall Practicum Preparation on campus (mandatory) |
| **17 Friday** | Fall Practicum Preparation in schools (mandatory) |
| **20 Monday** | **First day of Fall Practicum** |
| **November 2025** | |
| **11 Tuesday** | Remembrance Day – No classes in PEI schools* |
| **30 Saturday** | **Final date to apply to graduate** |
| **DECEMBER 2025** | |
| **11 Thursday** | **Last day of Fall Practicum** |
| **12 Friday** | Fall Practicum debriefing (Mandatory for all students) |
| **22 Monday** | **End of Fall Semester. Course grades must be submitted to the Registrar's Office by noon.** |
| **Winter Semester (January- April 2026)** | |
| **JANUARY 2026** | |
| **5 Monday** | **First day of classes in Winter semester** |
| **16 Friday** | Final day for registration, for cancellation of courses with full refund; All winter semester fees due. |
| **FEBRUARY 2026** | |
| **9 Monday** | **First day of Winter Practicum*** |
| **16 Monday** | Islander Day. No classes for those doing practicum in PEI schools* |
| **MARCH 2026** | |

| | |
|---|---|
| **March Break (Dates to align with those in schools where practicum takes place)** | |
| **APRIL 2026** | |
| **3 Friday** | Good Friday. No classes in PEI schools* |
| **6 Monday** | Easter Monday. No classes in PEI schools* |
| **30 Thursday** | Last day of Winter Practicum |
| **MAY 2026** | |
| **1 Friday** | **Last day of Winter Semester;**<br>**Winter Practicum debriefing (Mandatory of all students)**<br>**Last Day of Classes.**<br>***Course grades must be submitted to the Register's Office by noon on this date.** |
| **14 Thursday** | **CONVOCATION MORNING (Faculty of Education) No classes** |
| ***While in practicum in schools, students will follow the school calendars. Holidays, special days, parent-teacher interview dates and professional development days will apply to students wh to another.** | |

# SENATE Dates for 2025-2026

**2025**

Friday, January 17
Friday, February 14
Friday, March 14
Friday, April 11

**2026**

To be determined

# 12. Transcript and Parchment Information

## Requesting Transcripts

See UPEI's Apply page for submitting transcripts with your UPEI application.

Students can request official copies of transcripts for mailing to other institutions, and unofficial copies for personal use. Transcripts will be provided to the student or directly to an external party upon written request.

**For current students:**

- To request an **official transcript**: Login to MyUPEI, go to Student Planning in the Student Toolbox. Select the Transcript Requests selection and fill out the form. Please note that the information entered in this section is directly printed onto the transcript, so ensure it is complete and accurate. The University is not liable for incomplete or incorrect information.
- To request an **unofficial transcript**: Login to MyUPEI and click the link for the Unofficial Transcript Request in the Student Toolbox. This will produce a PDF copy of your unofficial transcript at any time, for your personal use.

**For former students:**

- Please complete the Transcript Request Form and submit your request to transcripts@upei.ca If possible, please use your UPEI.ca student email address to submit your requests.
- If you still have access to your Student Portal (Student Planning), you can make the request through the Transcript Requests selection instead of using the Transcript Request Form.

**NOTES:**

- Transcripts are prepared daily; however, during peak periods, such as at the end of each academic session, at least one week's notice may be required.
- Requests from students with fees owing to the University will not be processed.

**Fees:**

- Regular mail and fax service are free of charge.
- Courier fees are as follows:
  - $10 within the Maritimes
  - $20 for other Canadian destinations
  - $30 for International

**Courier requests must include a street address and a phone number, including the area code.**

- $15 same-day processing fee (does not include delivery time), in addition to the costs of the particular request.
- Payment accepted by VISA, MasterCard, or American Express. Sorry, no Visa Debit.

# Degree and Parchment Reprint Policy

At the time of graduation the University of Prince Edward Island provides each graduating student with one official parchment; while duplicates are not permitted, reprints are available if one of the following conditions is met:

1. **Damaged parchment** – In the case of a damaged parchment, the original parchment must be returned to the Registrar's Office at the time of the reprint order.
2. **Name change** – The original parchment must be returned to the Registrar's Office at the time of the reprint order, as well as an official name change with supporting documents must be submitted either prior to or at the time of the reprint order.
3. **Lost or misplaced** – If unable to provide the original parchment, an affidavit from a lawyer, commissioner of oaths or a notary public, with their official stamp or seal, is required at the time of the reprint order and must contain the following information:

- What happened to the original parchment (e.g., lost, stolen)
- Graduate's full name and date of birth (provide former name if different at the time of graduation)
- Graduate's current mailing address
- Credential(s) awarded and the year graduated

Parchment reprint orders must be requested by the graduate and are subject to a $30 fee (plus courier charge if being mailed) due when placing the order. Replacement parchments will bear the signatures of the current President, Registrar, and Dean, as well as a "Degree Reprint" notation in the bottom left corner with the date of reprint.

# 13. Undergraduate Academic Regulations

## General Undergraduate Academic Regulations

The following regulations pertain to all undergraduate-level programs of study at UPEI. Most programs have additional, specific academic requirements that must be met (see the relevant department in the Academic Programs and courses section of the Academic Calendar for details). Students are responsible for learning which regulations and requirements apply, and for abiding by them throughout their course of study. Students are encouraged to discuss course and degree requirements with Academic Advisors, with the academic department Chair, and/or the Dean of the Faculty concerned. Normally the regulations in effect at the time of a student's first entry to UPEI will govern the student's academic requirements until graduation.

Note: The University reserves the right to add to, alter, delete, or amend these regulations at any time.

## 1. Requirements for a Degree

a) In programs where a GPA is calculated, a minimum cumulative grade point average (CGPA) of 1.7 is required to graduate.

b) In order to graduate with a major a student must receive a CGPA of at least 1.7 in the major subject requirements.

c) For the Bachelor of Arts and Bachelor of Science degrees — 120 semester hours of credit with a major subject in which at least 42 semester hours of credit are taken. Some programs may require more than 120 semester hours of credit.

d) Minimum Number of 2000-4000 Level Courses – A minimum of 72 credits must be taken at the 2000-4000 level in any degree or diploma program. Exceptions may apply.

e) Students in the Faculty of Arts may declare to the Registrar's Office their major area of study at any time up to the end of their second year (after completing 48-60 semester-hours of course work). Students in the Faculty of Science, students are required to declare a major by the beginning of their second year (after completing 21 to 45 semester hours of course work). Students can change their major at any time but are encouraged to speak to an academic advisor in the appropriate department before doing so.

f) A candidate for a degree must complete at least one-half of the required course work at UPEI; normally, these will be the final 60 semester-hours of the degree. Exceptions may be made only with the permission of the Dean of the respective Faculty.

g) In the last 60 semester-hours of work toward a UPEI degree, students will receive credit for no more than 12 semester-hours of study completed at another university; exceptions may be made only with the permission of the Dean of the respective Faculty or School.

h) All students working toward an undergraduate degree will be required to take the following courses, recommended to be taken within the first three semesters of registration, to fulfill graduation requirements:

- IKE 1040 – Indigenous Teachings of Turtle Island,
- One of:

- UPEI 1010 – Writing Studies: Engaging Writing, Rhetoric, and Communication;
- UPEI 1020 – Inquiry Studies: Engaging Ideas and Cultural Contexts; or
- UPEI 1030 – University Studies: Engaging University Contexts and Experience;

- **AND** One Writing Intensive Course

**NOTE:** ***Credit will only be granted for one of UPEI/ENG-1010, UPEI-1020 or UPEI-1030. In exceptional circumstances, permission to receive credit for more than one of these courses may be permitted by the Dean.***

i) Special regulations apply to Honours degrees (not available in all program areas). See the relevant academic department section of the online calendar for details.

j) Second Undergraduate Degree Regulations – Students who have earned a first Bachelor-level degree may pursue a second Bachelor-level degree as long as no more than 18 semester-hours of study in the subject area of interest have been completed in the first degree, and as long as at least 60 semester hours of credit will be completed toward the second degree at UPEI. Exceptions will be made only with the permission of the respective Dean.

k) Double-counting is the practice of having one course satisfy the requirements of two different and concurrent designations within one degree. The following limitations apply: In the case of a major and a minor, a maximum of six semester hours of credit can be double-counted. In the case of a double major, a maximum of nine semester hours of credit can be double-counted. **Note:** Although a course may be used to meet more than one requirement within a degree, credit is only counted once.

## 2. Time Limit to Complete Degrees

Students are normally required to complete their degree requirements within ten years from the date of their first registration. Completion time limits for Bachelor of Science in Nursing, Accelerated Bachelor of Science in Nursing and Bachelor of Science in Radiography VARY, see appropriate sections in the online calendar. This is also the normal limit for specific course equivalent transfer credits. Exceptions may be made by permission of the Dean of the respective Faculty.

## 3. Year of Standing

All Undergraduate degree programs, except those Program exceptions noted below, are guided by this regulation with respect to Year Standing. Students are categorized as First, Second, Third, or Fourth-Year students. The categories are based on completed semester-hours of study, as follows:

- First Year (0 – 20 semester hours)
- Second Year (21 – 50 semester hours)
- Third Year (51 – 80 semester hours)
- Fourth Year (81+ semester hours)

This designation does not mean that all degree requirements for a given year of a program have been met; nor does it refer to the number of years a student has studied at UPEI.

**Program exceptions:**

**Bachelor of Science in Nursing**

- First Year enrolled in 1000 level Nursing courses
- Second Year = Completion of 1st Year requirements including NURS-1010 & NURS-1020
- Third Year = Completion of all 2000-level Nursing courses
- Fourth Year = Completion of all 3000-level Nursing courses

**Accelerated Bachelor of Science in Nursing**

- First Year (January to December) = Enrolled in NURS-1030 to NURS-3040
- Second Year (January to December) = Enrolled in NURS-3050 to NURS-4040

**Doctor of Veterinary Medicine**

- First Year enrolled in 1000 level courses
- Second Year = Completion of Winter semester 1000-level courses
- Third Year = Completion of Winter semester 2000-level courses
- Fourth Year = Completion of Winter semester 3000-level courses

**Bachelor of Education**

- First Year (throughout program)

## 4. Enrolment Status

To qualify as a full-time undergraduate student in any given semester, one must be registered:

- in nine or more semester-hours of study (usually three courses taken for credit);
- as a full-time English Academic Preparation (EAP) program student (which can include a combination of EAP and credit courses equivalent to at least 9 hours); or
- as a co-op, internship, or practicum student on a full-time work placement (equivalent to 15 semester-hours of study).

## 5. Course Load

**Fall and Winter semesters:** Full course load for a student is 5 courses ( normally 15 semester-hours of credit) in a semester. An overload of one additional course (normally 3 semester-hours of credit) per semester is approved for students with a cumulative GPA of 2.70 or higher. The minimum course load for full-time student status is 3 courses ( normally 9 semester hours of credit) in each semester. Full course loads for professional programs may vary. (Bachelor of Science in Sustainable Design Engineering: approved for 6 courses per semester; Bachelor of Education: full load is 24 semester hours of credit in Fall, 21 semester hours of credit in Winter; Bachelor of Science Accelerated Nursing: full load is 19 semester hours of credit per semester). Doctor of Veterinary Medicine has program specific registrations that are not impacted by this regulation

**Summer semesters:** The summer semester consists of two sessions. The full course load for a student in the summer semester is 6 courses (normally 18 semester hours of credit; 9 in the first session and 9 in the second session). An overload of one additional course (normally 3 semester-hours of credit) per semester or session is approved for students with a cumulative GPA of 2.70 or higher. The minimum course load for full-time student status in one of the sessions is 2 courses (normally 6 semester hours of credit). Full-time course loads for professional programs may vary.(For summer semester. Bachelor of Education: full load is 40 semester hours of credit; Bachelor of Science Accelerated Nursing:

full load is 19 semester hours of credit). Doctor of Veterinary Medicine has program specific registrations that are not impacted by this regulation.

**NOTE:**

- Course load can be impacted by other Academic Regulations in force (i.e. Academic Standing).
- Students enrolled in a Full-Time CO-OP or internship course, regardless of credit weight, are only permitted to add one additional course to their semester registration (if they have a CGPA of 2.70 or higher)

## 6. Course Registration

The registration process consists of three steps:

1. payment of tuition deposit;
2. registration in courses; and
3. payment of fees by the published deadline.

Double scheduling: students are not permitted to register in two courses that are offered during the same time period or during time periods that overlap.

Course changes: students may make changes to their course selections as follows:

- Adding: changes are made online, up to the "last day to register"; after this date, or at any time for classes that are "closed" by the Registrar's Office, permission of the instructor and the Chair [Arts and Science] or instructor and Dean [Professional programs, Faculty of Sustainable Design Engineering and the Faculty of Business] is required.
- Course Dropping: changes are made online, up to the "last day to register"; after this date, and up to the deadline for discontinuation as published in the calendar, changes must be made in person at the Registrar's Office.
- Non-Credit Status: changes from "for credit" registration to "audit" status are made in person until the "last day to register". Note: courses taken as non-credit audits will not be changed to "for credit" status beyond this date. "Audit" Status: requires the permission of the instructor and Chair or Dean, as appropriate.

## 7. De-registration

Students who have not paid course tuition and other fees by the published deadline will be de-registered and will not be permitted to write final examinations or to register in any subsequent semester. Reinstatement of registration on appeal will be made for exceptional cases only, at the direction of the Registrar on consultation with the Manager of Accounting.

Students will be de-registered from courses for which prerequisites have not been met.

## 8. Letters of Permission

Students enrolled in a program at UPEI and wishing to take courses at other institutions for credit towards their UPEI degree or diploma are advised that a "Letter of Permission" must be obtained in advance from the Registrar's Office.

The Registrar's Office is responsible for confirming the equivalency of the courses for which permission to register is sought, in consultation with the department and/or Dean as appropriate, and if approved, will provide the necessary documentation to the host institution. Students are responsible for requesting transcripts from the host institution to be sent directly to the Registrar's Office at UPEI on completion of their course(s).

**Note**: As per Academic Regulation #17 – Letters of Permission will not be granted to students on academic probation.

## 9. Directed Studies

1. A student may apply up to 18 semester hours of Directed Studies towards a degree.
2. Any student with Third or Fourth Year Standing may apply to take Directed Studies. For each Directed Studies course, a proposal approved by the instructor, the department Chair (where applicable) and the appropriate Dean will be sent to the Registrar's Office no later than the last day to add/drop classes in the semester. The proposal must include a course title, a description of the content and of the method of evaluation, the names of the instructor(s) and the student(s), the semester and year the course is offered.

## 10. Grading

Each course taken for academic credit is assigned a final grade at the end of the semester*. The final grade for each course will be indicated by a percentage grade, and a grade point on the student's transcript. A Grade Point (GP) is a method of expressing a student's academic performance in an individual course.

**Note**: Courses taken over two semesters will be assigned a final grade at the end of the second semester. *The letter grade of 'P', Pass, is not assigned a numerical value and is not used in calculating the grade point average.

***Grade Point***: Grade Point (GP) is a method of expressing a student's academic performance as a numerical value. Each letter grade is assigned a numerical equivalent, which is then multiplied by the credit hour value assigned to the course to produce the grade point.

***Semester Grade Point Average***: Semester Grade Point Average (SGPA) is computed by dividing the total number of grade points earned by the total number of credit hours taken in a semester. See Academic Regulation 10(f) Course Repetition for the treatment of repeated courses in GPA calculations.

***Cumulative Grade Point Average***: The UPEI Cumulative Grade Point Average (CGPA) expresses performance as a numerical average for all UPEI courses for all semesters completed. The CGPA is calculated by dividing the total number of grade points earned to date by the total number of credit hours undertaken to date. See Academic Regulation 10(f) (Course Repetition) for the treatment of repeated courses in GPA calculations. The CGPA provides the numerical value used to determine academic standing.

***Sample calculation of Grade Point***

1. Subj 1 74% (B) 3.0 3 credit hours x 3.0 = 9.00

2.Subj 2 72% (B-) 2.7 3 credit hours x 2.7 = 8.10

3.Subj 3 67% (C+) 2.3 3 credit hours x 2.3 = 6.90

4.Subj 4 93% (A+) 4.3 3 credit hours x 4.3 = 12.90

5.Subj 5 DISC

TOTAL 12 credit hours = 36.90

Semester GPA: 36.9/12 = 3.08

| Grade | GP | % Range |
|---|---|---|
| A+ | 4.30 | 91-100 |
| A | 4.00 | 85-90 |
| A- | 3.70 | 80-84 |
| B+ | 3.30 | 77-79 |
| B | 3.00 | 74-76 |
| B- | 2.70 | 70-73 |
| C+ | 2.30 | 67-69 |
| C | 2.00 | 64- 66 |
| C- | 1.70 | 60- 63 |
| D+ | 1.30 | 57-59 |
| D | 1.00 | 54-56 |
| D- | 0.70 | 50-53 |
| F | 0.00 | 0-49 |

a) Course outlines/syllabi: These are distributed by instructors to the class during the first week of each semester, and must include details regarding methods to be used in evaluating student work and the value as well as timing of each assessment as a percentage of the final course grade respecting any existing restrictions (See Academic Regulation #13).

b) Attendance: Instructors may count student attendance/participation in calculating final standing in a course, if noted in the course outline. Professional programs may require 100% attendance. See Departmental Regulations in the relevant section of the calendar.

c) Passing grade: The minimum final grade required to earn course credit is 50% (grade point of 0.7). For courses that are delivered with multiple components (i.e. lecture and lab), and where success in all components is required to be awarded credit for the course, a grade of F will be assigned if any component is not passed. Note: Professional programs and some other departments have exam-, course-, and program-specific minimum grade point requirements, which supersede this minimum. See Departmental Regulations in the relevant section of the calendar.

d) Some labs, tutorials, field placements, and professional-program courses are graded as Pass or Fail and, as such, are not included in any academic-standing, academic-award, or Deans' Honours calculations. See Departmental Regulations in the relevant section of the calendar.

e) Incomplete courses: under exceptional circumstances, students may request temporary "Incomplete" standing in a course for which they have not completed all requirements. If the instructor approves the request, an Incomplete

(INC) will be submitted as an interim final grade, and the student will be given until the last day of classes in the following semester to complete the course work (some program requirements, such as DVM and Education, would dictate shorter extension periods). A request for an extension of up to six months must be approved by the Dean. "Incompletes" automatically become "0" at the end of the approved extension period, if the work is not completed and a grade submitted.

f) Course repetition:

(i) While University policy permits passed courses to be repeated, students should be aware that marks obtained in such instances shall not be used in the determination of awards or scholarships administered by the University. All attempted grades are recorded on the transcript, with the highest grade calculated into the GPA. In the case of more than one failed attempt, the result of the later attempt will be calculated into the GPA. Students considering repeating a passed course are advised to consult first with the Chair of the department (where applicable) or the Dean.

**Note:** Repeated courses have a direct impact on the calculation of a student's GPA. Course repeats are noted as 'excluded' or 'included' on a student's transcript. Excluded courses are excluded from the GPA calculation and included courses are included in the GPA calculation. All courses attempted are considered in the determination of Academic Standing. See Academic Regulation #17.

(ii) Except as otherwise stated in program regulations, no student will be allowed to take the same course more than three times unless by permission of the Dean of the Faculty or School in which the course is offered.

**Note**: Professional program regulations on academic performance will supersede this regulation.

g) Access to Examinations and Papers:

(i) A copy of all written assignments and examinations not returned to students must be retained by the instructor for a minimum of 60 days after submission of grades;

(ii) Final examinations and/or final submissions of course work must be retained by instructors for a minimum of 60 days after the date of the final examination, unless the work is returned to the students;

Professors must make viewing access available to students, for all papers and examinations with grades affixed to them according to the above schedule.

## 11. Transcript Abbreviations

1. AUD—audit
2. CGPA—Cumulative Grade Point Average
3. DE—Deferred Exam
4. DISC/DSC—Discontinued with permission
5. DIST/DST—distinction
6. DNW—Did not write
7. E—Excluded course from GPA
8. EAP—English Academic Preparation Program

9. EP—Exceptional Performance
10. F—Fail
11. FNS—Fail no supplemental
12. FP—Failing Performance
13. GP (A) —Grade Point (Average)
14. I—Included course in GPA
15. INC—Incomplete (an extension has been approved)
16. IP—In progress
17. LECT/LAB HRS—Hours per week per semester
18. MP—Marginal Performance
19. NC—No credit
20. NGS—No grade submission
21. P—Passed
22. PD—Passed with Distinction
23. QEH—Courses taken at Queen Elizabeth Hospital, Charlottetown
24. SAT—Satisfactory
25. SEM. HRS—Credit equivalent one hour per week per semester
26. SGPA—Semester Grade Point Average
27. SP—Satisfactory Performance
28. SUPP—Supplemental Examination
29. TP—Transition Program
30. TR—Transfer
31. UNS—Unsatisfactory

# 12. Academic Appeals

1. In the application of all academic regulations, students shall have access to a fair and just appeal procedure.
2. In every case, a student must file an appeal within the required timelines (see below), otherwise the appeal shall not be considered.

**Appeals on Grades**

3. An informal appeal must first be made to the instructor within 20 business days of receipt of the grade. For professional programs and the Faculty of Business, see Faculty/School's policy/procedures, which may impose different requirements, and override, this section.

4. A formal appeal may be made in writing within 5 business days of the instructor's decision, as follows:

- In academic departments with a Chair, an appeal may be submitted to the Chair, who shall consult within the department before arriving at a decision. On receipt of a written appeal, the Department Chair shall provide the student with a copy of the Faculty/School's policy/procedure on appeals.
- In academic departments without a Chair, an appeal may be submitted to the Dean of the Faculty in accordance with section 6 of this Regulation.

5. The Department Chair's decision may be further appealed, in writing, within 10 business days of the date of the Department Chair's decision to the Dean of the Faculty, in accordance with section 6 of this Regulation.

6. In an appeal to the Dean:
a. The Dean shall provide the student with a copy of the Faculty/School's policy/procedures, if those have not already been provided.
b. The Dean shall establish an appeals committee to hear the appeal.
c. The appeals committee shall consider the appeal and make a recommendation to the Dean.
d. The Dean shall consider the appeals committee's recommendation and render a decision on the appeal.
e. The Dean may accept the appeal committee's recommendation or may render a decision different than the appeal committee's recommendation, at the Dean's discretion.

7. Decisions on final course grades may be appealed further. Such appeals may be made in writing, through the Registrar, to the Senate Academic and Student Discipline Appeals Committee within 20 business days of the date of the Dean's decision.

**Other Appeals**

8. Appeals of decisions on academic matters other than grades may be made through the Registrar to the Senate Academic and Student Discipline Appeals Committee. An appeal must be made in writing, including all supporting documentation, and be submitted within 15 business days of the date of the decision. All decisions of the committee shall be final and binding, subject to a student's right to appeal to the Board of Governors pursuant to the University Act.

**Appeal Rules and Forms**

9. The Senate may establish rules and forms applicable to appeals made to the Senate Academic and Student Discipline Appeals Committee.

# 13. Examination Regulations

a) **Restrictions on Testing:** No quizzes, tests or examinations of any kind are to be held during the two-week period preceding the final day of classes, nor during any reading period, without the permission of the Chair and the appropriate Dean. In-class presentations and practical laboratory examinations scheduled on the course outline are exempted.

b) **Special Examinations:** Under exceptional circumstances [severe illness, jury duty, personal or family tragedy],

students may request a “special examination” to be scheduled at a time other than the originally scheduled exam time. Requests for special examinations must be made to the instructor, prior to the originally scheduled exam time.

c) **Missed Examinations:** Students must make application to the Registrar, to write a missed exam, within 48 hours after the scheduled examination. Documentation to support the unforeseen or extenuating circumstances must be submitted with the Missed Examination application form. The Registrar will consult with the instructor, department Chair (where applicable) and the Dean upon receipt of any such application to determine if the request will be approved. The decision will be communicated to the student by the Registrar. The revised date and time set for the rescheduled examination will be determined by the instructor and communicated to both the Registrar and the student.

d) Quizzes, tests and examinations taking place outside of regularly scheduled classes during the teaching semester must be identified, approved by the Dean, and listed on the course outline. The course outline will inform students that they must identify any conflicts with other regularly scheduled classes, laboratory periods, or tutorials in a timely fashion so that accommodations can be made by the course instructor.

e) Students will be required to present their valid UPEI ID card and sign a control sheet at each examination session.

f) The University is not responsible for the loss of personal belongings during an exam, and students are encouraged to leave valuables at home. Books, notes, papers, or other materials containing information pertaining to the examination, pencil cases and calculator covers should be left with other personal belongings, away from the exam writing area unless provision has been made by the examiner. Specifically, without such permission, no laptops, electronic computing, data storage or communications devices may be in the possession of a student in the examination room. Calculators may be used at the discretion of the instructor. Any jackets, hats, bags, knapsacks, etc, are to be left at the front or back of the examination room and may be picked up at the end of the examination.

g) At the discretion of the course instructor, students who speak English as a second language may be allowed to use one bilingual dictionary (paper) to assist them in writing quizzes, tests and examinations. The use of electronic translators is not permitted under any circumstances.

h) The only time students may leave the examination room with the intention of returning is to use the washroom. Students must sign out, and back in.

i) No students are permitted to enter the examination room to write an examination after the first 30 minutes and no students are permitted to leave an examination room within the first 30 minutes. Students still in the examination room during the last 10 minutes of the examination must remain seated until all examination materials have been collected and accounted for.

j) Food is not permitted in the examination room.

# 14. Transfer Credits

Transfer of credit from post-secondary institutions is available to students who have been admitted to the University and meet the following conditions:

**1. University Transfer**

Students shall receive credit for courses successfully completed at another *recognized Canadian university and for which credit is given at that university, under the following conditions:

a) Courses must be acceptable in the program to which transfer is being sought either as required courses or as electives.

b) Grades must be at least 50% (grade point 0.7) or, where the passing grade for the equivalent UPEI course is different than 50% (grade point 0.7) at least that passing grade, however, students must obtain a grade of at least C- (60%) (grade point 1.7) in any courses used to fulfill prerequisite requirements. Similarly, students may receive credit for courses completed at universities outside of Canada. Requests will be considered on a case-by-case basis.

**2. College Transfer**

Students may receive credit for courses successfully completed at a member institution of the Colleges and Institutes Canada (CICan) or a recognized college outside of Canada, and for which credit is given at that institution, under the following conditions:

a) Courses must be acceptable in the program to which transfer is being sought either as required courses or as electives.

b) Grades must be at least 60% (grade point 1.7) or, where the grading system is different than that of UPEI, at least at an equivalent level above the minimum passing grade.

c) Transfer will be allowed by the Registrar only on the recommendation of the appropriate Dean.

d) Transfer credits may be granted through existing transfer and articulation agreements established between UPEI and a partner college.

**3. Holland College**

UPEI and Holland College have a number of transfer and articulation agreements with defined transfer recognition. For more information see the UPEI website.

**4. Application of Certain Professional Courses**

Normally, professional courses taken at UPEI or other universities may not be applied to other degree programs at UPEI. Nevertheless, within the Faculty of Science and with the approval of both the Department Chair and Dean, certain courses in the DVM program at UPEI and in accredited programs in the health professions at other universities may be accepted for credit toward the Bachelor of Science degree. Applications for degrees under this Regulation will be considered on a case-by-case basis. Not more than (30) semester hours of professional courses may be so credited.

**5. Evaluation of Transcripts** – The evaluation of transcripts shall be the responsibility of the Registrar's Office in consultation with the appropriate department and Dean.

**6.** All courses transferred to UPEI will be noted as "TR" on the transcript with a grade of "P".

**Notes**:

1. A candidate for a degree must complete at least one-half of the required course work at UPEI (normally the final 60 semester hours of the degree).
2. Specific Course equivalent – transfer credit is not normally awarded for courses completed in excess of ten academic years prior to the date of first registration at UPEI.
3. Normally, no more than 48 semester-hours of credit may be taken at the introductory level in any degree or diploma program.
4. Any post-secondary studies completed during the period of academic suspension are not eligible for credit toward a degree or other credential at UPEI.
5. Transfer students are subject to all other academic regulations of the University.

* A recognized Canadian degree-granting institution is an institution that is a member of the Universities Canada. The University of Prince Edward Island will also consider granting transfer credit from those Canadian institutions that are not Universities Canada members, but have been given degree-granting powers through provincial legislation within the Canadian province in which they are located.

## 15. Challenge for Credit

Challenge for credit by examination is available, by permission of the relevant Chair, to people who have been admitted to the University and who believe that they can meet the requirements of a course, under the following conditions:

1. Challenge for Credit examinations are special examinations that test the student on the content of the entire course. They are not necessarily the same as regularly scheduled final examinations. In certain courses, completion of laboratory/practical components may be required.
2. Only students in "Good" academic standing may challenge a course. Departments or Faculties/Schools will hold the list of courses that are eligible to challenge for credit and will send the Registrar's Office the list to have on file. Some departments may have a departmental policy within the department.
3. No challenge for credit will be accepted when any attempt has been made within the previous ten years to earn credit in the course, or an equivalent course, whether by challenge or otherwise.
4. Not more than 10 courses (30 semester hours of credit) towards any degree may be earned by the challenge for credit.
5. Application to the Registrar's Office must be made, and the appropriate non-refundable fee paid, for each course in which examination is sought (see Calendar section on "Tuition and Fees"), at least one month before the start of the examination period.
6. A successful challenge result will be noted as "Challenge for Credit" on the transcript with a grade of "P". An unsuccessful challenge is not recorded on the transcript.

## 16. Special Credits

1. Academic credentials obtained in settings other than credit programs in recognized universities and Colleges and Institutes Canada (CICan) member colleges may be recognized in certain cases. Credentials are evaluated after admission to the University, and upon payment of the appropriate non-refundable fee (see calendar section on "Tuition and Fees").
2. Applicants are required to provide, during the first academic year of registration at the University, documentation which, in the applicants' opinion, demonstrates the successful completion of academic work commensurate with the credit(s) being sought. The academic units evaluating the documentation may require detailed program and course descriptions and other information necessary to evaluate the learning acquired. At their discretion, the academic units may interview the applicant or seek supplementary information by way of an oral or written examination.
3. Credit, if granted, is on the recommendation of the academic unit offering the equivalent UPEI course(s), with the endorsement of the Dean of the Faculty in which each course is offered.
4. Recognition of special credits by other institutions does not in itself indicate that UPEI will recognize such credits.

5. A Special Credit will be noted on the student's transcript with a grade of "P".

# 17. Academic Standing

Students' academic standing is assessed in May of each year, based on UPEI coursework completed over the previous 12 months. Academic standing is determined on the basis of a cumulative grade point average (CGPA), defined in Academic Regulation 10.

Students will be assessed for the first time when they have attempted at least 18 credits at UPEI.

Academic Standing will be noted on a student's academic transcript.

Students are assigned one of the following standings based the criteria outlined in this regulation (GPA is rounded to the nearest .01):

Good Standing
Academic Probation
Academic Suspension

**Conditions of Academic Standing**
a) **Good Standing**: Students are deemed to be in good academic standing if they have achieved a CGPA of 1.70 or higher.

b) **Academic Probation**: Students will be placed on academic probation if they have a CGPA of less than 1.70 at the time of the academic assessment in May. As a condition of academic probation, students will have restrictions placed on their course load; and, be required to enrol in an academic support program.

Students who are on Academic Probation and who achieve a Semester GPA (SGPA) of 1.70 or higher in all subsequent semesters will be permitted to continue their studies at UPEI while on Academic Probation. Students are considered to have returned to good academic standing once their CGPA is 1.70 or higher.

*Students are not permitted to graduate while on Academic Probation.

*Letters of Permission will not be given to students on academic probation.

c) **Academic Suspension:** Students will be placed on Academic Suspension if, after the completion of 30 semester hours of credit since being placed on probation, their CGPA is below 1.70 AND any SGPA since being placed on probation is below 1.70.

**OR**

if upon assessment, a student's CGPA is below 0.50; they will be placed on academic suspension, without being placed on academic probation first.

Students on Academic Suspension are not permitted to enrol in academic courses at UPEI for a full year. Any post-secondary studies completed (at any institution) during the period of academic suspension are not eligible for credit toward a degree or other credential at UPEI.

d) Readmission after Suspension

Following an Academic Suspension, students must submit an Undergraduate Application Form to be considered for re-

admission to the University. Students who are permitted to return to studies at UPEI return on academic probation, and are subject to this regulation (including a reduced course load).

Students placed on Academic Suspension a second time will not normally be considered for re-admission for at least two full years following the suspension.

**Appeal:** The conditions of academic probation and academic suspension are subject to appeal to the Senate Academic and Student Discipline Appeals Committee.

**NOTE**: Individual programs may have a higher standard for good academic standing and progression. Please refer to the appropriate degree/program requirements in the Academic Calendar.

## 18. Deans' Honours List

Deans' Honours is a non-monetary distinction awarded to students enrolled in any undergraduate degree program (except for Education and Veterinary Medicine). Standing for inclusion on the Deans' Honours List is calculated annually at the end of the academic year based on courses completed at UPEI (or a combination of courses completed at UPEI and courses completed on exchange at a recognized Exchange Partner institution. Exchange course grades are not used in the grade point average calculation) between September 1 and August 31. Eligibility for this distinction is based on completion of a minimum of 30 semester-hours of credit, with a grade point average of 3.70 or higher, with no courses failed. Transcript notations will state Deans' Honours List.

## 19. Degree Standing

When it has been certified that a student has met all of the requirements for a degree, the degree standing is determined on the basis of academic performance in the final 60 semester hours of credit. The GPA for the final 60 semester hours of credit completed at UPEI is calculated, with degree standing accorded as follows:

3.70 GPA or higher: first-class standing

2.70 – 3.69 GPA second-class standing

0.70 – 2.69 GPA pass standing

First and second-class degree standing are recorded on a student transcript.

## 20. Academic Integrity

As a community of scholars, the University of Prince Edward Island is committed to the principle of academic integrity among all its participants. Each student is responsible for their conduct which affects the University Community and is expected to conduct themselves in an ethical manner in their academic work. Academic Dishonesty will not be tolerated and, within the constraints of this Regulation and Academic Regulation 12 (Academic Appeals), the University supports instructors in their efforts to deal effectively with cases as they may arise from time to time.

A) Actions which constitute academic dishonesty are considered an offence within the University. Examples of academic dishonesty include but are not limited to the following:

- plagiarism, which occurs when a student submits or presents work of (including but not limited to written, recorded, coded or created) another person in such a manner as to lead the reader to believe that it is the student's original work; submission of work previously submitted for academic credit without prior approval of the professor. Some examples of plagiarism include;

    a) quoting, paraphrasing, or summarizing text without proper citation;

    b) paraphrasing too closely (changing few words or simple rearrangement of text);

    c) downloading and/or purchasing articles, essays, etc. and presenting it as your own work.

    d) utilizing generative AI (artificial intelligence) software to create content and presenting it as your own work.

- Cheating can be defined as attempting to secure a grade for yourself or others by unethical means. Some examples of cheating include:

    a) giving false reasons for absence;

    b) impersonating someone during a test or exam;

    c) copying or sharing information or unauthorized materials (eg. notes, books, calculators, etc.) during a test or exam;

    d) unauthorized use of technology (cellphones, tablets, laptops, generative AI, etc.) during a test or exam;

    e) obtaining, copying, and/or sharing a copy of a test or exam before it is administered;

    f) altering a test or exam after it has been graded and returned by the instructor;

    g) unauthorized collaboration between students when individual work is required.

- Falsifying records or submitting false documents. Some examples of falsification include:

    a) falsifying any research results, whether in experiments, field trip exercises, or other assignments;

    b) falsifying academic records, transcripts or other University documents, or misrepresenting one's credentials;

    c) requesting the extension of a deadline citing reasons known to be false, including submitting false documentation supporting that request.

- Tampering with University resources in any way which would deprive others of their use. Some examples include:

    a) hiding, damaging or destroying library materials or laboratory resources;

    b) altering or destroying university computer programs or files without authorization;

    c) accessing and altering official records without authorization.

- Other academic misconduct such as the unauthorized use of recording devices or the unauthorized acquisition of computer software or other copyright material.

B) When there is reasonable evidence to support an allegation of academic dishonesty, the matter shall be discussed

with the student at the earliest opportunity. A written record of the incident and the response of the University will be sent to the student and to the appropriate Chairperson and Dean, and will be placed by the Dean on the student's file in the Registrar's Office.

- Currently, tools designed to detect AI-generated content are not considered "reasonable evidence" to substantiate an allegation of academic dishonesty.

C) One or more of the following sanctions may be imposed, depending on the seriousness of the offence:

i) the instructor, within their authority for assignment of course grades, may impose:

a) a reprimand;

b) assignment of a mark of zero or a percentage failure for the piece(s) of work under review;

c) assignment of a failing grade in the course. The instructor will provide the Registrar with a percentage grade for posting on the student transcript;

d) suspension of privileges in cases where the offenses have involved misuse and/or abuse of the library, computer or other University Resources;

ii) the Dean, in consultation with the Department where appropriate, may recommend to the President suspension or expulsion from the University;

iii) the President may impose suspension or expulsion from the University;

iv) the Senate may withhold or revoke a degree, diploma, or certificate.

The student has the right to appeal through the provisions of Academic Regulation 12.

## 21. Application to Graduate

Candidates for degrees, diplomas, and certificates must make formal application to graduate by the published deadline date for each eligible semester.

It is students' responsibility to monitor their program standing by reviewing their degree requirements and academic progress throughout their studies, and well in advance of submitting an application to graduate.

## 22. Leave of Absence

A student may make application to the Registrar for a leave of absence from the program in which they are enrolled. Students in limited-enrolment, cohort-based or professional programs may require the approval of their Dean as well.

1. A student who finds it necessary for family, health, personal, compassionate, professional or academic reasons, to interrupt their studies may apply for a Leave of Absence. Requests for leave must be accompanied by appropriate supporting documentation. (Note: Immigration Eligible Leave of Absence will have specific eligibility criteria)
2. Responsibility for approving a Leave of Absence rests with the Registrar, with some programs requiring support from the Dean.

3. A Leave of Absence will normally begin on the first day of September, January, or May and must be requested and approved before the first day of the semester.
4. A Leave of Absence will be granted for periods of one semester, two semesters, or three semesters. (Note: Immigration Eligible Leave of Absence may have a strict maximum duration).
5. The total duration of all Leaves of Absence granted in a program is normally limited to three semesters. For those requiring more time, re-admission will be necessary.
6. While on a Leave of Absence, students are expected to not undertake any formal academic or research work related to the program from which they have taken a Leave of Absence. Access to the University's facilities and resources, while on a Leave of Absence will be limited.
7. Students must inform the Registrar of their intent to return from a Leave of Absence prior to recommencing their studies.
8. Time spent on Leave of Absence is not counted as part of the allowed time to complete a degree.
9. Awards and funding may be interrupted during a Leave of Absence. Some external funding agencies may have provisions for some types of leave. Students should consult with the funding agency to determine impacts of an approved Leave of Absence.
10. While students do not pay tuition or fees during an approved Leave of Absence, they are not exempt from other financial obligations (i.e. interest charges on outstanding balance, standard collections processes, etc.).

For International students, there will be an additional level of review using eligibility criteria published by Immigration, Refugees and Citizenship Canada (IRCC) in order to confirm eligibility and any conditions. An IRCC recognized Leave of Absence will be recorded differently (with the notation of *Immigration Eligible).

# 14. Terminology and Definitions

ABCDEFGHIJKLMNOPQRSTUVWXYZ

***Academic regulations*:** general academic regulations apply to all university students, unless otherwise specified; degree regulations are academic regulations and degree requirements that apply to a particular program in addition to the general academic regulations.

***Academic standing*:** in May of each year, students are automatically assigned one of the following standings, based on academic performance:

> ***Good Standing*** – Students are deemed to be in good academic standing if they have achieved a CGPA of 1.70 or higher.
>
> ***Academic Probation*** – Academic Probation is a warning to a student that has been below the required standard and could lead to an Academic Suspension.
>
> ***Academic Suspension*** – Students will be placed on Academic Suspension if after the completion of 30 semester hours of credit since being placed on probation, their CGPA is below 1.70 **AND** any SGPA since being placed on probation is below 1.70, **OR** if upon assessment, a student's CGPA is below 0.50; they will be placed on academic suspension, without being placed on academic probation first.

***Advanced standing*:** when a degree requirement has been met but credit transfer to UPEI is not possible (i.e., the course is not deemed equivalent, though the subject matter is comparable enough to waive a degree requirement), "Advanced Standing" might be granted. Advanced Standing eliminates the need for the student to take the course in question but does not reduce the number of courses required to graduate (another course must be substituted for it, instead).

***Appeal*:** a challenge of, or request for review of, a judgement regarding the application of regulations.

***Audit*:** to audit a course is to enrol in a regular for-credit course, but only as a "listener." Assignments are not submitted or evaluated, and the transcript notation is AUD for "audit."

***Business Day*:** Monday through Friday, except for published holiday closures or other periods of closure as identified in the University's published dates in the Calendar.

***Certificate*:** a certificate is an academic designation awarded for the completion of a specified program of study with a focused or coherent theme. The number of semester hours required to complete a certificate varies by program. Please see the specific certificate program descriptions for a complete list of requirements. A certificate has fewer semester hours than a degree or a diploma.

***Conversion*:** see Honours Conversion

***Co-requisites*:** courses that must be or may be taken simultaneously.

***Co-operative Education*:** a degree program available in some disciplines whereby students complete a specified number of paid work-terms in addition to the course requirements for their degree.

***Core courses***: specific courses that are required as part of a degree program.

***Course*:** is a unit of work in a particular subject normally extending through one semester or session, the completion of which normally carries credit toward the fulfillment of the requirements for certain degrees, diplomas or certificates. To complete a degree in 4 years, students generally take ten courses over the period September to April, five in the

first semester and five in the second semester. In cases where a combination of six semester-hour courses and three semester- hour courses are followed (see definition of Semester Hour), normally a total of 120 semester hours of credit must be obtained before a student becomes eligible for a degree.

***Course load*:** the number of courses (translated into semester-hours of study) undertaken in any given semester or session. For example, a student taking 3 courses weighted at 3 semester-hours each is enrolled in a 9 semester-hour course load.

***Course selection*:** choosing the courses you wish to take, and selecting them either on-line through MyUPEI or in-person via the Registrar's Office or the Advisement Centre.

***Cross-level listing*:** offering of two courses, one graduate and one undergraduate, in the same time and place, with the same instructor. However, for cross-level listing, only the classroom experience is shared; the graduate course is expected to have separate and distinct content and assessment that is more advanced than the undergraduate. Students cannot complete a graduate level course if they previously completed the cross-level listed undergraduate course (exceptions may be made only with the permission of the Dean of Graduate Studies.)

***Cross-listed course*:** a cross-listed course is a single course offered for registration under two or more departments, is taught at the same time, by the same instructor, and in the same location. The course has the same title and content/ assessment methods. Prerequisite requirements may vary and the course prefix is different, e.g. DSJS 4350 is cross-listed with PSY 4350.

***Degree*:** an academic designation awarded for the completion of all regulations and requirements for a specific program.

***De-registered*:** students who have not paid course tuition and other fees by the published deadline may be de-registered and will not be permitted to write final examinations or to register in any subsequent semester.

***Degree audit***: as a "progress check," the degree audit is an activity whereby a student's academic record is reviewed in comparison to the degree requirements. An up-to-date degree audit report is available to students who log onto the UPEI website using their ID# and PIN. Students should review their audit to make decisions about degree completion options.

***Degree requirement*:** specific courses in a program that must be taken in order to be eligible to graduate.

***Diploma*:** a diploma is an academic designation awarded for the completion of a specified program of study with a focused or coherent theme. The semester hours required to complete a diploma varies by program. Please see the specific diploma program descriptions for a complete list of requirements. A diploma has fewer semester hours than a degree and more semester hours than a certificate.

***Directed studies*:** normally, an upper level course that does not have a prescribed curriculum. In consultation with the course professor, the student chooses a specific topic and then undertakes an in-depth study of this topic. The course professor must approve all directed-study activities before registration can occur.

***Discontinuations (DISC)*:** students who wish to terminate their enrolment in a particular course may discontinue by notifying the Registrar's Office either on-line or via in-person services and according to published dates in the Academic Calendar. Information regarding full refund and partial refund dates is listed in the Academic Calendar for each academic year. No discontinuations are permitted after the final date posted. Students who stop attending class after the final discontinuation date will be graded on the work completed up to that date.

***Electives*:** a term used for an academic course chosen by the student from a set of options, as opposed to a required course.

***Enrolled*:** actively engaged in a course or program for which one has registered. See Registered and Course Selection.

***Enrolment status*:** refers to current course load a student is carrying.

***Exchange Partner Institution*:** an institution with which UPEI holds an active Memorandum of Agreement to facilitate the reciprocal exchange of students, where participants pay tuition and fees at their home institution during the exchange.

***Full-time status*:** a student is considered full-time in a semester when they are enrolled in three or more credit courses (9 or more semester hours).

***Graduate certificate***: a graduate certificate is an academic designation awarded for the completion of a specified program of study for which a completed Bachelors or Professional degree is required for admission, and which involves graduate-level courses (6000 or above). Graduate certificate courses can be used towards a Masters degree program as specified within that Masters program. Students in graduate certificate programs are classified as graduate students.

***Graduate diploma***: a graduate diploma is an academic designation awarded for the completion of a specified program of study for which a completed Bachelors or Professional degree is required for admission, and which involves graduate-level courses (6000 or above). While the semester hours required to complete a graduate diploma are normally greater than those for a graduate certificate, some or all of this difference may be represented by a research project or other requirement for scholarly work. Graduate diploma courses can be used towards a Masters degree program as specified within that Masters program. Students in graduate diploma programs are classified as graduate students.

***Honours conversion*:** students who have completed a BA, BSc or a BBA degree at UPEI may apply to complete their Honours Conversion. Students must have completed a major in their subject area or, in the case of Business students, completed the Business degree with a strong academic background, in order to undertake Honours. For further information around admission requirements, and available programs, please refer to the Academic Calendar.

***Honours degree*:** an academic distinction awarded to students who achieve an honours bachelor's degree with sufficiently high academic standing and who typically fulfill a short thesis requirement. Consult the appropriate departmental offerings for details.

***Major*:** a subject of study a student normally specializes in during the course of degree studies. To qualify for a major, a student must complete a minimum of 42 semester hours of credit in the major subject. This number may be higher for some majors.

***Minor*:** a subject of study a student normally pursues secondary to a major. To qualify for a minor, a student must complete a minimum of 21 approved semester hours of credit. This number may be higher for some minors.

***Not-for-credit or non-credit courses*:** courses that have no semester-hour weighting, and do not contribute to the credits required for a degree. These courses may be required as a condition of admission or for continuation in a program of study. Other non-credit offerings are provided through the Centre for Life-Long Learning as short courses, workshops, and seminars.

***Part-time status***: a student is considered part-time in a semester when they are enrolled in fewer than three credit courses (less than 9 semester hours).

***Post-baccalaureate certificate*:** a post-baccalaureate certificate is an academic designation awarded for the completion of a specified program of study for which a completed Bachelors degree is required for admission. Normally, courses for these certificates will be at the 500 level. Post-baccalaureate certificate courses cannot be used towards a Masters degree program and students in post-baccalaureate programs are not classified as graduate students.

***Prerequisites*:** courses that must have been successfully completed prior to registration in another course.

***Registration***: registration is the process of selecting, enrolling in, and being assessed fees for courses. On-line registration is available for summer sessions normally in March each year, and in July for the upcoming academic year. See "Academic Calendar Dates" in calendar.

***Registered*:** to be officially registered, students must select their courses, enrol either on-line or in-person and have paid their tuition fees in full.

***Semester*:** the duration of a study period in an academic year normally consisting of thirteen consecutive weeks. The first semester commences in early September, the second semester in early January, and the spring/summer sessions commence in early May and July respectively.

***Semester-hour*:** a unit, by which course work is measured, normally defined as one hour of classroom time per week per semester. A class held three hours a week for one semester is measured as a three semester-hour course.

***Special topics*:** a course that is offered by a department on a one-time only basis.

***Specialization*:** a specialization is an approved selection of specific courses (15-30 semester hours) internal to a major that represents a focused subject area of study. In the case of Business, Education, Nursing and Engineering students, where specializations are available, a specialization is internal to the degree requirements. NOTE: For graduate programs, specialization refers to a focused area of study and/or research within the structure of a specific graduate program, as defined internally for that program.

***Transcripts*:** a transcript is the official, permanent record of your academic history at the University. For more information on ordering a transcript please see "Transcript Information".

***Transfer credits*:** Transfer credits are credits granted to students upon admission for work completed at another institution. These credits reduce the total number of credits which must be taken at UPEI for a degree.

***Unclassified students***: persons interested in enrolling in undergraduate courses for general interest or other academic purposes without having to gain admission to a specific program.

***Waived*:** is the permission granted by the appropriate authority for exemption from a particular program requirement and/or a particular university regulation.

***Writing intensive courses*:** Writing-intensive (WI) courses at UPEI use writing as a major means of developing thinking and learning in the disciplines. Such courses integrate a significant amount of writing (and opportunities for revision) into the work of the course, providing a variety of formal and informal occasions for students to write and learn the goals, assumptions and key concepts of a course.

***Year of study*:** is measured on the number of successful semester hours of credit completed. See Academic Regulation #3.

# 15. Disclosure and Protection of Student Information

## Confidentiality

UPEI is committed to taking every reasonable step to protect the confidentiality of the information contained in the records of students. The Registrar's Office is responsible for the storage, management, conservation, and dissemination (within the parameters of these Student Records Management policies) of all official student records, electronic and otherwise. Any file kept in offices other than the Office of the Registrar (student services, financial aid, special needs, library services, accounting, academic departments, etc.) will also be securely maintained and managed in the strictest confidence according to UPEI's policies. Exceptions to the policies outlined below may be made at the discretion of the Registrar.

## Collection of Information

An applicant provides pertinent personal information on application to the University and thereby authorizes the institution to maintain henceforth his/her record on acceptance of the offer to enrol at UPEI. (Records of applicants who are not admitted or who decline an offer of admission are destroyed at the end of the admissions cycle.)

Though not exhaustive, the following list of items are or may be contained in the Registrar's Office files of student records:

- the application and documentation attached therewith;
- personal information (address, date of birth, Social Insurance Number, marital status, etc.);
- enrolment information (records of registration, course or program changes, advising, etc.);
- performance information (grade reports, appeals, degrees attained, transcripts, etc.);
- medical information relevant to the student's academic performance (special needs-related information; documentation attached to an appeal for discontinuation, etc.);
- proof of payment/student account information; and
- any correspondence submitted to/issued by the Registrar's Office deemed by the Registrar to be appropriate for inclusion.

## Disclosure to Parties External to UPEI

Unless compelled to do so by law or authorized by the student in writing, UPEI will not disclose the contents of student records to any party outside the University. This includes the student's name, address, and current registration status, though the Registrar's Office will verify what degrees, diplomas, or certificates have been awarded to an individual and in what year. Exceptions are noted below:

## *1. Researchers*

Non-student researchers may be given access by the Registrar on written request provided that confidentiality and anonymity of student records are guaranteed as per signed agreement.

## *2. Government agencies*

Government agencies: Information will be provided routinely to the Maritime Provinces Higher Education Commission (which works in partnership with Maritime universities and Statistics Canada) and, under Federal legislation, to Statistics Canada (for institutional and enrolment research purposes).

Maritime Provinces Higher Education Commission – The MPHEC collects the data described below on behalf of Statistics Canada. In addition, it archives these data and uses them to generate basic statistics, research products, as well as the sampling frame for its graduate survey. These activities support its mandate, which is to assist institutions and governments in enhancing the post-secondary learning. The legal authority for these activities is provided by the Maritime Provinces Higher Education Commission Act. The Act also requires that all data received by the Commission is kept confidential, and ensures the protection of personal information. More information about the MPHEC may be found at www.mphec.ca.

Regarding those students who do not wish to have their information used, Statistics Canada will notify the MPHEC of any student choosing to have their personal information removed from the national database, and their information will subsequently be removed from the MPHEC's database.

Statistics Canada – Statistics Canada is the national statistical agency. As such, Statistics Canada carries out hundreds of surveys each year on a wide range of matters, including education.

It is essential to be able to follow students across time and institutions to understand, for example, the factors affecting enrolment demand at postsecondary institutions. The increased emphasis on accountability for public investment means that it is also important to understand 'outcomes'. In order to conduct such studies, Statistics Canada asks all colleges and universities to provide data on students and graduates. Institutions collect and provide to Statistics Canada, student identification information (student's name, student ID number, Social Insurance Number), student contact information (address and telephone number), student demographic characteristics, enrolment information, previous education, and labour force activity.

The federal Statistics Act provides the legal authority for Statistics Canada to obtain access to personal information held by educational institutions. The information may be used for statistical purposes only, and the confidentiality provisions of the Statistics Act prevent the information from being released in any way that would identify a student.

Students who do not wish to have their information used can ask Statistics Canada to remove their identifying information from the national database. On request by a student, Statistics Canada will delete an individual's contact information (name, address, or other personal identifiers) from the PSIS database. To make such a request, please contact:

*Via telephone*:

Monday to Friday

8:30 A.M. to 4:30 P.M. EST/EDST

1-800-307-3382 or 1-613-951-7608

*Via mail:*

Institutional Surveys Section

Centre for Education Statistics

Statistics Canada, 100 Tunney's Pasture Driveway
R.H. Coats Building, Floor 13G,

Ottawa, Ontario, K1A 0T6

*Via e-mail:*

PSIS-SIEP_contact@statcan.gc.ca

Further details on the use of this information can be obtained from the Statistics Canada Web site

www.statcan.ca/english/concepts/PSIS/index.htm

### *3. Legally Mandated Disclosure*

Specified records or portions thereof may be provided without student consent to persons or agencies pursuant to a judicial/court order, summons, or subpoena directing the University to release information.

### *4. Emergency Disclosure*

In situations involving threats to the health or safety of an individual student or employee, the Registrar reserves the right to authorize the release of relevant information without obtaining prior consent from the student(s) involved.

## Access to Student Records by UPEI Community Members

### 1. Student access to own records

a) Files: Students have the right to inspect all documents contained in their files—except for letters/evaluations submitted in confidentiality by referees—upon 24 hours' notice in writing to the Registrar's Office. An appointment will be set up with an authorized official of the Registrar's Office for the viewing of their records. Copies will not be provided.

b) Transcripts: Copies of student transcripts will be provided to the student or directly to an external party (employer, educational institution, etc.) upon written request submitted in person, by fax, or by e-mail (sent from a verified UPEI account). Official transcripts will not be released in sealed envelopes to students, but will be issued directly to the third party, unless documentation from that third party so instructs the Office. Requests from students with fees owing to the University will not be processed.

c) Release of Grades: Final grades are posted electronically and available immediately through campus log-in. Students may access this information using their student identification and secure PIN numbers. Faculty who post evaluation results or grades, final or otherwise, for student viewing will use only student identification numbers in ascending or descending numerical order. Under no circumstances will assignments be left in a public place for student pick-up.

## 2. Third-party access

a) Student Organization Access to Student Names and Addresses: Student organizations may request listings of student names, addresses, e-mails, or phone numbers solely for the purpose of communicating with their membership. Such requests must be made in writing, signed by the organization's authorized officer, and sent to the Registrar's Office for approval. All student organizations requesting information in this manner guarantee that the lists will not be disclosed to any other individual or group, will not be used in the context of commercial activity, and will not be used for any purpose other than that specified in the original request (except with written approval of such a request from the Registrar).

b) Individual Student Access to Other Students' Contact Information: The University will not provide student phone numbers, addresses, or e-mail addresses to individual students requesting the information. Instead, the Registrar's Office will make every effort to contact the student on behalf of the inquirer in order to communicate an urgent message.

c) Class lists: Employees and faculty will not distribute, post, or make available to students copies of class lists that include student names with ID numbers, major, year of study, course name, timetable, or location, addresses, e-mail addresses, or phone numbers.

d) Employee (Faculty and Staff) access: Within the University, departments and/or individuals will have access to information contained in a student file/ record on a 'need-to-know' basis. Access will be granted only to that portion of the file/record that is relevant to the employee's official purpose/function at UPEI, as decided by the Registrar. Deans and Chairs will have access to all academic grades for those students enrolled in their Faculty and department, respectively.

PART III

# UNDERGRADUATE ADMISSIONS

# 16. How to Apply

## 1. Create a UPEI account and complete the application form

- Create a UPEI account.
- Complete the online application form and submit the application fee.
- Some programs require a slightly different process: professional programs (Bachelor of Education, Bachelor of Science in Nursing, and Radiography) and the Doctor of Veterinary Medicine (DVM) program.

## 2. Submit your supporting documentation

- Send your transcript(s) by one of the following ways:
  - Attach documents to your online application.
  - Mail documents to the UPEI Registrar's Office, 550 University Avenue, Charlottetown PEI, C1A 4P3.
  - MyCreds: If you have a MyCreds/MesCertif, My eQuals, or Digitary CORE account you can share your digital documents with us by selecting the second 'Share' option: "Send my documents to a Registered Organization", and then select "University of Prince Edward Island" in the 'Recipient' field.
  - Fax your documents to (902) 566-0795.
  - Deliver your documents to the UPEI Registrar's Office, second floor of Dalton Hall, 550 University Avenue, Charlottetown.
- Some programs require supplemental documents. Check your UPEI account application for details.

You'll receive a message confirming your submission. We'll send another email message and a letter after we review your application materials.

***Notes:***
1. The applicant is responsible for the completeness and accuracy of the application.
2. Applicants who conceal any previous academic records are liable for dismissal from the University.
3. The University reserves the right to refuse admission to any applicant.
4. Applicants may be required to provide medical evidence of their fitness to pursue university studies.

***Application Deadlines***
Documentation for all applicants (except for Doctor of Veterinary Medicine, Education, Nursing, Radiography—see appropriate section) should be complete by 1 August, if applying to the Fall semester, or by 1 December, if applying to the Winter semester.

***Application Fee***
These fees must accompany each application for admission to all undergraduate programs and professional programs:

- Canadian $50.00
- International $50.00
- Doctor of Veterinary Medicine $75

***Residence Application Information***

Residence application forms can be obtained at http://upei.ca/residence. Applicants are reminded that acceptance to residence is no guarantee of acceptance to the University, nor is acceptance to the University a guarantee to acceptance to residence.

# 17. Admission Requirements (Arts, Business and Science) - From High School

## Bachelor of Arts (BA), Bachelor of Science (BSC), and Bachelor of Business Administration (BBA)

**(i) Canadian Education System**

***High School Graduates***

Successful completion of Grade 12 examinations (academic) in a University Preparatory Program with an overall average of at least 70% (75% for Quebec Secondary V students) in the following subjects:

## Bachelor of Arts

Grade 12 Academic English,
one Grade 12 Academic Social Studies or Grade12 Academic Language,
and any three other Grade 12 Academic courses.

Grade 12 Academic Math is recommended.
**Note:** Grade 12 Academic Math is a prerequisite for some first-year Arts courses.

## Bachelor of Business Administration

Grade 12 Academic English,
Grade 12 Academic Mathematics,
any two Grade 12 Academic Social Studies, Grade 12 Academic Languages or Grade 12 Academic Sciences,
and one other Grade 12 Academic course.

## Bachelor of Science

Grade 12 Academic English
Grade 12 Academic Mathematics
two Grade 12 Academic Science subjects (acceptable subjects: Chemistry, Biology, Physics, Computer Science, Oceanography, Animal Science, Environmental Science)
one additional Grade 12 Academic course

*Introductory Science course at UPEI with a high school prerequisites = Chemistry 1110 requires grade 12 Chemistry or equivalent.*

***Notes:***

Social Studies electives include the following: Economics, Global Issues, Canadian and PEI History, and Advanced Political Science.

Applications will be considered from students who have completed programs of study in CEGEP, Community Colleges, or CAAT. Transfer credits, if any, will be considered on an individual basis.

## *Admission During Grade 11 Year*

Grade 11 students are eligible to apply to UPEI for admission to Bachelors' degrees in Arts, Business or Science to begin their University studies in the Fall after their Grade 12 year of High School. This early offer of admission is based on academic course results from Grade 11. Applicants who have a 75% average in the academic pathway subjects from their Grade 11 year are eligible to receive an offer of admission in advance of their Grade 12 year. Students are encouraged to apply after the first semester of their Grade 11 year.

Students are required to submit an updated transcript before March 1st (after the first semester) of their Grade 12 year for Scholarship review and to confirm that registration prerequisites will be satisfied.

## *Admission from Grade 11*

This is for the exceptional student with at least 85% in Grades 10 and 11, who is highly recommended by the school (at least two letters), and who has written parental permission. Students with special aptitudes who may not have 85% will also be considered.

# 18. Gateway Program

Students under any category of admission may make application to attend the Gateway Program (GP). The GP provides extra support and encouragement to students and is available to both recent high school graduates and mature students registered in the program. Given the nature of the program, it is mandatory for students entering direct from high school with an academic admission average below 70% and optional for all other students who are interested in additional supports.

**Required Participation**

Admission requirements

Successful completion of 5 Grade 12 academic subjects that satisfy regular undergraduate admission requirements with an average of at least 65% – 69.9%

Gateway Program students who enter the University with a 65-69.9% average must:

- enrol in 1, 2, or 3 academic courses in each semester of their first academic year of study,
- attend mandatory mentoring sessions for the academic year
- attend mandatory tutorial and other support programs as provided for the academic year

**Optional Participation**

Students can self-declare interest in this program. This optional participation is open to:

- students who are transfer Students from other Universities and Colleges
- students being admitted under an articulation agreement
- students who are at least 21 years of age or older and out of school for at least 3 years; or
- students who satisfy regular admission requirements and self-identify as needing extra support and services

Students who choose to participate in the Gateway Program can opt for:

- student mentoring sessions
- class tutorials
- one-on-one support from the Coordinator of the GP

NOTE: GP students are subject to the same Academic Regulations as all students at UPEI.

# 19. Bachelor of Business Studies

(i) Introduction

The Bachelor of Business Studies (BBS) program is a post diploma degree. It will require a minimum of two years of academic study at UPEI, the curriculum of which will consist of a combination of core and elective courses. To be eligible for program admission, students must have already completed a two-year business diploma, including specified courses or programs, at a recognized college and have achieved an overall average of 70%.

(ii) Admission Requirements

Students must meet the UPEI admission requirements for this degree. In the BBS, students must meet the same requirements as in the BBA degree of obtaining grades of at least 60% in ten of the Business courses required in this program in order to qualify for the degree. Students are subject to all of the Academic Regulations of the University.

# 20. Bachelor of Business in Tourism and Hospitality

The Bachelor of Business in Tourism and Hospitality (BBTH) is a two-year post-diploma degree available only to graduates of diploma programs at the Atlantic Tourism and Hospitality Institute (ATHI) or of similar programs at similar post-secondary institutions. This post-diploma degree provides the opportunity for students to continue their education through a concentration in Business Administration.

Students must meet the UPEI admission requirements for this degree by completing the ATHI diploma, including economics, or equivalent course work at a university or college, with a minimum overall average of 70%. In the BBTH program, students must obtain grades of at least 60% in at least 12 of the 16 required business courses in order to qualify for the degree. Students are subject to all of the Academic Regulations of the University.

# 21. Accelerated Bachelor of Business Administration Program

Graduates of two year college diploma programs can gain access to the Bachelor of Business Administration degree (BBA) by way of the Accelerated Bachelor of Business Administration Program.

The Accelerated Bachelor of Business Administration program is available to students who have a two-year diploma from Holland College (or a similar college). They must satisfy general UPEI and Faculty of Business entrance requirements. Applicants must demonstrate a minimum average of 70% in their college program.

# 22. Bachelor of Environmental Studies

**(i) Introduction:**

The objective of the Bachelor of Environmental Studies program at the University of Prince Edward Island (UPEI) is to equip students as global citizens, with the tools to understand the environmental connections across academic fields, to critically analyze complex environmental issues, and to lead the way in innovation toward sustainable solutions. Environmental issues typically do not respect traditional academic boundaries and require scientific, technical, human and social perspectives to address. As an interdisciplinary liberal arts and science program, the Bachelor of Environmental Studies will provide students with the opportunity to integrate knowledge across faculties of Arts, Science, and Business. In the classroom, in the field and in the community, students will explore how they can make a positive impact toward sustainability in their personal lives, communities and globally.

**(ii) Admission Requirements:**

Successful completion of Grade 12 examinations in a University Preparatory Program with an overall average of at least 70% (75% for Quebec Secondary V students) in the following subjects:

Grade 12 Academic English;
one Grade 12 Academic Social Studies or Grade 12 Academic Language;
any 3 other Grade 12 Academic courses.

Grade 12 Academic Mathematics and High school Chemistry are recommended.

# 23. Bachelor of Science in Applied Climate Change and Adaptation

**Introduction**

The Bachelor of Science in Applied Climate Change and Adaptation is a 127 semester hour degree program.

**Admission to Applied Climate Change and Adaptation**

High school graduate

Students can apply directly from high school to the UPEI Bachelor of Science in Applied Climate Change and Adaptation program. Admission will be capped at 40 students, with two of the 40 seats dedicated for Aboriginal students. Students of the program will progress as a cohort. All eligible first year candidates are considered for admission based on their average in Grade 12: Academic English, Academic Math, and two Academic Sciences from the following list (Academic Chemistry, Academic Biology, Academic Physics); one other Grade 12 Academic subject; minimum overall average of 70% with no individual grade below 65%.

Applicants whose average in English, Math and two of Biology, Chemistry, or Physics, is 89% and above when final results for first semester grades are obtained will receive an "Early Offer" of admittance. All other applicants will be ranked.

In an effort to support a diverse cohort and build a program with global perspectives and global knowledge transfer opportunities, UPEI encourages applications from domestic and international students.

University application

Consideration will be given to students transferring into the program based on eligibility and enrolment numbers. University transfer students are subject to existing requirements for undergraduate admissions for the Faculty of Science.

University applicants attending or having attended a university must meet the same requirements as listed above, but can also complete the admission requirements by taking degree level courses.

**Application Process**

The following is required when completing your application:

• Undergraduate Application

• $50 Application Fee ($50 for International Applicants); and

• Official High School Transcripts

• Official Transcripts from any post-secondary institution where you have taken a course, even if transfer credit(s) was given by another institution. If enrolled in courses at the time of application, a final transcript is required for those courses as well. Final results for all courses used in the admission review process must be received by June 1.

# 24. Bachelor of Science in Biotechnology

**Admission Criteria:**

**Pathway 1, starting at Holland College ('2+2'):**

If students have received a Bioscience Technology diploma and achieved a minimum 70% average at Holland College (or another recognized CTAB accredited technologist program that has an OJT or co-op component), they are eligible to apply to UPEI for formal entry into the BBT degree program. Once accepted to UPEI, students will undertake a rigorous program of 20 courses, 13 of which will be required, 3 will be upper level science electives, and 4 will be general electives. Once accepted, students are subject to all of the Academic Regulations of the University.

**Pathway 2, starting at UPEI ('2+1+1'):**

Students apply to start at UPEI in the Faculty of Science directly out of high school, following standard application procedures at UPEI. Once accepted, students undertake one year of science courses similar to a first year biology or chemistry student (8 required courses, 2 electives). During the first year of study at UPEI, students apply to Holland College to do the Bioscience Technology diploma program by the deadline of May 1st. (Note: only 4 seats available in this program each year).

Once accepted, they complete their second year of science at UPEI (7 required courses, 3 electives), and then one full year at Holland College in the Bioscience Technology diploma program (includes 2 intersessions). Students then finish back at UPEI in their final year (4 required courses, 3 upper level science electives, 3 general electives).

**Application Process**

- Your complete application package will include:
- Create a UPEI account and apply for future study
- Application Fee
- Official transcripts from the post-secondary institution where you are enrolled or completed your diploma, and any other post-secondary institution where you have taken a course. If you are currently enrolled in a diploma program, you may be accepted into the degree program conditionally, and you will need to submit a final transcript when it is available.

# 25. Bachelor of Science in Engineering (Sustainable Design Engineering)

**High School Applicants:**

Successful completion of Grade 12 examinations in a University Preparatory Program with an overall average of at least 70% in the following courses, with no grade less than 65% and with at least 70% in Grade 12 academic Mathematics:

- Grade 12 Academic English
- Grade 12 Academic Mathematics
- Two additional Grade 12 Academic Science subjects, chosen from Biology, Chemistry or Physics
- One additional Grade 12 Academic course

The prerequisite for Chemistry 1110 (a required course in the engineering program) is Grade 12 Academic Chemistry or UPEI Chemistry 0001.

Note: High school applicants should apply by March 1 to be considered for entrance scholarships.

**Applicants from other institutions:**

Applicants attending or having attended another institution who are seeking to transfer into UPEI's engineering program must meet the same requirements as for High School applicants as well as the requirements for University Transfer Students. Transcripts will be reviewed for possible course transfer credit.

# 26. Bachelor of Science in Nursing (BScN)

## *NOTE: EFFECTIVE FOR FALL 2025 INTAKE*

The Bachelor of Science in Nursing (BScN) is a four-year program. Graduates are eligible to write licensure examinations to practice nursing, and to hold membership in the College of Registered Nurses of Prince Edward Island.

**Admission Requirements (worth 70% of overall admission score)**

**High School Applicant**
A high school applicant must have achieved a mark of at least 65% in each of the following Grade12 Academic courses: English, Mathematics, Chemistry, Biology and one other Grade 12 Academic course, with an overall average in these courses of at least 70%.

**University Applicant**
Applicants attending or having attended a University must meet the same requirements as listed above but can also complete the course requirements by taking degree level courses. A minimum mark of 60% is required in degree level courses.

**Mature Applicant**
In addition to the general admission requirements for mature students, the following regulations apply: a student of mature years may be admitted to the Faculty of Nursing without fulfilling all the entrance requirements specified for the high school graduates. A mature applicant must have achieved a mark of 65% in each of Grade 12 academic English, Mathematics, Chemistry, and Biology or a mark of 60% for 3 semester hours in the same subjects at the university level.

***Selection criteria***
The total number of students admitted will be limited in accordance with facilities and resources on campus and in health care agencies.

Approximately seventy (70) seats are available in the four year Nursing Program each year. All students who meet the minimum requirements will be considered. Priority will be given to applicants who are residents of PEI. Eligible first year candidates are ranked on their average in Biology, Chemistry, English and Math. University Applicants completing one or more of the core courses listed above will have 15% added to each university course for ranking purposes. University applicants must be in good academic standing, as defined in the UPEI calendar.

Offers to the highest ranked may take place at any time during the process. For applicants completing prerequisite requirements, offers will take place after 1 st semester grades have been received. All first round offers will be made by April. A second round of offers is made in May, with the number depending upon first round acceptances. Finally, a third round of offers is made in July for any seats that are still available. Late offers of a seat to the program will be made to the highest ranked alternate if and when a seat becomes available.

Applicants deemed as alternates and enrolled in courses are to have all prerequisite courses completed by June 30th. Final official transcripts must be received at the Registrar's Office no later than July 15th.

**Note**: Former UPEI Nursing students who withdrew in good academic standing during first year may be given priority for readmission to the program.

**Application Process**
The application deadline is February 15th. To meet this deadline an applicant must, by this date, have their on-

line application submitted and application fee paid. Other documents may follow after the deadline. Follow UPEI's undergraduate application process for professional programs.

**Other documents required:**

- For high school graduates, a final official high school transcript
- For current high school students, a final official first semester transcript
- (if applicable) Official transcripts from all post-secondary institutions attended. If enrolled in courses, updated transcripts are to be submitted once final results of the first semester are available. Transfer credits received at another institution will not negate the requirement for original transcripts;
- (if applicable) Mature applicants (21 years of age or older) and not enrolled in full-time study are to upload a current Curriculum Vitae (CV) or resume;
- (if applicable) An official English Language Proficiency Test result

Arrange to have official transcripts and English Language Proficiency results (if required) sent to;

UPEI Registrar's Office
550 University Avenue
Charlottetown, PE
C1A 4P3

**PLEASE NOTE:**

- The Faculty of Nursing requires certification of CPR (BLS Level), First Aid, immunization record, and a certified vulnerable sector check from your local law enforcement agency. Once an applicant is accepted they are to forward this documentation directly to the Faculty of Nursing no later than August 15th. If any of this required documentation is not received by the deadline, this offer may be withdrawn. For more information go to Nursing Passport
- If a second choice program of study is indicated in the application it will be reviewed independently of your Nursing application. Often a decision is made on a student's second choice before a decision has been made on their Nursing application.
- Letters of recommendation are not required nor accepted.
- After receiving an offer of admission to the BScN, a non-refundable tuition deposit is required. The deadline for providing this deposit will be stated in the acceptance letter. Extensions to this deadline will not be granted.

**B. CASPer Test Requirement (worth 30% of overall admission score)**

All applicants to UPEI's Bachelor of Science in Nursing (BScN) program are required to complete a CASPer assessment (CASPer Test), in addition to meeting academic requirements. Successful completion of CASPer is **mandatory** in order to maintain admission eligibility.

CASPer is an online test which assesses for non-cognitive skills and interpersonal characteristics that are important for successful students and graduates of the Nursing program. In implementing CASPer, we are trying to further enhance fairness and objectivity in our admission selection process.

Please note that the CASPer test can only be written **once** within an admission cycle. Multiple test attempts are not permitted. Additionally, CASPer test results are only valid for one admission cycle. Applicants who have already taken the test in previous years must re-take it.

To view UPEI CASPer test dates and to learn more about CASPer visit this link: https://takealtus.com/faq/#prepare
Please direct any inquiries on the test to CASPer provider, Altus.

**Transfer Applicant Deadline February 15.**

Transfer Applicants currently in a Nursing program, or having completed part of a Nursing program at another university, may apply to transfer to the 2nd or 3rd year of the BScN program. Applicants cannot be considered until all of the courses (or equivalent courses at another university) required of UPEI 1st year Nursing students have been completed. Those applicants not able to complete all of the courses required of 1st year UPEI Nursing students must apply as a first year student, but if accepted, may receive transfer credit. Students dismissed from a Nursing program as a result of a clinical failure, or students who have failed two Nursing courses, are not eligible to apply as a transfer applicant.

Transfer students must follow UPEI's undergraduate application process for professional programs, and submit other requirements including:

- UPEI Application Fee;
- official post-secondary transcript(s) for any post-secondary study taken. For those enrolled in courses, arrange to have transcripts sent when 1st semester final results can be reported;
- if not currently enrolled (out one semester or more), a resume outlining a list of current activities is required;
- a course syllabus for all Nursing courses taken or currently in-progress, including details of any clinical portion;
- a letter from the Nursing school where applicant is currently enrolled or has previously attended, which states the applicant is in good academic and clinical standing with no restrictions;
- if required, an acceptable English Language Proficiency Test result.

**Please Note:**
The University of Prince Edward Island Nursing program is based on the "PEI Conceptual Model of Primary Health Care". Students whose previous Nursing (LPN or BSc) program did not include Primary Health Care must apply to the first year of the program. If accepted students may receive transfer credit.

Transfer seats are subject to availability of space in the Nursing program.

# Holland College Articulated Agreement

Graduates of the Holland College Practical Nursing (PN) program applying to the BScN program at UPEI enter the program via the Accelerated BScN Program.

**Admission to First Year of Accelerated BScN**
**Admission Criteria**

- received at least a 80% average in the Practical Nursing program;
- have evidence of a strong clinical performance during the PN program. A letter from a clinical nursing instructor from Holland College documenting clinical performance in the LPN program. The letter is to be sent directly to the Registrar's Office at UPEI;
- have successfully completed at least 1800 clinical hours of practice as a Practical Nurse (documented by the

applicant's employer)
- complete the CASPer test requirement.
- 18 semester hours of credit must come from the list of courses below (at the credit weights noted), with a minimum average of 75% in these 6 courses (18 semester hours) with no individual course grade below 60%:

Human Anatomy (3 semester hours) – lab required

Human Physiology (3 semester hours) – lab required

Microbiology (3 semester hours) – lab required

Introductory Psychology (6 semester hours)

Statistics (3 semester hours)

(The above noted courses must be successfully completed at an undergraduate degree level at a recognized post-secondary institution. Courses must have been completed within the past 10 years and fulfill the criteria outlined for regular transfer credit equivalency review).

Potential applicants who have met the admission criteria, except for the six degree-level university courses, may complete these courses at UPEI, as a conditionally admitted student. Students are also encouraged to consider completing the IKE-1040 degree requirement during this period.

Graduates of the Holland College PN Program will receive transfer credit ( 27 semester hours) for the following courses:

NURS 1030 – Fundamentals of Nursing Practice

NURS 2130– Nursing of Young Families

NURS 2320 – Introductory Pharmacology

NURS 2230 – Adult Nursing: Transitions in Health

NURS 2450– Health Assessment

Note: All students must complete IKE 1040 – Indigenous Teachings of Turtle Island

The path to a BScN for a Licensed Practical Nurse (LPN) is unique in that it recognizes their Holland College PN courses toward completion of the BScN degree.

Students in the LPN to BScN pathway program will complete 51 semester hours of nursing specific courses (and 3 semester hours of IKE-1040) to fulfill the degree requirements for the BScN.

Students in the LPN to BScN pathway Program will also complete Evidence Informed Decision Making in the Professional Nursing Practice in addition to the pre-nursing pre-requisites. This non-credit course will only be offered to PN graduates entering the Accelerated BScN Program to facilitate role transition from LPN to BScN, and . M must be completed before (or concurrent with) entering N3060 – Nursing of Childbearing Families.

**First Year Required:**

**January to July**

IKE 1040 – Indigenous Teachings of Turtle Island

NURS 2120 – Pathophysiology for Nursing Students

NURS-0001- Evidence Informed Decision Making in the Professional Nursing Practice (non-credit)

**July – August**

NURS 3060 – Nursing of Childbearing Families

**September – December**

NURS 3230 – Partnerships with Clients and Families Living with Chronic Illness

NURS 3030 – Issues in Nursing and Health Care OR

NURS 3040 – Nursing Research Methods

NURS 3340 Psychiatric and Mental Health Nursing

**Second Year Required**

**January – April**

NURS 3130 – Developing Partnerships with Clients in the Community
NURS 4030 – Leadership for Health Professionals in a Primary Health Care Context
NURS 3030 – Issues in Nursing and Health Care OR
NURS 3040 – Nursing Research Methods
**May – August**
NURS 4010 – Nursing and Population Health
NURS 3100 – Integrated Clinical Experience
September – December
NURS 4020 – Integrated Clinical Experience II
NURS 4040 – Conceptual Models and Nursing Theories

**Application for Articulated Agreement** (application deadline: February 15)

Holland College Articulated Agreement applicants must follow UPEI's undergraduate application process for professional programs, and submit other requirements including:

- UPEI Application Fee;
- post-secondary transcript(s) for any/all post-secondary study taken. For those enrolled in courses, arrange to have transcripts sent when 1st semester final results can be reported;
- if not currently enrolled (out one semester or more), a resume outlining a list of current activities is required;
- if required, an acceptable English Language Proficiency Test result;
- A letter from a clinical nursing instructor from Holland College documenting clinical performance in the LPN program.
- Confirmation of at least 1800 clinical hours successfully completed
- Official CASPer test result

# 27. Accelerated Bachelor of Science in Nursing

## *NOTE: EFFECTIVE FOR WINTER 2025 INTAKE*

**(i) Introduction**

Students apply for the Accelerated Bachelor of Science in Nursing (BScN) Program through the Registrar's Office, and must submit the UPEI undergraduate application form. Students in the Accelerated Program are required to take the same Nursing courses (NURS-1030 instead of NURS-1010 & 1020) and have the same number of clinical hours as students in the four-year BScN program. They are governed by the academic regulations for Nursing as outlined in the Calendar.

**(ii) Admission Requirements**

**A. Academic Requirements** (worth 70% of overall admission score)

To be eligible for the Accelerated BScN Program, applicants must have:

- successfully completed Grade 12 Academic or equivalent courses in English, Math, Chemistry, and Biology;
- successfully completed 60 semester hours of university-level credit;
- of the 60 semester hours of credit noted above, 30 semester hours of credit must come from the list of courses below (at the credit weights noted), with a minimum average of 75% in these 10 courses (30 semester hours) with no individual course grade below 60%:

Human Anatomy (3 semester hours) – lab required
Human Physiology (3 semester hours) – lab required
Microbiology (3 semester hours) – lab required
Introductory Psychology (6 semester hours)
Developmental Psychology (3 semester hours)
Statistics (3 semester hours)
Introductory Nutrition (3 semester hours)
Two (2) English courses (6 semester hours)

(The above noted courses must be successfully completed at an undergraduate degree level at a recognized post-secondary institution. Courses must have been completed within the past 10 years and fulfill the criteria outlined for regular transfer credit equivalency review).

**Note:** Required courses in Pathophysiology and Pharmacology can be taken during the Accelerated Program.

**Note**: Applicants whose first language is not English must also satisfy the UPEI English Language Proficiency requirements.

**CPR, First Aid, Criminal Record and Immunization**

The Faculty of Nursing requires certification of your CPR (BLS Level), First Aid, immunization record, and a certified vulnerable sector check from your local law enforcement agency from all students accepted to the Nursing program. Accepted applicants forward this documentation directly to the Faculty of Nursing no later than December 15. (Note: if any of the required documentation is not received by the deadline, this offer may be withdrawn).

**B. CASPer Test Requirement** (worth 30% of overall admission score)

All applicants to UPEI's Accelerated Bachelor of Science in Nursing (BScN) program are required to complete a CASPer assessment (CASPer Test), in addition to meeting academic requirements. Successful completion of CASPer is **mandatory** in order to maintain admission eligibility.

CASPer is an online test which assesses for non-cognitive skills and interpersonal characteristics that are important

for successful students and graduates of the Nursing program. In implementing CASPer, we are trying to further enhance fairness and objectivity in our admission selection process.

Please note that the CASPer test can only be written **once** within an admission cycle. Multiple test attempts are not permitted. Additionally, CASPer test results are only valid for one admission cycle. Applicants who have already taken the test in previous years must re-take it.

To view UPEI CASPer test dates and to learn more about CASPer visit this link: https://takealtus.com/faq/#prepare

Please direct any inquiries on the test to CASPer provider, Altus.

**(iii) Application Process**

Applicants submit the on-line UPEI application and pay the application fee on or before the **July 15** application deadline

Arrange to have a final official high school transcript, as well as official transcripts from all post-secondary institutions attended, sent to the UPEI Registrar's Office (address below). Transfer credits received at another institution will not negate the requirement for official transcripts where the course was taken. If enrolled in courses, updated transcripts are to be submitted once final grades for the semester are available.

If not enrolled in courses, please upload a current Curriculum Vitae or resume through the application portal

If you do not meet the UPEI English Language Proficiency, arrange to have a recognized ELP test result sent from a testing centre listed in the link above to the UPEI Registrar's Office (address below).

UPEI Registrar's Office
550 University Avenue
Charlottetown, PE C1A 4P3

**Notes Regarding the Evaluation of Applications**:

- 28 students are accepted each year. There is only one entry term which is January.
- Priority will be given to applicants who are residents of PEI and have completed all of the prerequisite course requirements, or those that have completed some and enrolled in the remaining prerequisite courses.
- An Early offer is made to applicants whose average for admission has been calculated to be 83% or greater. If an applicant is currently enrolled in courses, one condition of acceptance will be maintaining the admissions average of 83% or more.
- Once all applicants have been considered, further offers will be made to the highest ranked applicants who have not received an Early Offer and have completed all the prerequisite course requirements, or those that have completed some and enrolled in the remaining prerequisite courses.
- If a condition of acceptance is the successful completion of prerequisite courses, the deadline to complete the course(s) is the end of the Fall semester, and the deadline to submit the transcript is before the start of the Accelerated program in January.
- If an applicant wishes to be considered for both the Accelerated program and the 4 year program, they must submit an application for each program. If accepted to both, applicants choose which program they would like to enrol in.
- After receiving an offer of admission to the BScN, a non-refundable tuition deposit is required. The deadline for providing this deposit will be stated in the acceptance letter. Extensions to this deadline will not be granted.

# 28. Bachelor of Science with a Major in Kinesiology

**Introduction**

The Bachelor of Science with a major in Kinesiology is a 120 semester hour degree program.

(ii) Admission to Kinesiology

**High school graduate**

Applicants must have successfully completed Grade 12 in a university preparatory program with a minimum of 70% overall average in five Grade 12 Academic subjects: English, Mathematics, Biology, Chemistry, and one other academic course. Note: High school applicants should apply by March 1 to be considered in the University's annual scholarship review process. See Undergraduate Application and Admission Requirements section of the Academic Calendar.

**University application**

Applicants attending or having attended a university must meet the same requirements as listed above, but can also complete the course requirements by taking degree level courses.

(iii) Application Process

Your complete application package should be sent directly to the Registrar's Office. The total number of students admitted will be limited in accordance with facilities and resources on campus to provide quality education.

Students are expected to complete a degree at UPEI within a 10-year period. (See Academic Regulation #2). Applicants should contact the office of the Dean of Science or the Registrar's office if they have completed any of the pre-requisite first year courses seven years prior to the anticipated start date of their second year of the Kinesiology major.

The following is required when submitting your application:

- Undergraduate Application Form
- Application Fee
- Official Transcripts from each post-secondary institution where you have taken a course, even if transfer credit(s) were given by another institution. If enrolled in courses at the time of application, a final transcript is required for those courses as well. Final results for all courses used in the admission review process must be received by June 1.

# 29. Bachelor of Applied Health in Paramedicine

**Admission Criteria**

This is an articulated degree. To be eligible for admission to the Bachelor of Applied Health in Paramedicine, applicants must have graduated from Holland College with a diploma in Primary Care Paramedicine (two years; PCP) or a post-graduate certificate Advanced Care Paramedicine (three years; ACP). Graduates from other public institutions with two-year Accreditation Canada accredited paramedicine programs may also be eligible to apply to this program. All applicants must achieve a minimum grade of 70% in their diploma program to be eligible for admission to the program.

**Application Process**

To complete an application

- Create a UPEI account and apply to the Bachelor of Applied Health in Paramedicine
- Pay the Application Fee
- Submit official transcripts from the post-secondary institution where you are enrolled or completed your diploma, AND from ALL other post-secondary institution attended. If you are currently enrolled in a diploma program, you may be accepted into the degree program conditionally (pending final transcript results).

# 30. Bachelor of Applied Science in Radiography (BScR)

This four-year degree program requires students to obtain approximately half their academic credits at the University of Prince Edward Island and the Queen Elizabeth Hospital. Admission is by competition, following the process set out below, after the completion of a required set of courses in at least one year of university study. A limited number of students are admitted each year.

**Admission Requirements**

Recommended First Year Course Schedule:

Normally applicants take ten three-semester hour courses or their equivalent(s). To be considered for the program a student must complete the required Biology, Physics, Chemistry, and Calculus requirements. Applicants who are admitted with the minimum required courses must complete any outstanding first year requirements in a subsequent semester, with Coordinator's approval required prior to registering in them.

Below is the recommended schedule for a student completing the first year prerequisite courses.

- Two courses in introductory Biology (BIO 1310/1320)
- Two courses in introductory Physics (PHYS 1110/1120 or 1210/1220)
- Two courses in introductory Chemistry (CHEM 1110/1120)
- One course in Mathematics (MATH 1120) OR (MATH 1910)
- One Composition course (UPEI 1010 or UPEI 1020 if taken at UPEI)
- Two courses in Introductory Psychology (PSY 1010/1020)

Students are expected to complete a degree at UPEI within a 10 year period (See Academic Regulation #2). To meet this regulation the prerequisite first year courses must be taken within the last six years prior to the submission of an application to the Radiography program.

Applicants who have completed any of the pre-requisite first year courses seven years prior to the anticipated start of their Radiography program should contact the coordinator of the Radiography program or the Dean of Science.

**Application Process**

Follow UPEI's undergraduate application process for professional programs, and submit other requirements **by December 1**, including:

- UPEI Application Fee
- Official Transcripts from each post-secondary institution where you have taken a course, even if transfer credit(s) were given by another institution.
- A Vulnerable Sector check.
- A current resume if you are over the age of 21 and/or not presently enrolled in courses.
- English Language Proficiency Test (if required)

**Further Deadlines**

- February 1 – final Official Transcripts listing fall semester grades
- June 1 – final Official Transcripts listing winter semester grades for applicants enrolled in winter semester who are invited to interview, and conditionally accepted
- June 1 – successful applicants are required to make a non-refundable deposit by this date to hold their seat in the program. The deposit will go toward first semester tuition costs
- Before classes begin – updated immunization records must be submitted.

***Assessment of Applications***

An applicant's overall average is calculated using the prerequisite Biology, Physics, Chemistry, and Calculus course requirements. All required courses must have a passing grade. Biology, Physics, and Chemistry courses are to have a laboratory component. Details of course content may be required for any course proposed for admission purposes.

Students must achieve an overall average of 70% in the minimum prerequisite course requirements to be considered for an interview. A higher-level course may be used as a substitution for a minimum course requirement providing it is in a related field of study.

The highest academically ranked applicants are interviewed for the available seats. Offers of admission are based on results of the interview as well as academic achievement. A minimum score of 50% must be achieved in the interview to be eligible for admission. Normally, at least twice as many eligible applicants will be interviewed as there are number of seats available. Successful applicants will be notified within two weeks of their interview.

Interviews will normally be held in late April.

***Reapplication***

If a previously denied applicant wishes to reapply, they follow the same process as that described above.

# 31. Bachelor of Wildlife Conservation

**(i) Introduction**

The Bachelor of Wildlife Conservation (BWC) is a two-year post diploma degree available to graduates of accredited NAWTA (North American Wildlife Technology Association) programs (e.g. the Wildlife Conservation Technology diploma program at Holland College). Entry to the program will be in September each year. This post-diploma degree provides the opportunity for students to continue their education through foundational science courses, advanced analytical courses in the environmental sciences, and electives in scientific and social issues involved in conservation management. A minimum of 20 courses, 15 of which are required, must be taken at UPEI, to fulfill the requirements of this program.

**(ii) Admission Requirements (Application deadline: June 1)**

Admission to the BWC program requires successful completion of a NAWTA (North American Wildlife Technology Association) accredited diploma program with a minimum average of 70%. For students who completed their diploma ten or more years previously, their application will be considered on a case-by-case basis. Students who are accepted to the program must be able to demonstrate that they have already been vaccinated for Rabies, or obtain a rabies vaccination during the first year of their program. Students are subject to all of the Academic Regulations of the University.

**(iii) Application Process**

The application Deadline is June 1st and all applications must be postmarked or hand delivered to the UPEI Registrar's Office by this date. Your complete application package will include:

- Undergraduate Application Form
- Application Fee
- Official transcripts from the post-secondary institution where you are enrolled or completed your diploma, and any other post-secondary institution where you have taken a course. If you are currently enrolled in a diploma program, you may be accepted into the degree program conditionally, and you will need to submit a final transcript when it is available.

# 32. Bachelor of Education (BEd)

## *NOTE: EFFECTIVE FOR SUMMER 2025 INTAKE*

**(i) Introduction**

The Bachelor of Education (BEd) is a 12-month post-degree program consisting of 60 credit hours in education with the program commencing in May of each year. This program is designed to provide the variety of courses and extended field experiences through which students can develop the knowledge and skills needed to teach in the modern classroom. It provides the opportunity for students to focus their studies in Primary/Elementary Years (K–6) or Intermediate/Senior Years (grades 7–12), and in International, Indigenous, or Adult and Workplace Education.

**(ii) Admission Requirements**

- Applicants must have completed the requirements for their undergraduate degree from an approved registered university and have the degree conferred before June 30.
- Applicants must have an overall average of not less than 70% (at least between C+ and B-) computed on the 20 highest grades of the last 22 courses (3 semester hour of credit). Applicants who have an average of less than 70% may be considered on a case-by-case basis. Graduate study may be taken into consideration for admission requirements.
- Applicants must have at least 6 semester hours of credit in English or equivalent (at least 3 of which are recommended to be in Composition);
- Applicants whose first language is not English must also satisfy the UPEI English Language Proficiency requirements.
- Applicants must have completed academic courses in subjects taught in the school system which satisfy the requirements for the program level (Primary/Elementary or Intermediate/Senior) into which they seek admission, as follows:

**(a) Primary/Elementary (K-6)**

- 3 credit hours in Math
- 6 credit hours in Social Studies (as listed below);
- 6 credit hours in Science (as listed below); (3 of which must be a lab-based science); and
- A course in Developmental Psychology or equivalent.

**Note 1:** Applicants are strongly encouraged to take Education 2110 or 2130 (Introduction to Education) at UPEI (or equivalent at other universities) prior to beginning the BEd program. Courses in Fine Arts or Music will also be considered assets.

**(b) Intermediate/Senior (grades 7-12)**

Applicants must have appropriate coursework in two defined teachable areas as outlined below:

- at least 42 credit hours of university coursework in a first teachable area as listed below; and
- at least 18 credit hours of university coursework in a second teachable area as listed below, preferably in a teachable area different from the first.

The following courses* relate to teachable areas:

**English** (includes Communications, Creative Writing, Drama, Journalism, linguistic, Media Studies, and Theatre);

**Social Studies** (includes Acadian Studies, Anthropology, Canadian Studies, Economics, Environmental Studies, Family Science, Geography, International and Global Studies, History, Indigenous Studies, Law, Philosophy, Political Science, Religious Studies, Sociology, Diversity and Social Justice Studies, Classics, International Development, Humanities, and Women's Studies);

**Science** (includes Chemistry, Biology, Foods and Nutrition, Forestry, Geology/Earth Sciences, Health Sciences, Kinesiology, Oceanography, Environmental Science, Agriculture, Physics, and Engineering);

**Mathematics** (includes Mathematics, Physics, Statistics, and Computer Science). Other math-related courses may be accepted on a case-by-case basis based on course outcomes;

**French**; and **Music** (offered through the Bachelor of Music Education program in the Faculty of Arts).

*Courses not listed may be evaluated on a case-by-case basis.

**(iii) Application Process**

Applications for the Bachelor of Education Program open on June 1st of each year and will be accepted until the program has reached the full complement of students or the program begins. However, the Faculty will begin reviewing completed applications submitted on October 1st. Applicants are therefore encouraged to apply by October 1st to ensure full consideration for admission. Applicants who submit their application by October 1st would normally be notified of admission decisions by mid-December.

Applications received after October 1st will only be considered if a seat becomes available before the program begins.

**Additional Admission considerations:**

The minimum entrance requirement is an undergraduate degree along with the minimum requirements to be certified as a licensed teacher by the province of PEI.

- If a potential applicant does not meet the other established entry criteria to be considered for acceptance, but has a combination of study and life/work experience that may demonstrate the potential for a successful educational career, such individuals are encouraged to apply.
- Additional consideration will be made for applicants who identify themselves as belonging to an FNMI (First Nations, Métis and Inuit) or an under-represented community.
- The required Experience Profile plays an important role in the decision-making process by the Selection Committee.
- Applicants being considered by the Selection Committee may be required to participate in an interview.

Follow UPEI's undergraduate application process for professional programs, and submit other requirements including:

- UPEI Application Fee
- Official transcripts are required from each post-secondary institution where you have taken a course. Original transcripts are required even if transfer credits were given by another institution
- The Experience Profile and official transcripts must be received by the Registrar's Office in order for an application to be assessed.

Send documents to:
Registrar's Office
University of Prince Edward Island
550 University Avenue
Charlottetown, PE
C1A 4P3

**Please note:**

- The successful applicant who receives either an unconditional or conditional offer must confirm his/her acceptance in writing and include a non-refundable deposit. This confirmation must be received by the Registrar's Office (for transmittal to the Accounting Office) by the date specified in the letter.
- For students who have received a conditional offer of admission official transcripts indicating final grades and confirmation of degree completion must be submitted to the Registrar's Office by June 30th. Failure to do so will result in removal from the program before the commencement of July courses. It's imperative to contact the Registrar's Office if there is a legitimate reason why this June 30th deadline cannot be met.
- The Faculty of Education may request to interview any potential applicant.

# 33. Bachelor of Education—français langue seconde

## *NOTE: EFFECTIVE FOR SUMMER 2025 INTAKE*

**(i) Introduction**

The Bachelor of Education–français langue seconde is a 12-month post-degree program consisting of 60 credit hours in Education with the program commencing in May of each year. This program is designed to provide the variety of courses and extended field experiences through which students can develop the knowledge and skills needed to teach in the modern classroom. It provides the opportunity for students to focus their studies in Primary/Elementary (grades K-6), or Intermediate/Senior (grades 7-12), and International, Indigenous, or Adult Education.

**(ii) Admission Requirements**

- Applicants must have completed the requirements for their undergraduate degree from an approved registered university and have the degree conferred before June 30.
- Applicants must have an overall average of not less than 70% (at least between C+ and B-) computed on the 20 highest grades of the last 22 courses (3 semester hours of credit each). Applicants who have an average of less than 70% may be considered on a case-by-case basis. Graduate study may be taken into consideration for admission requirements.
- Applicants who have completed a degree where the language of instruction was not French must have at least 6 semester hours in French (at least 3 semester hours in a writing-intensive course in any discipline). However, applicants who receive, in the last year, a level B2 (at least 70% in all categories) on DELF are not required to complete 6 semester hours in French.
- Applicants whose first language is not English must also satisfy the UPEI English Language Proficiency requirements.
- Applicants must pass an oral and written proficiency test in French before admission to the program is confirmed.

**Primary/Elementary (grades K-6)**

While courses in teachable subjects such as French, Mathematics, Science, Social Studies, and English are considered assets for admission to the BEd (français langue seconde) program, they are not mandatory. Applicants are strongly encouraged to take French courses and Education 2130 (Introduction to Education) at UPEI (or equivalent at other universities) prior to beginning the BEd program. Additionally, courses in Fine Arts or Music will also be considered assets.

**Intermediate\Senior (grades 7-12)**

Applicants must have appropriate coursework in two defined teachable areas as outlined below:

- at least 42 credit hours of university coursework in a first teachable area as listed below; and
- at least 18 credit hours of university coursework in a second teachable area as listed below, preferably in a teachable area different from the first.

The following courses* relate to teachable areas:

**Social Studies** (includes Acadian Studies, Anthropology, Canadian Studies, Economics, Environmental Studies, Family Science, Geography, International and Global Studies, History, Indigenous Studies, Law, Philosophy, Political Science, Religious Studies, Sociology, Diversity and Social Justice Studies, Classics, International Development, Humanities, and Women's Studies);

**Science** (includes Chemistry, Biology, Foods and Nutrition, Forestry, Geology/Earth Sciences, Health Sciences, Kinesiology, Oceanography, Environmental Science, Agriculture, Physics, and Engineering);

**Mathematics** (includes Mathematics, Physics, Statistics, and Computer Science). Other math-related courses may be accepted on a case-by-case basis based on course outcomes;

**French**; and **Music** (offered through the Bachelor of Music Education program in the Faculty of Arts).
**English** (includes Communications, Creative Writing, Drama, Journalism, Linguistics, Media Studies, and Theatre);

*Courses not listed may be evaluated on a case-by-case basis.

**Please note:** Preference will be given to:

- Candidates who have completed a first degree in any relevant discipline from a French language university;
- Candidates who have completed a major in French from an English university;
- Candidates who have at least a minor in French studies at a recognized university;
- Applicants who have significant professional and or life experiences in a French environment are also encouraged to apply. Successful applicants may be required to complete French language course requirements during the two year education program.

**(iii) Application Process**

Applications for the Bachelor of Education (français langue seconde) program open on June 1st of each year and will be accepted until the program has reached the full complement of students or program begins. However, the Faculty will begin reviewing completed applications submitted by October 1st. Applicants are therefore encouraged to apply by October 1st to ensure full consideration for admission. Applicants who submit their application by October 1st would normally be notified of admission decisions by mid-December. Applications received after the full complement of students will only be considered if a seat becomes available or for the following academic year.

**Additional Admission Considerations:**

The minimum entrance requirement is an undergraduate degree along with the minimum requirements to be certified as a licensed teacher by the province of PEI.

- If a potential applicant does not meet the other established entry criteria to be considered for acceptance, but has a combination of study and life/work experience that may demonstrate the potential for a successful educational career, such individuals are encouraged to apply.
- Additional consideration will be made for applicants who identify themselves as belonging to an FNMI (First Nations, Métis and Inuit) or an under-represented community.
- The required Experience Profile plays an important role in the decision-making process by the Selection Committee.

- Applicants being considered by the Selection Committee may be required to participate in an interview.

Follow UPEI's undergraduate application process for professional programs, and submit other requirements including:

- UPEI Application Fee
- Two copies of official transcripts are required from each post-secondary institution where you have taken a course. Original transcripts are required even if transfer credits were given by another institution.

Send documents to:

Registrar's Office
University of Prince Edward Island
550 University Avenue
Charlottetown, PE
C1A 4P3

**Please note:**

- The successful applicant who receives either an unconditional or conditional offer must confirm his/her acceptance in writing and include a non-refundable deposit. This confirmation must be received by the Registrar's Office (for transmittal to the Accounting Office) by the date specified in the letter.
- For students who have received a conditional offer of admission official transcripts indicating final grades and confirmation of degree completion must be submitted to the Registrar's Office by June 30th. Failure to do so will result in removal from the program before the commencement of July courses. It's imperative to contact the Registrar's Office if there is a legitimate reason why this June 30th deadline cannot be met.
- The Faculty of Education may request an interview any potential applicant.

# 34. Doctor of Veterinary Medicine

DVM program admissions information is organized into five (5) sections:

1. Admissions Overview
2. Phase One DVM Admissions Requirements
3. Phase Two DVM Admissions Requirements
4. DVM Application Procedure/Documents Required
5. General DVM Applicant Information

## 1. Admissions Overview

The Atlantic Veterinary College (AVC) at the University of Prince Edward Island (UPEI) is a regional institution that serves the needs of Atlantic Canada. The college is funded by the four Atlantic provinces, Prince Edward Island, Nova Scotia, New Brunswick, and Newfoundland and Labrador, and approximately three quarters of the seats in the program are reserved for Atlantic Canadian residents. These seats are divided into four distinct applicant pools – one for each province. Each province determines their number of subsidized seats and conditional eligibility requirements. The remaining seats are allocated to international applicants (including those from the United States), constituting a fifth applicant pool.

The admissions process strives to select applicants most likely to succeed in the veterinary curriculum with the potential to become competent, responsible veterinarians dedicated to a lifetime of productive public service and continued learning.

**Eligibility to Apply**

**Atlantic Canadian Subsidized Seats :**

Only those Canadian citizens or permanent residents who meet the Atlantic Canadian residency requirements for Prince Edward Island, Nova Scotia, New Brunswick, or Newfoundland and Labrador can apply for provincially subsidized seats. See the Determining your Atlantic Canadian Province of Residence section for more information. Provincially subsidized seats may require a Provincial Admissions Agreement which may include a Return of Service requirement. More information can be found here https://www.upei.ca/programs/doctor-veterinary-medicine/understanding-the-admissions-process].

Atlantic Canadian residents may apply for an unsubsidized seat (see below); however, they can choose only one application pathway per admissions cycle. If an applicant applies for both a subsidized and an unsubsidized seat, they will be removed from consideration for a subsidized seat.

Applicants for subsidized seats can indicate on their application whether they would also like to be considered for an unsubsidized seat, should one become available.

If an applicant does not receive an offer for a subsidized seat but has completed the interview and essay and meets all eligibility requirements and has indicated their willingness to be considered for an unsubsidized seat, they will be placed on the alternate list for unsubsidized seats. The highest-ranking unsuccessful applicants for subsidized seats may remain on both the alternate list for subsidized seats and the alternate list for unsubsidized seats.

If a subsidized seat becomes available, it will be offered to the next applicant on the subsidized alternate list. If an unsubsidized seat becomes available, it will be offered to the next applicant on the unsubsidized alternate list.

Applicants who are on both alternate lists and accept an offer for an unsubsidized seat will remain on the subsidized alternate list. If a subsidized seat later becomes available, they will be offered that seat, and their vacated unsubsidized seat will be offered to the next applicant on the unsubsidized alternate list. This process continues until the program

start date. Thus, candidates on both alternate lists (who applied for subsidized seats, and indicated a willingness to take an unsubsidized seat) are preferentially offered subsidized seats if they become available.

Applicants who enter the program in an unsubsidized seat must remit unsubsidized tuition for the duration of the program.

Indigenous applicants with PEI residency are eligible for further consideration for a dedicated seat. Please see additional information below.

**Unsubsidized Seats: :**

Canadian citizens and permanent residents and International applicants can apply for unsubsidized seats through VMCAS https://www.aavmc.org/becoming-a-veterinarian/how-to-apply/]

Atlantic Canadian residents may apply for an unsubsidized seat; however, they can choose only one application pathway (unsubsidized or subsidized) per admissions cycle. If an applicant applies for both an unsubsidized and a subsidized seat, they will be removed from consideration for a subsidized seat. Applicants who apply for an unsubsidized seat and are accepted, must remit unsubsidized student tuition and applicable fees for the duration of their program.

Applicants must have a World Education Service (WES) course-by-course evaluation for any transcripts that are not in English. This includes any Canadian transcripts that are not in English.

**Indigenous Applicants: Designated PEI Seat**

The Atlantic Veterinary College has one seat per year designated for Indigenous applicants who meet PEI residency requirements.

Indigenous applicants who choose to apply and be considered for admission through PEI's designated Indigenous seat must indicate this on their application and will be asked to provide documentation for verification of Indigenous Identity.

Verification of Indigenous identity will be completed by an Indigenous Verification Committee, with representation from the Epekwitk Assembly of Councils, Abegweit First Nation, Lennox Island First Nation, the Native Council of Prince Edward Island, and the UPEI Faculty of Indigenous Knowledge, Education, Research and Applied Studies.

Documentation can include a Status card, Membership in a First Nation Band, or other documentation of kinship as accepted by the Indigenous Verification Committee (outlined below).

Applicants with verified Indigenous Identity will be considered for admission in the PEI provincial pool as well as for the designated Indigenous seat.

**Accepted documentation of Indigenous Identity**

| | Category | Supporting Evidence |
|---|---|---|
| **1** | First Nation person registered under the Indian Act (Status Indian) | – Copy of a status card issued by the government of Canada |
| **2** | First Nation person entitled to be registered under the Indian Act | – Copy of application materials submitted to the government of Canada for status.<br><br>– Failing the above, a reasonable explanation about why materials are not submitted and corroborating documents of eligibility for status. |
| **3** | First Nation person born after 1985 affected by the Indian Act second-generation cut-off rule | – Date of birth after April 1, 1985 and evidence that a descendent was a section 6(2) Status Indian (e.g., copy of parent's or grandparent's, etc, status card, community membership list etc.) |
| **4** | A person recognized under the membership or citizenship rules of a recognized First Nation band | – Copy of membership card issued by a First Nation recognized by the government of Canada – Written confirmation of membership with a federally<br><br>recognized band or tribal authority in in the US or Canada |
| **5** | A person recognized under the membership or citizenship rules of a modern Inuit treaty organization or government | – A copy of an Inuit enrolment or beneficiary card issued by a modern Inuit treaty organization or government (Inuvialuit Regional Corporation, Nunavut Tunngavik Incorporated, Makivik Corporation, Nunatsiavut Government)<br><br>– Written confirmation of Inuit identity provided by any of the aforementioned Inuit bodies |
| **6** | A person recognized under the membership or citizenship rules of one of the established Métis organizations | – A copy of a card provided by one of the Métis National Council governing members (Métis Nation – Saskatchewan, Métis Nation of Alberta, Métis Nation British Columbia, and Métis Nation of Ontario)<br><br>– A copy of a card provided by the Manitoba Métis Federation or one of the Métis Settlements of Alberta<br>– Written confirmation of Métis identity provided by any of the aforementioned Métis bodies |
| **7** | A person recognized under the membership or citizenship rules of any other Indigenous people (not noted in categories 4-6) that have a credible claim to being section 35 Aboriginal rightsholders | – Evidence of membership in a group that can demonstrate legitimate forms of recognition as an section 35 rights-holding group, including:<br><br>a. Court rulings of having Aboriginal / treaty rights;<br>b. Recognition by other Indigenous groups<br>c. Recognition by human rights and international bodies;<br>d. Evidence of the group being targeted by assimilative policies such as residential schools;<br>e. Evidence of historical treaties (oral or written) with colonial governments;<br>f. Evidence the group is in negotiations with settler governments over section 35 rights |
| **8** | A person recognized by an Indigenous people (per categories 4-7), or a subset of such peoples, as belonging to them accordance with the customs or traditions of that Indigenous people | – Evidence of adoption or acceptance into the group based on the group's Indigenous laws, customs and traditions. |
| **9** | A person who has Indigenous ancestry, but who has become disconnected from their Indigenous people (per categories 4-7) due to colonial policies and laws | – Provide a narrative of claims to Indigeneity and how specific colonial policies impacted this (e.g., Residential and Day Schools, Sixties and Millenial Scoops, Incarceration, Enfranchisement and discriminatory membership rules, etc), providing any supporting or corroborating evidence, or explaining why such evidence is not available. |

[2]Adapted from Metallic, N., & Simon, C. (n.d.). Schulich law scholars.
https://digitalcommons.schulichlaw.dal.ca/cgi/viewcontent.cgi?article=1085&context=reports

**Selection Criteria**

Applicants to AVC's DVM Program are evaluated on both academic achievement and non-academic achievement and aptitude through two phases of admissions as follows:

**Phase One (60% of overall admissions score):**

20% = CASPer 2 (CSP-10211) test score

40% = Academic Achievement

**Phase Two (40% of overall admissions score):**
30% = Interview based on animal and veterinary experiences
10% = Personal essay

**Determining your Atlantic Canadian Province of Residence**

**Residency Requirements**
Canadian citizens or permanent residents who qualify as residents of one of the four Atlantic Canadian provinces (Prince Edward Island, Nova Scotia, New Brunswick, or Newfoundland and Labrador) according to criteria defined by the Maritime Provinces Higher Education Commission (MPHEC) are eligible to apply as domestic students. The full MPHEC Definition of Resident is provided here:

**DEFINITION OF RESIDENT**
A resident of the Province is an individual lawfully entitled to be or remain in Canada, who makes his or her home and is ordinarily present in New Brunswick/Nova Scotia/Prince Edward Island/Newfoundland for twelve consecutive months prior to the student's request for admission, including a student living out of Province for the purpose of furthering his or her education, but not including a tourist, transient or visitor to the Province.

**Independent Students**
An independent student meets, at minimum, one of the following criteria:

• has been out of high school for four years or more

• has had two periods of 12 consecutive months (each) when not a full-time student

• is or was married or common-law

• has a dependent living with them

• has no parent or legal guardian

An independent student is considered a resident of New Brunswick/Nova Scotia/Prince Edward Island/Newfoundland by living in the Province for twelve consecutive months prior to the student's request for admission, excluding time spent as a full-time student at a post-secondary institution.

**Dependent Students**
A dependent student is a student who does not meet any of the criteria of an independent student. A dependent student is considered a resident of New Brunswick/Nova Scotia/Prince Edward Island/Newfoundland whose parents, guardian or sponsors resided in the Province for twelve consecutive months prior to the student's request for admission:

• If one of the parents works in another province, the student is a resident of New Brunswick/Nova Scotia/Prince Edward Island/Newfoundland if the family home was in the Province for twelve consecutive months prior to the student's request for admission;

• If the parents are separated or divorced, the province of residence is the province where resides the parent with whom the student normally lives or receives principal support for twelve consecutive months prior to the student's request for admission. If there is no custody agreement, the province of residence is that of the parent with whom the student has normally resided for twelve consecutive months prior to the student's request for admission, or if the student lives with neither parent, the province of residence is that of the parent who has been the student's principal support for twelve consecutive months prior to the student's request for admission;

• If the parents leave New Brunswick/Nova Scotia/Prince Edward Island/Newfoundland after having resided there for twelve consecutive months prior to the student's request for admission but the student remains in New Brunswick/

Nova Scotia/Prince Edward Island/Newfoundland to begin or continue post-secondary studies, New Brunswick/Nova Scotia/Prince Edward Island/Newfoundland will continue to be the province of residence;

• If the parents reside outside Canada, the province of residence will be that where the parents last resided during the twelve consecutive months prior to the student's request for admission prior to their departure from Canada.

** Independent or dependent student status is determined by an individual's status at the time of the start of the academic program for which they are applying.

*** MPHEC has made the following clarification in regards to students moving from dependent to independent student status;

***Once a student has established residency in an Atlantic province as a dependent student, they maintain residency in that province when they become an independent student as long as they have not lived for 12 consecutive months in another province (excluding time as a full-time student).***

Atlantic Canadian applicants must meet the residency requirements at the time of submission of their application and at the time they are admitted.

**Determination of the province of residency for admission to the DVM program is a two-step process.**

1. Determine if you are an independent or dependent student according to the criteria given below:

You are an independent student if you meet **ANY** of the following criteria:

- have been out of high school for at least 4 years
- have had at least two 12 consecutive month periods, or one 24 consecutive month period where you were not a full-time student at a post-secondary institution
- are or have been married or in a common-law relationship
- have a dependent living with you
- have no parent or legal guardian

**Once a student has met the criteria to be an independent student, he/she will remain an independent student for the purposes of residency determination.

You are a dependent student if you do not meet at least one of the criteria to be an independent student (listed above).

2. Provide information about your address or your parents'/guardians' address according to the criteria below.

- A dependent student's provincial residency is determined by the home address of the parent/guardian during the 12 consecutive month period prior to the application deadline.
- An independent student's provincial residency is determined by the student's home address during the most recent 12 consecutive month period prior to the application deadline in which he/she was not a full-time student at a post-secondary institution.

To facilitate determination of residency, all Atlantic Canadian applicants will be required to submit the following documents:

- Official finalized post-secondary institution transcript

- Official finalized secondary/high school transcript
- Photocopy of your current driver's license
- Complete the Atlantic Canadian Residency form

In addition, dependent Atlantic Canadian students must also provide the following additional document:

- Photocopy of your parents' or guardians' driver's license(s)

**Definitions:**

A "full-time student" is defined as having a course load of at least three courses (nine semester hours of credit) per semester, excluding laboratories.

A "post-secondary institution" is defined as an institution authorized to confer post-secondary certificates, diplomas, or degrees.

## 2. Phase One DVM Admissions Requirements

**CASPer 2 (CSP-10211) test score**

All applicants must complete the CASPer 2 (CSP-10211) – English test as part of the current Acuity Insights testing cycle.
The CASPer test, administered by Acuity Insights, evaluates important non-cognitive skills through an online situational judgment test lasting 100-120 minutes. The test utilizes open-response questions.
Please note that CASPer test results are only valid for one admissions cycle and may take up to three weeks to process. It is important that applicants schedule their test early enough to ensure the results are submitted before the application deadline. Test dates and availability can be found on the Acuity Insights website.
Applicants having taken the CASPer test in a previous admissions cycle, will need to retake it.
International applicants who have taken a different version of the CASPer test in the past, must complete the CASPer 2 (CSP-10211) – English test to be considered for admission to the DVM program at the Atlantic Veterinary College.
To learn more about CASPer, visit this link:[ https://acuityinsights.app/faq/#prepare embed link,]
To view test dates and register, visit this link: [https://my.acuityinsights.app/dates-times embed link,]
Please direct any inquiries on the test to the CASPer provider, Acuity Insights.

**Academic Requirements**

**Secondary/High School Requirements**
The Admissions Committee does not specifically evaluate high school course work. Students typically work towards a degree while completing prerequisite course requirements for DVM admission. Applicants are encouraged to contact the Registrar' Office at the post-secondary institution which they plan to attend to inquire about specific high school prerequisites for their intended degree program.

**Post-Secondary Academic Requirements**
Consideration for admission to the DVM Program requires completion of at least 20 prerequisite courses. In general, these prerequisites can be completed within two years (four semesters) in the context of an undergraduate Bachelor's degree program. Applicants are encouraged to work toward a degree in a field of study that is of particular interest to them in the event that they are not accepted into the DVM program. No preference is given to those who have completed a first degree, or who have completed the prerequisite courses within a pre-veterinary medicine program.

All applicants are advised to complete course work within an undergraduate degree program at an institution that has rigorous entrance requirements and a reputation for academic quality. Applicants must be in good academic standing at and be eligible to return to their home institution(s) without any restrictions in order to be considered.

For Atlantic Canadian applicants, prerequisite courses must be completed at an institution that is a member of the Association of Universities and Colleges of Canada (AUCC) and must meet the requirements outlined below. Course work completed at a non-AUCC member institution will require review by the Admissions Committee to determine acceptability. In some cases, applicants may be required to provide documentation confirming that their home institution is affiliated with or recognized by one of the primary science degree-granting institutions in that province and/or provide independent confirmation that one or more courses taken to satisfy the DVM Program requirements qualify for direct transfer credit as a core science course at such an institution. Applicants may also be asked to provide additional independent information to facilitate grade comparison.

For United States applicants, prerequisite courses must be completed at an institution that is accredited by the United States Department of Education and must meet the requirements outlined below. In some cases, applicants may also be required to provide documentation confirming that their home institution is affiliated with or recognized by one of the primary science degree-granting institutions in that state and/or provide independent confirmation that one or more courses taken to satisfy the DVM Program requirements qualify for direct transfer credit as a core science course at such an institution. Applicants may also be asked to provide additional independent information to facilitate grade comparison.

Applicants outside of North America will be evaluated on a case-by-case basis to determine acceptability of both the institution and individual courses. A foreign transcript evaluation report may be required. Fees associated with this service are the responsibility of the applicant. For applicants whose first language is not English, the UPEI English Language Proficiency Requirement must be satisfied for admission consideration.

**Course Work**
At least 20 prerequisite courses must be completed or in progress at the time of application in order to be considered and course work must include at least one course satisfying each of the following requirements:

Animal Biology 1
Animal Biology 2
Animal Biology 3
Genetics
Mathematics 1
Mathematics 2 (Statistics)
Chemistry 1
Chemistry 2
Chemistry 3 (Organic Chemistry)
English (Composition)
10 Electives

Academic achievement will be evaluated based on performance in the 10 prescribed courses, performance in all courses taken during the most recent full time academic year (September – April).

**Course Work Criteria**
Applicants must ensure that all 10 prescribed courses, as well as all courses taken during the most recent full time academic year, meet the following criteria.

1. Courses must be at the undergraduate degree level at a post-secondary institution. Course work will not be acceptable if taken during graduate programs.

2. Courses must be completed while taking a course load of at least 3 courses and 9 credit hours, excluding laboratories, during any fall or winter semester, or in any two consecutive summer semesters.

3. Courses will not be acceptable if they are repeats of previously passed courses taken within the last ten years, or if they cover similar material to previously passed courses taken within the last ten years.

4. Courses reporting grades as Honours, Pass-Fail, or Satisfactory-Unsatisfactory cannot normally be evaluated.

5. Courses completed in the context of International Baccalaureate (IB) or Advanced Placement (AP) programs will only be accepted if credit has been granted from the home post-secondary institution and in situations where the applicant would not otherwise meet the prerequisites for the DVM program.

6. Any of the prescribed courses will not normally be acceptable if they were completed more than ten full academic years before the date of application.

7. All of the prescribed science courses must be considered "core" science courses and be eligible to fulfill requirements for an undergraduate science degree at the home post-secondary institution in order to be accepted.

8. The following prescribed Science courses must have a laboratory component in order to be accepted: Animal Biology 1, Animal Biology 2, Animal Biology 3, Chemistry 1, Chemistry 2, Chemistry 3 (Organic Chemistry).

9. Courses may be completed via distance education online, but only if they comply with all of the other regulations stated above.

10. Examples of acceptable prescribed Animal Biology courses include the following: general first year biology, animal diversity, vertebrate anatomy, vertebrate histology, vertebrate physiology, vertebrate zoology, microbiology, molecular biology, cell biology, developmental biology, ornithology, biology of fishes, mammalogy, and wildlife biology. Please note that Animal Behaviour courses are not acceptable.

Applicants who have completed the course prerequisites but, due to exceptional circumstances, do not meet all of the criteria specified above must submit a detailed letter outlining these circumstances and providing just cause as to why their application should be considered by the Admissions Committee.

**Academic Average (40% of overall admissions score)**
All applicants will have an academic average calculated based on their prerequisite course work. When more than one course is available to satisfy a particular requirement, the highest eligible graded course will be used to calculate the academic average.

Academic Average Calculation = 50% (Average of 10 prescribed courses) + 50% (Average of most recent two full time semesters; September through April)

A minimum cumulative average of 75% across the 10 prescribed courses is required for further consideration and acceptance into the DVM Program. Please note, this is an average across all the prescribed courses, not a requirement for each individual course. Applicants may have individual course grades below 75% as long as their overall average meets the 75% minimum. Applicants should note that competition is intense and significant academic achievement must be demonstrated.

# 3. Phase Two DVM Admissions Requirements

Only those applicants who rank highly based on the CASPer 2 (CSP-10211) – English test and academic requirements will be invited to interview and submit a personal essay.

**Interview (30% of overall admissions score)**

Interviews will be conducted virtually and will draw on the applicant's veterinary and animal experiences. All applicants are required to submit structured descriptions of their veterinary and animal experiences prior to application to the DVM program. These may be paid or voluntary. The goal of these experiences is to provide applicants with insight into the breadth of the veterinary profession and assist them in making an informed career choice.

Veterinary experience must be obtained under the supervision of a qualified veterinarian working in the clinical practice and/or provision of veterinary care to animals in research laboratories, zoos, animal shelters, and animal rehabilitation facilities. Experience with veterinarians working in non-clinical capacities including regulatory or public health agencies is also acceptable. Veterinary experience should involve direct interactions with one or more veterinarians working in the field and should not be restricted to reception or administrative duties only. Applicants should be advised that there is no minimum number of hours required for application; however, it is advised to attain as many hours with as many different species (e.g., swine, cows, horses, exotic pets, dogs, cats, etc.) as possible. In most cases, veterinary experience within North America is recommended.

Animal experience may involve working with livestock, breeding or showing animals, working in a pet store, participating in equestrian activities, or any other animal related hobby or experience where a veterinarian is not always present and/or does not provide direct supervision. Please note that animal experience for the purposes of application to the DVM program does not include pet ownership

During the interview, applicants will be asked to expand upon the details they provided regarding their experiences and discuss how they have contributed to their understanding of the veterinary profession. Applicants should be advised that a failing score (less than 50%) in the interview will result in their removal from further consideration in the admissions process.

**Essay (10% of overall admissions score)**

Applicants receiving an interview invitation will also be presented with an essay prompt designed to assess their understanding and/or experience with Equity, Diversity and Inclusion in Veterinary Medicine. Applicants will be expected to submit a well-structured, thoughtful response in the form of a 500-word essay. Essays will be evaluated separately from the interviews, and an applicant's essay will be scored by different members of the admissions team than those who conducted their interview.

Essential Skills and Abilities Required for the Study of Veterinary Medicine

Applicants must be aware that, in addition to the requirements outlined above, there are a number of attributes that are necessary for admission to the DVM Program. These are presented below to assist prospective students preparing for admission.

Observation: Students must be able to participate in learning situations that require observational skills. In particular, students must be able to accurately observe animals of all common domestic species and acquire visual, auditory and tactile information.

Communication: Students must be able to adequately speak, hear, and observe patients and clients to effectively and efficiently elicit information, describe activity and posture, and perceive non-verbal communication. Students must be able to communicate effectively and sensitively with clients and other members of the veterinary health care team. Students must be able to coherently summarize an animal patient's condition and treatment plan verbally and in writing.

Motor Skills: Students must demonstrate sufficient motor function to safely perform a physical examination on patients of all common domestic species including palpation, auscultation, and percussion. Examinations must be done independently and in a timely fashion. Students must be able to use common diagnostic aids or instruments including

a stethoscope, otoscope, and ophthalmoscope. Students must be able to execute motor movements required to provide general and emergency medical and surgical care to animal patients in a variety of settings.

Intellectual Conceptual, Integrative and Quantitative Abilities: Students must demonstrate the cognitive skills and memory necessary to measure, calculate, analyze, integrate and synthesize large quantities of information from various sources. Students must be able to comprehend dimensional and spatial relationships. Students must be able to execute complex problem-solving activities in a timely fashion.

Behavioural and Social Attributes: Students must manage the intellectual challenges of the program. Students must apply good judgment and promptly complete all responsibilities attendant to the diagnosis and care of animal patients. Students must cultivate mature, sensitive, and effective relationships with clients and other members of the veterinary health care team. Students must be able to tolerate the physical, emotional, and psychological demands of the program and function effectively under stress. Adaptability to changing environments and the ability to function in the face of uncertainties inherent in the care of animal patients are necessary skills. Personal qualities exemplified by members of the veterinary profession such as compassion, integrity, concern for others, effective interpersonal skills, initiative, and motivation are also expected of students.

The AVC is committed to facilitating the integration of students with disabilities. Students with a disability will receive reasonable accommodation that will assist them in meeting the requirements for graduation from the DVM program. Such accommodations, however cannot compromise animal well-being or the safety of people involved. Consequently, it may not be possible to accommodate all disabilities and facilitate successful completion of the DVM program. For additional information regarding support, contact UPEI Accessibility Services.

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# 4. DVM Application Procedure/Documents Required

**Applicants for Unsubsidized Seats:**

Applicants for unsubsidized seats (including Canadian and US applicants) must first apply online through the Veterinary Medical College Application Service (VMCAS) operated by the American Association of Veterinary Medical Colleges here by the VMCAS deadline (September 15). Applicants will be contacted to remit the processing fee. Fall and winter transcripts must be received by February 1 and June 1, respectively, where applicable.

**Unsubsidized Applicant Requirements and Deadlines:**

**September**

- completion of VMCAS application
- applicants will be contacted by UPEI regarding payment of the processing fee

**November**

- Virtual interview and essay submission for applicants ranking highly based on CASPer-2 test results and academic achievement

**February 1**

- receipt of fall semester transcripts for courses in progress, if applicable

**June 1**

- receipt of winter semester transcripts for courses in progress, if applicable

DVM Program Applicant Coordinator: dvmadmissions@upei.ca – (902)-894-2836

**Atlantic Canadian Applicant Requirements and Deadlines:**

**October 15**

• creation of online account (if not previously done) and submission of online application and fee
• submission of the Atlantic Canadian Residency form (and supporting documents)
• submission of the Animal/Veterinary Related Experience form

• submission of a signed Provincial Admissions Agreement (if applicable)
• submission of documentation for verification of Indigenous identity (if applicable)

**February 1**

- receipt of fall semester transcripts for courses in progress, if applicable

**May 2**

- Virtual interview and essay submission for applicants ranking highly based on CASPer-2 test results and academic achievement

**June 1**

- receipt of winter semester transcripts for courses in progress (only those invited to interview)

DVM Program Applicant Coordinator:– dvmadmissions@upei.ca; (902)-894-2836

All applicants are responsible to ensure that required materials are on file by the appropriate deadline; incomplete applications will not be reviewed. While the provisions of this document will ordinarily be applied as stated, UPEI reserves the right to change any provision listed herein, including but not limited to residency and academic requirements for admission, without notice to individual applicants. Every effort will be made to inform applicants of any changes.

**Submit all materials postmarked by the dates indicated above to:**

Professional Schools Admissions, Office of the Registrar
University of Prince Edward Island
550 University Avenue, Charlottetown, PE
C1A 4P3

**Please be aware that materials submitted after these deadlines will not be accepted. If you anticipate a problem in meeting a deadline, please contact the UPEI Registrar's Office as soon as possible.**

**Advanced Standing and Transfer Applicants**

Advanced Standing applicants are students who have completed all of a veterinary medical program from a school not accredited by the Canadian Veterinary Medical Association and/or the American Veterinary Medical Association but "listed" by the American Veterinary Medical Association. Transfer applicants are students who have completed at least one year of a veterinary medical program at a college accredited by the Canadian Veterinary Medical Association and/or the American Veterinary Medical Association or "listed" by the American Veterinary Medical Association.

Colleges "listed" by the American Veterinary Medical Association include foreign colleges recognized by the World Health Organization and colleges officially recognized by their national governments as professional schools of veterinary medicine. Graduates of "listed" colleges are eligible to practice veterinary medicine in their home country and may qualify for entrance into the Educational Commission for Foreign Veterinary Graduates (ECFVG) certification program in the United States or the Clinical Proficiency Exam (CPE) in Canada.

Advanced standing or transfer applicants may apply to the second or third year of the DVM program. Places for advanced standing or transfer applicants are limited and depend on vacancies. Advanced standing applicants normally must have graduated from a veterinary program within six years of the date of application. Transfer applicants normally must have

completed at least the first year of a veterinary program immediately preceding acceptance to the second year of the AVC DVM program.

Advanced standing or transfer applicants who do not meet the requirements mentioned in the previous paragraph are invited to submit a letter explaining why the Admissions Committee should consider their application. For advanced standing applicants the explanation must provide details of further veterinary-related study or work.

Applicants are considered for admission on a competitive basis. The deadline for applications is January 1 for classes that would begin in September. Those offered a seat in the second year of the program may need to complete program requirements that were not taken at the institution previously attended to ensure that students successfully transferring into the program are as equally well prepared as their peers starting the second-year cohort of the program.

International students will be assessed International Student fees, if accepted. Canadian citizens or permanent residents will be assessed Regional Student fees, if accepted. Please contact the Accounting office for current information on tuition and fees.

Please note that the transfer/advanced standing admission policy only allows for an offer of admission to the second or third year of the program if the Admissions committee deems the program can accommodate any additional students.

Transfer Applicants must contact (Professional Programs Coordinator) at dvmadmissions@upei.ca for direction on how to submit a DVM transfer application. Other requirements are listed below:

- $75 application fee to UPEI
- Three (3) reference letters from individuals with whom the applicant has been associated within the last five years to be sent directly in a sealed, signed envelope. Suggested sources for letters include veterinarians, teaching faculty, or other employers. Letters should emphasize veterinary-related studies or work-experience. Foreign trained veterinarians who are applying for advanced standing are encouraged to request references from relevant Canadian referees where possible.
- Documentation of English language proficiency scores if English is not first language
- Documentation of citizenship or residence status.
- Program Calendar and full course outlines (in English) for all DVM studies completed
- Current Curriculum Vitae
- Personal statement explaining why you wish to complete your veterinary medicine training at UPEI
- Official transcripts from all academic institutions attended or currently attending; those in a language other than English must be accompanied by a certified, official translation. For those currently enrolled, please send a list of courses which you are or will be taking. Once there are any updated grades available, please have your University send these results to us immediately. Your file cannot be assessed without these updated marks.
- Letter of explanation (if required)

Applications will not be processed until ALL supporting materials have been received by the Registrar's Office. It is the responsibility of the applicant to ensure all materials are submitted by the deadline. If you have any questions, please contact by email at dvmadmissions@upei.ca; or by telephone at 902-894-2836.

**Requests for Deferrals**

Requests for deferral of admission to the DVM program will be considered by the Admissions Committee on a case-by-case basis.

# 5. General DVM Applicant Information

**Rabies Immunization Program**
Admission to the DVM program is contingent upon agreeing to participate in a rabies immunization program including blood titre evaluation. Exemption from this condition may be granted in exceptional circumstances if the student concerned provides compelling reasons as to why they are unable to participate and signs a waiver absolving UPEI and AVC of further liability.

**Role of Teaching Animals in the DVM Curriculum**
The humane use of animals in teaching is an integral part of the DVM program at the AVC and a necessary component of veterinary medical education. All students admitted to the DVM program must accept and agree to this tenet. All teaching animal use at the AVC is approved by the UPEI Animal Care Committee and conforms to the principles and guidelines of the Canadian Council on Animal Care.

**Tuition and Fees**
Tuition costs vary depending on whether the seat is unsubsidized or subsidized. For current DVM program tuition and fees, please visit the UPEI Accounting Office webpage. Select “Veterinary Medicine”, “Canadian” or “International”, “Full-Time”, “Undergraduate”, and then filter. International students should note that all tuition and fees are posted in Canadian dollars.

**Financial Aid**
UPEI’s Financial Aid Office can assist you in finding the best way to finance your education. For US DVM students, UPEI is able to offer Direct Stafford Loans and Direct Plus Loans using the Direct Loan Program. For more information regarding financial aid for both Canadian and US students please contact the UPEI Financial Aid Office at 902-628-4382.

**Student Health Insurance**
All full time students at UPEI, including international students, are automatically enrolled in the UPEI Student Health Plan when they register for classes. If you already have an extended health plan, you may choose to opt out of the UPEI Student Health Plan and receive a refund of the premium cost. For more information regarding the UPEI Student Health Insurance Plan for both Canadian and international students please contact the UPEI Student Union at 902-566-0530.

**Student Visas for International Students**
International students will need to obtain a Canada Study Permit (Student Visa) in order to attend UPEI. Accepted applicants can apply for Study Permits once they have received their letters of offer. A Temporary Resident Visa (TRV) may also be required depending on your citizenship. A Temporary Resident Visa is not required for citizens of visa exempt countries, including the United States. For more information about Study Permits please visit the Citizenship and Immigration Canada website or contact the an International Student Advisor at UPEI.

**Online Payment of Tuition and Fees**
Canadian students can pay fees and tuition online through their financial institution and international students can pay directly through the UPEI website using StudentPay. For more information about online payment options, contact the UPEI Accounting Office at 902-566-0534.

# 35. Pre-Veterinary Medicine Stream

The Faculty of Science is pleased to offer a pre-veterinary stream that provides students with an opportunity to meet the course requirements to be eligible to apply to the Doctor of Veterinary Medicine (DVM) program at the Atlantic Veterinary College.

The pre-vet stream is an advising structure that helps guide future applicants to the DVM program and supports progress toward a Bachelor of Science degree. To ensure students are also working toward a degree program, and receiving appropriate advising throughout their studies, pre-vet students will be admitted into the Bachelor of Science with a Major in Biology Life Sciences Specialization.

**Please note:** Admission to the DVM program is competitive. Each year many students apply for one of the seats available in the program. Students who enter the pre-veterinary stream are not guaranteed entry into the DVM program. As well, since a student's application to the DVM program is assessed on other criteria besides grades, potential DVM applicants are strongly encouraged to consult the veterinary admissions section of the calendar for a complete description of DVM admission requirements.

# 36. International Baccalaureate (IB) Diploma Program

International Baccalaureate (IB) students are eligible for admission on the basis of successful completion of the IB Diploma. In addition, applicants must satisfy the admission criteria of the requested faculty by presenting the specific course requirements (see below). At least three subjects must be successfully completed at the Higher Level (HL), while the remaining three subjects may be successfully completed at the Standard Level (SL).

Completion of the IB Diploma with a score of 24 grants admission to UPEI. Applicants must satisfy the admission criteria of the requested faculty by presenting the specific course requirements identified for that Faculty. Grades below 3 are not accepted for admission assessment.

Students who complete a Certificate or individual IB subjects may also be assessed for admission using each HL and SL subject being considered in meeting the Faculty-specific admission requirements. For applicants who complete both the IB subjects and senior matriculation/secondary school graduation requirements, admission will be based on the credential which is to the greatest advantage of the student.

***Transfer Credit***

UPEI awards a full year of credit (10 courses, each at 3 credit hours) for a completed IB Diploma with a minimum score of 28. Specific course credit for HL courses is awarded as outlined below. The balance of the credit required to bring the total to 10 three (3) credit hour course equivalents will be at the introductory unassigned elective level. Please note: Applicability of transfer credit awarded may vary depending on degree program sought.

To be awarded 10 three semester hour courses, students must achieve; a completed IB Diploma with an overall score of 28, 3 HL level subjects with grades in each subject of 4, unless otherwise noted, and above, 3 SL level subjects and satisfactory completion of the Extended Essay, Theory of Knowledge and CAS. All courses used to meet specific admission requirements must be at a score of 3 or above.

Specific higher level (HL) subjects completed with grades of 4, unless otherwise noted, or higher on the official IB (HL) exams within the International Baccalaureate program will be granted transfer credit.

**Approved IB subjects (HL) and transfer credit equivalency**

| IB (HL) Course: | Equivalent UPEI Credit |
|---|---|
| Biology | BIO 1310 and BIO 1320 |
| Chemistry | CHEM 1110 and 1120 (subject to confirmation by the Chemistry program) |
| Computer Science | CS 1510 and CS 1520 |
| Economics | EC 1010 and EC 1020 |
| English A1 | ENG 1010 and ENG 1920 |
| English B | No credit |
| Environmental Systems | 2 ENV Electives (first year) |
| French | Assigned credit by placement |
| Geography | Unassigned first year electives |
| German | GERM 1010 and GERM 1020 |
| History | 2 HIST Electives (first year) |
| Latin | LAT 1010 and LAT 1020 |
| Mathematics | MATH 1910 and MATH 1920 |
| Music | 2 MUS Electives (first year) |
| Philosophy | PHIL 1010 and PHIL 1020 |
| Physics* (grade of 5) | PHYS 1110 and PHYS 1120 |
| Psychology | PSY 1010 and PSY 1020 |
| Sociology | SOC 1010 and SOC 1020 |
| Spanish | SPAN 1010 and SPAN 1020 |
| Theatre | 2 TST Electives (first year) |
| Theory of Knowledge | PHIL 2990 and 1 unassigned second year Elective |

*Students presenting Physics with a grade of 4 may challenge for credit.

***Each UPEI course is 3 credit hours***

Credit for IB (HL) courses will only be assessed if presented on an official IB transcript. Please note that this table is provided as a guide, and transfer credits are assessed on an individual basis.

***Degree specific admission requirements:***

ARTS: English, a Language or Social Studies and three other academic subjects

BUSINESS: English, Math, 2 Social Studies, Sciences or Languages, and one other academic subject

SCIENCE: Grade 12 Academic English, Grade 12 Academic Mathematics, two Grade 12 Academic Science subjects (acceptable subjects: Chemistry, Biology, Physics, Computer Science, Oceanography, Animal Science, Environmental Science); one additional Grade 12 academic course

NURSING: English, Math, Biology, Chemistry and one other academic subject

# 37. Advanced Placement (AP) Program

Acceptable Advanced Placement Program courses with scores achieved on the national level exam of 3(C) or higher may be presented for admission purposes. Acceptable Advanced Placement courses with scores achieved on the national level exam of 4(B) or 5(A), may be assessed for credit transfer. The applicability of transfer credit is subject to individual degree regulations. Students wishing to obtain transfer credit must have an official transcript of their national AP exam results forwarded directly to UPEI from the College Board. Students will receive a notice of assessment once an assessment has been completed. A maximum of 30 semester hours of credit may be awarded for eligible AP results.

**Approved AP subjects and transfer credit equivalency:**

| **AP Course** | **Equivalent UPEI credit** |
|---|---|
| Biology | BIO 1310 and BIO 1320 |
| Calculus AB | MATH 1910 |
| Calculus BC | MATH 1910 and MATH 1920 |
| Chemistry | CHEM 1110 and 1120 (subject to confirmation by the Chemistry program) |
| Computer Science A | Unassigned first year CS elective |
| Computer Science AB | CS 1510 and CS 1520 |
| English Literature and Composition | ENG 1010 and ENG 1920 |
| Environmental Science | 2 Unassigned first year electives |
| European History | 2 Unassigned first year electives |
| French (Language) | Assigned credit by placement |
| French (Literature) | 2 Unassigned first year French electives |
| Geography (Human) | 2 Unassigned first year electives |
| German | GERM 1010 and GERM 1020 |
| Greek | GR 1010 and GR 1020 |
| History (US) | 2 Unassigned first year History electives |
| History (World) | 2 Unassigned first year History electives |
| Latin | LAT 1010 and LAT 1020 |
| Microeconomics | EC 1010 |
| Macroeconomics | EC 1020 |
| Physics B | Students may challenge for 2 unassigned first year Physics electives |
| Physics C (Mechanics & Electricity) | Students may challenge for credit; PHYS 1110 and PHYS 1120 |
| Psychology | PSY 1010 and PSY 1020 |
| Spanish | SPAN 1010 and SPAN 1020 |
| Statistics | STAT 2210 and unassigned first year Math elective |

*Each UPEI course is 3 semester hours

* Credit for AP examined subjects can only be assessed if presented on an official transcript of AP national exam results.

*Please note that this table is provided as a guide, and transfer credits are assessed on an individual basis and may vary depending on each students program of study.

# 38. Home-schooled Applicants

Home schooled applicants are expected to meet the same minimum admission requirements as high school applicants.

Home schooled applicants should provide as much supporting information as possible for their completed application, including:

- a letter confirming participation in homeschooling
- copies of course outlines
- list of textbooks used
- methods of evaluation used
- samples of written work
- any available transcripts
- official results of any standardized tests taken (i.e. SAT Reasoning Tests, SAT Subject Tests, Advanced Placement Exams, etc.)
- If applying to a program that has specific Grade 12 prerequisites (i.e. Science, Engineering, Nursing) it is strongly recommended to complete these courses through your Provincial Education system or an equivalent.

Home-schooled applicants are encouraged to reach out to an Admission Officer for guidance in the application process.

# 39. Mature Applicant

An applicant may be considered a Mature Applicant if they fulfill the following criteria:

- Be a Canadian citizen or Permanent Resident of Canada
- Be out of secondary school for at least three years
- At least 21 years of age on the first day of classes.
- Have fewer than 12 semester hours of eligible transfer credit.
- Do not present the 5 high school courses used for admission or do not meet the minimum admission average in the 5 high school courses used for admission.
- Are seeking admission to an eligible undergraduate program (only those that allow direct entry from high school).

Note: Mature Applicant status is not available to students applying to the Doctor of Veterinary Medicine, Bachelor of Education programs or Bachelor of Science in Nursing programs.

Some programs require specific high school prerequisites (or equivalent) for admission. Mature Applicants must have successfully completed an acceptable course as noted (by program) below:

**Bachelor of Integrated Studies:**

- No specific requirements

**Bachelor of Arts:**

- Academic Grade 12 English

**Bachelor of Business Administration**

- Academic Grade 12 English
- Academic Grade 12 Math

**Bachelor of Science:**

- Academic Grade 12 English
- Academic Grade 12 Math
- 2 Academic Grade 12 Science Subjects*

**Bachelor of Science Major in Kinesiology**

- Academic Grade 12 English
- Academic Grade 12 Math
- Academic Grade 12 Chemistry
- Academic Grade 12 Biology

**Bachelor of Science in Engineering (Sustainable Design Engineering):**

- Academic Grade 12 English
- Academic Grade 12 Math
- 2 of Academic Grade 12 Chemistry, Biology and/or Physics

**Bachelor of Environmental Studies**

- Academic Grade 12 English

**Bachelor of Science in Applied Climate Change and Adaptation**

- Academic Grade 12 English
- Academic Grade 12 Math
- 2 Academic Grade 12 Science Subjects*

**Bachelor of Science in Biotechnology (Pathway 2):**

- Academic Grade 12 English
- Academic Grade 12 Math
- 2 Academic Grade 12 Science Subjects*

Note: Successful completion of Grade 12 Chemistry (or equivalent) is required as a prerequisite for permission to register in CHEM-1110.

Mature Applicants must submit transcripts from any post-secondary studies completed and must satisfy any other general admission criteria that may apply, including English Language Proficiency.

* Acceptable science subjects: Chemistry, Biology, Physics, Computer Science, Oceanography, Animal Science, Environmental Science.

# 40. Bachelor of Integrated Studies

**(i) Introduction**

UPEI has opportunities for adults who have an unfinished degree or unfulfilled dreams of someday beginning and attaining a degree. The Bachelor of Integrated Studies at the University of Prince Edward Island places the unique needs of adult learners in focus, with a distinct entry point, ongoing learner supports, broad choice of courses to meet employment requirements and personal interests, and a faculty noted for its strength in teaching.

**(ii) Admission Requirements**

Candidates must be out of high school for seven years, and may be considered under the University's Mature Student admission regulations. Please note that high school graduation is not absolutely required under the mature student policy. Admission in this program is available only to Canadian students.

**(iii) Application Process**

Your Complete Application will include:

- Undergraduate application
- Official transcripts from any post-secondary institution in which you have completed courses (direct to the Registrar's Office)
- Application fee

# 41. Readmission

**(i) To UPEI**

Students who have been absent from study for a period of 12 months are required to seek readmission through the regular application process. Students readmitted will follow the regulations and requirements as reflected in the Academic Calendar (Catalogue Year) in force in the semester to which they are readmitted (See Regulation #2 on time limit to complete, age of credits and eligibility for inclusion to fulfill current degree requirements). In addition, there may be specific and binding conditions to a student's performance to ensure that the normal standards of the degree requirements are met.

Students who have been required to withdraw (suspended) from UPEI may be considered for readmission after they have spent at least 12 months away from post-secondary studies. A student readmitted after being required to withdraw from UPEI will automatically be on academic probation.

**(ii) Students Dismissed from Other Institutions**

Students who have been academically dismissed from any other university or college will not be admitted to UPEI during the year following their dismissal or, if already admitted, will have their admission cancelled. Students may reapply for admission after at least one year away from formal academic study.

Students who have been required to withdraw (suspended) from any other university or college may be considered for admission after they have spent at least 12 months away from post-secondary studies. A student admitted after being required to withdraw from another college or university will automatically be on academic probation.

# 42. Applicants from Quebec College of General and Professional Education (CEGEP)

The Diploma of Collegial Studies (DEC/DCS), with the "DEC en sciences, lettres et arts," will qualify a student for admission to UPEI. Holders of the DEC will be considered as transfer students to second year with a maximum of 10 transfer credits, provided that they attained an average grade of 70% or better in their final year of CEGEP study. Students with less than the DEC, and a 70% average, will be considered for admission to first year with the possibility of some transfer credits from second-year CEGEP courses. Students who have completed a technical or professional DEC will be considered on an individual basis.

# 43. Admission as an Unclassified Student

- Individuals are permitted to register in undergraduate courses at UPEI, without having to apply to, or be admitted to a specific program of study. This admission (permission to register) status is processed through the UPEI Application portal.
- A student who wishes to register as an Unclassified Student must submit a completed application form, and application fee, and register in courses by the registration deadlines specified in the Calendar. This type of enrolment is described below:
- The student is permitted to register but is not admitted to a specific program of study at the University. Previously admitted students may register as Unclassified Students, but such registration does not constitute readmission to the University.
- Students who have been required to withdraw from this or any other post-secondary institution within the last 12 months are not permitted to register as an Unclassified Student.
- Transcripts of previous post-secondary work, and proof of English Language Proficiency, must be presented to the Registrar's Office if requested.
- Prerequisites must be met where applicable. Checking for prerequisites is the student's responsibility.
- The student is subject to an initial maximum registration limit of 10 three-credit courses as an Unclassified Student. To register in additional courses as Unclassified, a student must seek permission from the Registrar's Office and may be required to meet with an Academic Advisor prior to registration being processed.
- Summer Session Unclassified Students may enrol in a maximum of two courses (six semester-hours) per session. Fall/Winter Unclassified Students will need special permission from the Registrar's Office, to enrol in more than two courses per semester (maximum of five).
- An Unclassified Student may apply for admission to the Fall or Spring Semester before the published deadlines through one of the approved admission routes. If an Unclassified Student applies to a program/faculty for a specific semester (Fall/Spring), the student cannot be registered for that same semester as an Unclassified Student.
- Upon admission to a specific program, courses completed as an Unclassified Student may be counted toward the student's program, subject to Academic Regulations and the appropriate rules of the faculty/school.

# 44. Concurrent Enrolment Policy with PEI Grade 12

Students who are enrolled in their last year of studies in a PEI secondary school may be admitted to the University of Prince Edward Island to pursue Concurrent Studies. The following conditions will apply at the University:

- the applicant must have a superior academic record;
- the applicant must be enrolled in a PEI secondary school in a program that meets regular UPEI entry requirements;
- the applicant must have the written recommendation of the secondary school principal;
- the applicant must have the written consent of the parent or legal guardian if under the legal age of majority on the opening day of classes; and
- the applicant must have the support of the Dean of the Faculty for the courses in which the applicant plans to enrol.

Admission will be initially for one three-semester-hour course but may be renewed with the continued support of the school principal and the Dean. Normally, no more than six semester-hours of credit may be obtained by Concurrent Studies, but students who continue to have superior academic records and the support of the school principal may seek permission from the Dean to enrol in a further course for a maximum of nine semester-hours of credit.

Students in Concurrent Studies will be treated as regular students in most respects, except that they may not register in a full range of courses. Standard transcripts will be issued and fees and deadlines will be as for regular students. Students who have enrolled in Concurrent Studies at other recognized post-secondary institutions prior to secondary school graduation may also be eligible for transfer credit.

# 45. Dual PEI High School / University Credit

***Credit Recognition for Prince Edward Island High School Curriculum***

Students who have successfully completed BUS 701A; ACC 621A OR ECO 621A and one additional business related course (as listed below) at the high school level (from the PEI provincial curriculum) will be eligible to receive credit for BUS 1010, an elective course within the Bachelor of Business Administration Program at the University of Prince Edward Island.

Students will receive credit for BUS 1010 if the following requirements are satisfied:

(a) the student graduated high school in 2017-2018 or a subsequent school year;
(b) the student has successfully completed three of the following courses:
BUS 701A (required course),
ACC 621A or ECO 621A (one course is required),
ACC 621A or ECO 621A or ENT 521A or HOS 801A (one course is required with no duplication of courses);

(c) the student has achieved a grade of 70% or higher in each of the business high school courses completed to meet the requirement for transfer credit recognition;
(d) the student is enrolled at the University of Prince Edward Island.

To have an award of credit considered, students must apply for a review after beginning classes at UPEI (normally after the second week of classes in the fall semester). This application can be in the form of a written request at the Registrar's Office.

**NOTE:** All other Academic Regulations that impact an award of transfer credit must be considered prior to an award of transfer credit through this process.

# 46. University Transfer Students

Students who are eligible for readmission and registration at their previous institutions will be considered for admission to UPEI on an individual basis. Normally, such students should have achieved an average grade of at least 60% in their previous year of studies or not have been registered at any university for at least a year. (See Academic Regulation 14: Transfer Credits)

Where admission to a specific academic program is sought, the applicant must meet the requirements of that program.

Prospective transfer students must have all documentation submitted by 15 August for admission in September.

***Notes:***
Professional Faculties and Schools have additional criteria that must be met before applicants from outside the University will be considered. Transfer students are subject to all other academic regulations of the University. Possession of the minimum requirements for transfer to UPEI does not in itself ensure that admission will be granted.

# 47. College Transfer Students

Beginning in the 1997–98 academic year, students may receive credit for courses successfully completed at a member institution of the Colleges and Institutes Canada and for which credit is given at that institution, under the following conditions:

- courses must be acceptable in the program to which transfer is being sought either as required courses or as electives;
- grades must be at least 60% or, where the grading system is different than that of UPEI, at least at an equivalent level above the minimum passing grade; and
- transfer will be allowed by the Registrar only on the recommendation of the appropriate Dean.

# 48. Transfer Agreements

Do you have a Holland College diploma but always wanted to have a UPEI degree?
UPEI partners with Holland College on several transfer and articulation agreements to provide degree pathways to graduates of specific college programs. **Please note:** Diploma graduates are required to have a minimum average of 70% in the completed diploma program:

**Accounting Technology (Accounting Technician)**

- Bachelor of Arts Degree – up to 60 Semester Hours of General Electives
- Accelerated Bachelor of Business Administration – up to 30 Semester Hours of Credit
- Bachelor of Business Studies – up to 60 Semester Hours of Credit

**Atlantic Police Academy – Police Science Cadet**

- Bachelor of Arts Degree (Psychology) OR Bachelor of Science Degree (Psychology) – up to 45 Semester Hours of General Electives

**Bioscience Technology**

- Bachelor of Science in Biotechnology – up to 60 Semester Hours credit

(Note: two pathway options are available – see program information for details)

**Business Administration**

- Bachelor of Arts Degree – up to 60 Semester Hours of General Electives
- Accelerated Bachelor of Business Administration – 30 Semester Hours of General Electives
- Bachelor of Business Studies – up to 60 Semester Hours of General Electives

**Child and Youth Care Worker**

- Bachelor of Arts Degree – 30 Semester Hours of General Electives

**Computer Information Systems program (Computer Programmer Analyst profile)**

- Bachelor of Science in Computer Science Degree – up to 39 semester hours of credit and 1 Co-op work term.

Note: transfer credit awarded upon successful completion of UPEI course; Computer Science 1920.

**Culinary Arts**

- Bachelor of Business in Tourism and Hospitality – up to 60 Semester Hours of General Electives

**Environmental Applied Science Technology**

- Bachelor of Environmental Studies Degree – up to 60 Semester Hours of Credit

**Graphic Design**

- Bachelor of Arts Degree – award of up to 60 semester hours of general elective transfer credits (30 semester hours at the 1000-level and 30 semester hours at the 2000-level)

**Human Services**

- Bachelor of Arts Degree – up to 60 Semester Hours of General Electives

**International Hospitality Management**

- Bachelor of Arts Degree – up to 60 Semester Hours of General Electives
- Bachelor of Business in Tourism and Hospitality – up to 60 Semester Hours of Credit

**Journalism and Communications**

- Bachelor of Applied Arts in Journalism – up to 60 Semester Hours of Credit

Holland College and the University of Prince Edward Island offer a Bachelor of Applied Arts in Journalism. Students complete their first year at the University of Prince Edward Island, then complete two years in the Holland College Journalism and Communications program and the final year at the University of Prince Edward Island graduating with a Bachelor of Applied Arts in Journalism.

**Marketing and Advertising Management**

- Bachelor of Arts Degree – up to 60 Semester Hours of General Electives
- Bachelor of Business in Tourism and Hospitality – up to 60 Semester Hours of Credit

**Paramedicine (Primary or Advanced)**

- Bachelor of Science in Paramedicine – up to 60 Semester Hours of Credit

**Practical Nursing**

- Bachelor of Science in Nursing – up to 27 Semester Hours of Credit
  (note: Graduates of the Holland College Practical Nursing Program who satisfy the criteria identified by UPEI and upon successful completion of 5 specific prerequisite courses prior to being admitted, may obtain admission to the second year of the Bachelor of Science in Nursing degree at UPEI (receiving 27 semester hours of credit toward the degree). Please note: This is a competitive entry program. Please contact us for further details.)

**Sport and Leisure Management**

- Bachelor of Arts Degree – up to 60 Semester Hours of General Electives
- Bachelor of Business in Tourism and Hospitality – up to 60 Semester Hours of Credit
- Bachelor of Science Major in Kinesiology Degree – up to 39 Semester Hours of Credit (SLM kinesiology specialization graduates only)

**Tourism and Travel Management**

- Bachelor of Arts Degree – up to 60 Semester Hours of General Electives
- Bachelor of Business in Tourism and Hospitality – up to 60 Semester Hours of Credit

**Wildlife Conservation Technology**

- Bachelor of Wildlife Conservation – up to 60 Semester Hours of Credit
  Note: semester hour: A semester hour is defined as nominally one hour of classroom time per week per semester. Thus a class which is held for three hours a week for one semester is a three semester-hour course. 60 semester hours is equal to 20 (3 semester-hour) courses.

# 49. Transcript and Credit Assessment for All Applications

Transcripts from post-secondary institutions are assessed for Transfer Credits at the time of admissions consideration by the Registrar's Office. Students who have been admitted to the University and who believe that they can meet, or have met, the requirements of a course, may seek UPEI credit by means of challenge for credit, or recognition of "Special Credits" earned elsewhere (see Academic Regulations 15 & 16).

# 50. English Language Proficiency Requirements

The language of instruction at the University of Prince Edward Island is English. All academically admissible applicants, regardless of their country of origin or citizenship status, are required to demonstrate proficiency in the English language prior to undertaking studies at the University of Prince Edward Island. Proficiency may be demonstrated by:

**Undergraduate programs**
Three years of full-time study in English in Canada or in another country where English is a principal language (as recognized by UPEI); evidence of bilingualism (English and another language) is acceptable for those applicants educated in Canada in a language other than English.

Submission of an official test score at or above the acceptable minimum, such as:

| TEST | Arts, Science, Business, Engineering and Baccalauréate en éducation, Français Langue Seconde) | Nursing, Radiography, Doctor of Veterinary Medicine & Education |
|---|---|---|
| IELTS (Academic) | Overall score of 6.5 in with no band lower than 6 | Overall score of 7 with 7 Writing and Speaking; 6.5 in Reading and Listening |
| TOEFL (Paper-based test) | 550 with minimum TWE of 5.5 | 600 with minimum TWE of 6 |
| TOEFL (Internet-based test) | 80 with minimum of 20 in each category | 100 with a minimum of 25 in Speaking and Writing, 22 in Reading and Listening |
| TOEFL essentials | 8.5 (overall)no score below 8.0 | Not accepted |
| CAEL (including CAEL Online) | 60 | 70 |
| Pearson Test of English | 58 | 66 |
| Cambridge B2 First, C1 Advanced or C2 Proficiency | Overall score of 176 with 176 in Writing and no other skill lower than 169 | Overall score of 185 in Writing and Speaking; 176 in Reading and Listening |
| GTEC CBT | 1176-1250 | 1250 and above |
| Duolingo | Overall score: 120<br>Minimum subscores: Literacy: 115<br>Comprehension: 115<br>Conversation: 115<br>Production: 115 | Overall score: 120<br>Minimum subscores:<br>Literacy & Comprehension: 115<br>Conversation & Production: 120 |
| Oxford Digital ELLT | Overall 7 with no individual component below 6 | Overall 7 with 8 in Writing and Speaking, 7 in Reading & Listening |
| English 621* | 70% | N/A |

Applicants with scores below the minimum, may be admitted conditionally (NOT available to applicants seeking admission to Nursing, Radiography, Education or Doctor of Veterinary Medicine).

*Prince Edward Island high school course English 621 or an analogous grade 12 academic English course from another Canadian Provincial curriculum.

To clear this condition applicants can re-test or UPEI will normally offer a part-time English language program in which a student will be enrolled in a combination of English Academic Preparation (EAP) and credit courses. For more information about the program please visit Undergraduate EAP University of Prince Edward Island-[Undergraduate English Academic Preparation (EAP) | University of Prince Edward Island]

# 51. International Education Systems

## United States Education System

The general average in the required subjects should be at least as high as the College Recommending Mark of the school concerned. Class standing is an important consideration.

***Note***: Deadline dates for US citizens are 1 July, for consideration for September, and 1 November, for consideration for January. All application materials must be received by these dates.

### *Applicants with Ordinary or Advanced Level Examinations*

Admission to first year may be on the basis of five appropriate General Certificate of Secondary Education (GCSE) subjects at the Ordinary Level, including English Language and Mathematics. Advanced Level examination results received directly from the appropriate Examination Board, which are appropriate to the intended program of studies, will be assessed for advanced standing and credit. A maximum of three Advanced Level examination results may be presented for a maximum of six transfer courses. Credit normally will be granted only for grades of "C" or higher.

PART IV

# UNDERGRADUATE ACADEMIC PROGRAMS / DEPARTMENTS / COURSES

# 52. Acadian Studies

**Co-ordinator:**

The Minor in Acadian Studies aims to provide a better understanding of the place and importance of the French language and the Acadian community on Prince Edward Island and in Maritime Canada. The program consists of an immersion in general cultural subject areas and of an analysis of specific literary and cultural topics. The study of Acadian culture may pave the way to graduate school and/or education programs or simply be complement to one's University study. On the one hand, UPEI's Minor in Acadian Studies offers students the opportunity to develop both their analytical and the practical skills in French and will provide its students with the foundational skills with which they can pursue their interest in the practice of French. On the other hand, the Minor in Acadian Studies aims to link in a common thematic different courses offered in English which propose a reflection on the Acadian as part of a cultural and linguistic minority.

**REQUIREMENTS FOR A MINOR IN ACADIAN STUDIES**
A Minor in Acadian Studies consists of twenty-one (21) semester hours of credit taken from the list of approved courses. The language requirements are French 2410 and French 2420 (both courses could be counted in the Minor in Acadian Studies if they are not counted for the Major in French). Acadian Studies 2010 plus three courses among Acadian Studies 4910/4920, Special Topics 2090, 3090, and 4090, and French 4430/4440, are compulsory for the Minor. Prospective students should note, however, that Acadian Studies 4910 and 4920 require students to make a significant contribution to the study of Acadie which will be approved by the Instructor. One of these four courses will, typically, be only offered in the Winter Term of the academic year. In addition, students must select three elective courses. Students using any of the approved courses to complete the Minor in Acadian Studies may not use them to complete a Major or another Minor.

**REQUIREMENTS IN FRENCH**
2410 FRENCH
2420 FRENCH

**ELECTIVES**

**Note:** Students who are enrolled in the Major in French and the Minor in Acadian Studies can take at least two electives outside the Department of Modern Languages.

CANADIAN STUDIES
3010/3020 The Canadian Experience

EDUCATION
2130 Introduction à l'éducation en français au Canada

ENGLISH
3310 The Literature of Atlantic Canada

HISTORY
2310/2320 The Atlantic Region
4240 History of Canadian Nationalism and the Canadian Identity

MODERN LANGUAGES (French)
2520 Le français des affaires
3390 Théâtre canadien-français

SOCIOLOGY & ANTHROPOLOGY
3120 Rural Society in Canada
4310 Minority/Ethnic Groups and Canadian Multiculturalism

DIVERSITY AND SOCIAL JUSTICE STUDIES
3110 Identity and Popular Culture

DIRECTED STUDIES
With the approval of the Coordinator, the Dean of Arts, and the relevant Department, a student may credit three hours of Directed Studies in any subject linked to Acadian Studies towards the Minor.

# ACADIAN STUDIES CORE COURSES

2010 INTRODUCTION TO ACADIAN STUDIES
This course is designed to provide an opportunity to examine the development of Acadian culture through the oral tradition, songs and folk tales. The themes of colonialism, regionalism, folklore and oral traditions will provide the basis for this examination. The object of the course is to develop an awareness of the complex patterns of development in Acadian culture from the French period to the present. The course will consist of seminars and lectures conducted in French.
PREREQUISITES: French 2410 and French 2420 or the permission of the Coordinator of Acadian Studies.
Three hours a week

2090 SPECIAL TOPICS
Creation of a course code for special topics offered by Acadian Studies at the 2000 level.

3090 SPECIAL TOPICS
Creation of a course code for special topics offered by Acadian Studies at the 3000 level.

4090 SPECIAL TOPICS
Creation of a course code for special topics offered by Acadian Studies at the 4000 level.

4430 CULTURE ET LITTÉRATURE ACADIENNES I
(See French 4430)

4440 CULTURE ET LITTÉRATURE ACADIENNES II
(See French 4440)

4910/4920 DIRECTED STUDIES (See Academic Regulation 9 for Regulations Governing Directed Studies)
The purpose of the course is to provide an opportunity for intensive interdisciplinary research in an area to be determined by the student and the coordinator of the program. Readings and research on the course will be supervised and the student is expected to present the results of the research in the form of an extended essay. This is a tutorial and seminar course.
PREREQUISITE: Acadian Studies 2010 or the permission of the Coordinator of Acadian Studies
Three hours a week

# 53. Applied Climate Change and Adaptation

## Faculty:

Aitazaz Farooque, Associate Professor, Interim Dean
Adam Fenech, Associate Professor
Xiuquan Wang, Associate Professor
Patrick Augustine, Assistant Professor
Yuliya Rashchupkina, Assistant Professor
Farhat Abbas, Adjunct Professor
Bishnu Acharya, Adjunct Professor
Rachid Benlamri, Adjunct Professor
Franscisco Dallmeier, Adjunct Professor
Suqi Liu, Adjunct Professor
Stephanie Palmer, Adjunct Professor
Angela Riveroll, Adjunct Professor

The UPEI Bachelor of Science in Applied Climate Change and Adaptation provides students with a strong foundation in climate sciences complemented by courses in climate related policy and cultural impacts of climate change. The program offers strong comprehensive theory-based courses and a high level of experiential and applied learning. Courses are designed to develop well-rounded students who have a high level of climate change science knowledge supported by highly relevant skills needed to utilize climate change related technology. Faculty members teaching within the Bachelor of Science in Applied Climate Change and Adaptation program are focused on providing quality instruction and student growth within a cohort-based learning community. Graduates of the program will emerge ready to pursue various climate change related careers, professional studies, or graduate education.

This program of study examines "climate change adaptation" which refers to the adjustments that societies or ecosystems make to limit the negative effects of climate change or to take advantage of opportunities provided by a changing climate. Adaptation can range from a farmer planting more drought-resistant crops to a coastal community evaluating how best to protect its infrastructure from rising sea level. Climate change is already impacting societies and ecosystems around the world, and many impacts are expected to increase as global temperatures continue to rise. While reducing greenhouse gas emissions is required to avoid the worst impacts of climate change, a certain amount of global warming is inevitable, due to the long-lasting nature of greenhouse gases already in the atmosphere, and to heat already stored in the oceans. Adapting to the changes that are already underway, and preparing for future climate change, can help reduce the risks societies will face from climate change.

**REQUIREMENTS FOR APPLIED CLIMATE CHANGE AND ADAPTATION**

**Students following this degree program must complete 126/127 semester hours of required courses. (NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.) urse.)**

**YEAR 1**

- ACC 1010 Introduction to PEI's Living Climate Lab
- ACC 1020 Introduction to Climate Adaptation Tools and Technologies
- ACC 1040 Introduction to Climate Change
- BIO 1010 Current Issues in Environmental Biology

• CHEM 1110 General Chemistry I
• MATH 1120 Calculus for Managerial, Social and Life Sciences; or 1910 Single Variable Calculus I
• IKE 1040 Indigenous Teachings of Turtle Island
• One of the following UPEI courses:
• UPEI 1010 Writing Studies
• UPEI 1020 Engaging Ideas and Cultural Contexts
• UPEI 1030 Engaging University Contexts and Experiences
• Two Electives

**YEAR 2**

• ACC 2020 Climate Change Policy and Politics
• ACC 2030 Indigenous Knowledge and Climate Change
• CS 1910 Computer Science I
• ACC 3050 Renewable Energy and Clean Technologies
• CHEM 2020 Environmental Chemistry
• ENV 2120 Earth's Physical Environment
• PHYS 2630 Climate Physics
• STAT 1910 Introduction to Probability and Statistics
• Two electives

**SUMMER SESSION**

• ACC 2160 Work Integrated Learning I

**YEAR 3**

• ACC 3010 Global Climate Systems and Science
• ACC 3020 Climate Futures and Modelling
• ACC 3030 Climate Change Monitoring
• ACC 3040 Climate Change Statistics in R
• ACC 3090 Geographic Information Systems for Climate Change
• ACC 3100 Climate Change Impacts on Biodiversity and Ecosystems
• ACC 3120 Climate Change Policy in Canada
• ACC 3140 Carbon Pricing Mechanisms
• Two Electives

**SUMMER SESSION**

• ACC 3160 Work Integrated Learning II

**YEAR 4**

• ACC 4010 Climate Coastal Science
• ACC 4020 Uncertainty and Probability in Climate Change
• ACC 4040 Virtual Reality and Climate Change
• ACC 4060 Measuring Your Carbon Footprint through Carbon Accounting
• ACC 4070 Climate Extremes
• ACC 4080 Climate Change Impacts and, Mitigation and Adaptation
• ACC 4120 International Climate Diplomacy
• ACC 3060 Remote Sensing and Climate Change
• ACC 4100 Precision Agriculture for Climate Resilience
• One elective

**REQUIREMENTS FOR A MINOR IN APPLIED CLIMATE CHANGE AND ADAPTATION**

Students may obtain a degree with a minor in Climate Change and Adaptation by successfully completing the following courses:

- ACC 1010 or ACC 1040
- ACC 1020
- ACC 2020
- ACC 2030
- ACC 3050

AND

Two of the ACC 3rd or 4th year courses excluding following courses:

- ACC 2160
- ACC 3160
- ACC 3040
- ACC 4020
- ACC 4040, and ACC 4070

# APPLIED CLIMATE CHANGE AND ADAPTATION COURSES

1010 INTRODUCTION TO PEI'S LIVING CLIMATE LAB

This course focuses on how Prince Edward Island is the perfect "living laboratory" for understanding the causes, impacts, and solutions to the challenge of climate change. Students will examine how unique locations on the Island can play a role in understanding the vulnerability, impacts and adaptation to climate change.

One hour lecture, four hours field/laboratory a week; Three semester hours

1020 INTRODUCTION TO CLIMATE ADAPTATION TOOLS AND TECHNOLOGIES

This course provides hands-on experience in utilizing technologies to develop solutions to address climate change. Developing skills in drone technology, video game programming, geographic information systems, global positioning systems, surveillance, and renewable energies, this course examines how technologies can assist in the understanding of the vulnerability, impacts and adaptation to climate change.

Two hours lecture, two hours laboratory a week; Three semester hours

1040 INTRODUCTION TO CLIMATE CHANGE

This course provides a general overview of the fundamentals of climate change while looking into terminology, concepts, and causes of climate change. This introduces the direct and indirect effect of climate change on the whole environment and society, including vulnerable coastal ecosystems and livelihoods. The students will learn about the climate change mitigation and adaptation techniques, strategies, and policies to ensure quality of life, food security, reduce greenhouse gas emissions, promote sustainability through ecofriendly land use management, urban planning and renewable energy uses. The course also introduces the effects of climate change on human and animal health and discusses strategies to adapt to climate impacts and extremes.

Three hours lecture per week; Three semester hours

2020 CLIMATE CHANGE POLICY AND POLITICS

This course surveys how climate change emerges as a political issue; which state and non-state actors are involved in climate change policy making; who gains and who loses from climate change policies; and what policy strategies and tools can mitigate and help adapt to the impacts of climate change across different government jurisdictions. The students will learn about dealing with complexity in climate policymaking including the questions around political economy of decarbonization and international cooperation around the issue. By studying different approaches to climate change policy, the students will better understand the policymaking process.

Three hours a week; Three Semester hours.

2030 INDIGENOUS KNOWLEDGE AND CLIMATE CHANGE
This course brings knowledge of Canadian Indigenous communities' relationship to the environment as valuable lessons for understanding climate vulnerability, impacts and adaptation. Students will be led by a local First Nations teacher whose valuable insights to implementing efficient uses of our land and spiritual relationships with nature can assist in addressing global sustainability.
Cross-listed with IKE 2030
Three hours a week; Three semester hours

2160 WORK INTEGRATED LEARNING I
This course is a summer work-integrated-learning (WIL) opportunity facilitated through either a flagship partnership agreement with Parks Canada, or a number of government and industrial organizations that will provide real-world experiences to students that will assist them in securing employment upon graduation.
PREREQUISITE: Admission to the ACC Program Eight weeks full-time work experience
Three semester hours

3010 GLOBAL CLIMATE SYSTEMS AND SCIENCE
The course will examine the natural greenhouse effect, and the human contribution to it; how astronomical forces influence the Earth's climate and their cycles; properties of the atmosphere that influence climate; greenhouse gases; and paleological indicators of climate including ice cores, tree rings, sediment cores, etc.; how these indicators are collected; and what they tell us about past temperature changes.
PREREQUISITE: Applied Climate Change and Adaptation degree program OR enrollment in the Applied Climate Change and Adaptation Minor
Three hours a week; Three semester hours

3020 CLIMATE FUTURES AND MODELLING
Students will gain the knowledge and tools necessary to validate climate model outputs against historical observations and produce regional climate change projections. The course will examine greenhouse gas emissions scenarios and their driving of climate models as well as the Intergovernmental Panel on Climate Change's Special Report on Emission Scenarios and the new approaches to future scenarios.
PREREQUISITE: Admission to the Applied Climate Change and Adaptation degree program OR enrollment in the Applied Climate Change and Adaptation Minor
Three hours a week, alternating classroom and laboratory; Three semester hours

3030 CLIMATE CHANGE MONITORING
Students will be given the opportunity to understand how the components of climate are monitored instrumentally, the history of written climate archives, and how climate records are organized. They will plan and set up a climate station that reports to a UPEI climate database, access online climate records, quality control climate records, analyze climate trends, and calculate climate indices.
PREREQUISITE: ACC 1020; Admission to the Applied Climate Change and Adaptation degree program OR enrollment in the Applied Climate Change and Adaptation Minor
Three hours lecture, three hours laboratory a week; Three semester hours

3040 CLIMATE CHANGE STATISTICS IN R
The R language is widely used among climatologists for data analysis and provides a wide variety of statistical (linear and nonlinear modelling, classical statistical tests, time-series analysis, classification, clustering, etc.) and graphical techniques, and is highly extensible. This course will provide an introduction to computer programming in R and how to use R for effective climate data analysis.
PREREQUISITE: MATH 1910 or MATH 1120, CS 1910 and STAT 1910; Admission to the Applied Climate Change and Adaptation degree program
Three hours lecture, three hours laboratory; Three semester hours

3050 RENEWABLE ENERGY AND CLEAN TECHNOLOGIES

This course examines sustainability theory and green technology, beginning with an examination of the historical context for the physical, environmental, technological, economic and political aspects of traditional energy systems and energy transitions. Students will then be introduced to different types of renewable energy technology and how they can work as a replacement for conventional technologies.

PREREQUISITE: PREREQUISITE: Admission to the Applied Climate Change and Adaptation degree program OR enrollment in the Applied Climate Change and Adaptation Minor

Three hours a week, field trips; Three semester hours

3060 REMOTE SENSING AND CLIMATE CHANGE

An emerging approach to enhancing participation, building awareness and influencing behaviour is the use of 3D landscape visualization to depict past and future scenarios. This course will examine forms of climate change visualization that integrates analytical capabilities of GIS-based software with emotionally-rich and intuitive media and how they are utilized in climate change impact assessment and decision making.

PREREQUISITE: Admission to the Applied Climate Change and Adaptation degree program OR enrollment in the Applied Climate Change and Adaptation Minor

Three hours lecture, three hours laboratory per week; Three semester hours

3090 GEOGRAPHIC INFORMATION SYSTEMS FOR CLIMATE CHANGE

Geographic Systems are used in planning, facilities management, resource management, business, and applied research applications. The common thread in this diverse range of applications is the need to store, manipulate, and analyze spatial data. Students will learn how to create their own maps, analyze geographic problems, and apply techniques to improve understanding of climate change.

PREREQUISITE: Admission to the Applied Climate Change and Adaptation degree program OR enrollment in the Applied Climate Change and Adaptation Minor

Three hours on-line and three hours laboratory; Three semester hours

3100 CLIMATE CHANGE IMPACTS ON BIODIVERSITY AND ECOSYSTEMS

This course will assess biodiversity conservation and ecosystem integrity policy responses to global climate change; integrate our knowledge of likely future changes on biodiversity and ecosystems; guide the design of adaptation strategies; and establish a framework for future collaborative research on climate change and biodiversity and ecosystems. A field component of the course will establish a biodiversity-monitoring plot using methods developed by The Smithsonian Institution.

PREREQUISITE: Admission to the Applied Climate Change and Adaptation degree program OR enrollment in the Applied Climate Change and Adaptation Minor

Three hours a week with three hours field/laboratory work; Three semester hours

3120 CLIMATE CHANGE POLICY IN CANADA

The course focuses on Canadian domestic and international policy and politics in the realm of climate change examining the questions of political institutions; climate change related legislation; policy making and the impacts of climate change on economy, communities and the environment in Canada. The course will also introduce students to a policy analysis framework and will guide them through writing a policy memo to a government official on a climate change solution of their choice.

PREREQUISITE: ACC 2020; Admission to the Applied Climate Change and Adaptation degree program OR enrollment in the Applied Climate Change and Adaptation Minor

Three hours a week; Three semester hours

3140 CARBON PRICING MECHANISMS

This interdisciplinary course will provide an understanding of business in the era of climate change by examining the implementation of carbon pricing systems and the need for adaptation measures to address the changing physical

and regulatory environments. Specialized activities will focus on the critical role of understanding climate change in business risk assessment using a business sector of each student's choice.
PREREQUISITE: Admission to the Applied Climate Change and Adaptation degree program OR enrollment in the Applied Climate Change and Adaptation Minor
Three hours a week; Three semester hours

3160 WORK INTEGRATED LEARNING II
This course is Year 2 of a summer work-integrated-learning (WIL) opportunity facilitated through either a flagship partnership agreement with Parks Canada, or a number of government and industrial organizations that will provide real world experiences to students that will assist them in securing employment upon graduation.
PREREQUISITE: ACC 2160 and Admission to the ACC Program
Eight weeks full-time work experience; Three semester hours

4010 CLIMATE COASTAL SCIENCE
This course will examine the impacts of global climate change on the oceans and their implications on fisheries and aquaculture; the influence of ocean basins on climate and the development of coasts; and the use of littoral zones in the assessment of the effects of coastal risks and hazards on shorelines. Students will assess the vulnerability of the local fishery to climate impacts and develop adaptation options.
PREREQUISITE: Admission to the Applied Climate Change and Adaptation degree program OR enrollment in the Applied Climate Change and Adaptation Minor
Three hours a week; Three semester hours

4020 UNCERTAINTY AND PROBABILITY IN CLIMATE CHANGE
Probability theory is a mathematical framework that allows us to describe and analyze random phenomena in the world around us. This course will examine and demonstrate the use of basic concepts such as random experiments, probability axioms, conditional probability, law of total probability, single and multiple random variables, moment-generating functions and random vectors in climate change science assessments.
PREREQUISITE: STAT 1910 and ACC 3060;
Admission to the Applied Climate Change and Adaptation degree program
Three lecture hours, three hours laboratory per week; Three semester hours

4040 VIRTUAL REALITY AND CLIMATE CHANGE
An emerging approach to enhancing participation and building awareness is the use of 3D landscape visualization to depict past and future scenarios. Following an introduction on the basics and essentials of the Unity gaming software, students will use the imagery data acquired by the drone in ACC 3040 to develop a 3D interactive sea-level rise tool.
PREREQUISITE: CS 1910, ACC 3040, ACC 3050 and ACC 3060; Admission to the Applied Climate Change and Adaptation degree program
Three lecture hours, three hours laboratory per week; Three semester hours

4060 MEASURING YOUR CARBON FOOTPRINT THROUGH CARBON ACCOUNTING
This course will examine greenhouse gas emissions accounting and reporting. Students will design and execute greenhouse gas emissions inventories, employing skills including the identification of analysis boundaries, acquisition of data, calculation of emissions levels, and reporting. As a final exercise, the students will also calculate the carbon footprint of individual businesses, companies or public organizations.
PREREQUISITE: Admission to the Applied Climate Change and Adaptation degree program OR enrollment in the Applied Climate Change and Adaptation Minor
Three hours a week; Three semester hours

4070 CLIMATE EXTREMES
This course will examine the data used to monitor and understand climate extremes; the factors and mechanisms that

determine the characteristics of climate extremes; Atlantic Region droughts, floods, heavy precipitation events, heat waves, cold spells, tropical and extra-tropical storms, and ocean waves; specialized tools such as IDF curves; and the influence of temporal considerations in adaptation planning.
PREREQUISITE: STAT 1910 and ACC 3030; Admission to the Applied Climate Change and Adaptation degree program
Three hours a week; Three semester hours

4080 CLIMATE CHANGE IMPACTS, MITIGATION AND ADAPTATION
This course will explore various impacts of climate change from multiple perspectives, such as loss of biodiversity, extreme weather events, impacts on agriculture and food security, water scarcity, human health, economic consequences, etc. Furthermore, students will quantify human sources of greenhouse gas emissions to determine the best approaches for meeting a "safe" or "below dangerous level" of atmospheric concentrations of these gases, which will help cushion the impacts. Students will also use regional & global scenarios of future climate change, and the guidelines set by the Intergovernmental Panel on Climate Change to rapidly assess climate change potential adaptation strategies for the PEI & worldwide economy and ecology.
PREREQUISITE: Admission to the Applied Climate Change and Adaptation degree program OR enrollment in the Applied Climate Change and Adaptation Minor
Three hours a week; Three semester hours

4090 CLIMATE CHANGE AND SUSTAINABLE TOURISM
Students will develop an awareness of the environmental, socio-cultural and economic impacts of tourism; study the possible measures to redress the negative impacts of tourism; develop an appreciation of environmental sustainability in tourism; examine the concept of ecotourism; and incorporate the principles of sustainable tourism into developing and managing tourism destinations and products.
PREREQUISITE: ACC 3140; Admission to the ACC Program
Three hours a week; Three semester hours

4100 Precision Agriculture for Climate Resilience
This course explores the role of precision agriculture in developing climate resilience in North American agricultural systems. Students will work on hands-on projects, engage in discussions, and collaborate to explore adaptive strategies and innovative solutions to promote sustainable food production. The course also emphasizes developing both technical and professional skills for effective problem-solving in real-world contexts, preparing students for practical application in the field.
PREREQUISITE: Admission to the Applied Climate Change and Adaptation degree program OR enrollment in the Applied Climate Change and Adaptation Minor
3 Credit Hours

4110 CLIMATE CHANGE AND HUMAN HEALTH
This course will explore how human health is shaped by environmental, social, cultural, economic, and political forces; investigate the impact of systems put in place to deal with illness; examine the influence of climate change on vector borne diseases, mental health, chronic health, prenatal health, and food security; and understand First Nations approaches to human health and community well-being.
PREREQUISITE: ACC 2030; Admission to the ACC Program
Three hours a week; Three semester hours

4120 INTERNATIONAL CLIMATE DIPLOMACY This course provides an historical and analytical view for understanding international environmental relations, examines international environmental agreements and their implications for Canada, identifies the main actors and how they address global environmental problems, and explores environmental governance. Students will take on the role of countries in the United Nations and negotiate a climate agreement.
PREREQUISITE: ACC 2020; Admission to the Applied Climate Change and Adaptation degree program OR enrollment in

the Applied Climate Change and Adaptation Minor
Three hours a week; Three semester hours

4130 SPECIAL TOPICS

A Special Topics course designed to reflect Climate Change.
3 credit hours

4150 DIRECTED STUDIES

These courses may be offered at the discretion of the department to advanced students. Conditions under which they are offered and entry will be subject to the approval of the Associate Dean of the School and the Dean of Science. (See Academic Regulation 9 for regulations Governing Directed Studies)
3 credit hours

# 54. Applied Communication, Leadership and Culture

**Faculty:**
Lisa Chilton, Professor, Director
Joshua MacFadyen, Associate Professor
Katherine Scarth, Associate Professor
David Hickey, Assistant Professor

**Overview**
The Applied Communication, Leadership and Culture program explicitly connects the communication skills and leadership training of a Liberal Arts education to successful post- graduation employment. This program is defined by its focus on the transferability of the written, oral and visual communication skills, the critical thinking, and the cultural awareness acquired during a Liberal Arts education to the world beyond academia. Technical skills, work- integrated learning (internships, cooperatives, workplace-generated projects), and career- related mentoring are key components of its design.

**Required courses for Major:**

All of the following courses are required for a Major in Applied Communication, Leadership and Culture. **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

IKE 1040: Indigenous Teachings
English 1010: Academic Writing
ACLC 1060: Putting Arts to Work I
ACLC 1080: Digital Literacy
University 2030: Introduction to Leadership Studies
English 2340: Public Speaking
ACLC 2090: Digital Humanities
University 3030: Leadership Theory and Practice
ACLC 3060: Putting Arts to Work II
ACLC 3080: Leadership for a Changing World
English 3810: Professional Writing
Arts 4010: Capstone Arts
English 4040: Communication and Rhetoric: Capstone Writing **OR** ACLC 4000: Advanced Workshop in Applied Communication
ACLC 4060: Putting Arts to Work III
ACLC 4070: Work Integrated Internship

**Required courses for Minor**
The minor program will require a total of 21 semester hours of program-specific courses. All of the following courses are required for a Minor in Applied Communication, Leadership, and Communication.

ACLC 1060: Putting Arts to Work
ACLC 3060: Putting Arts to Work
ACLC 1080: Digital Literacy
**AND** four (4) other courses from the ACLC list of Major requirements, including one at the 4000 level.

**Minor co-requisites:**
English 1010: Academic Writing

# APPLIED COMMUNICATION, LEADERSHIP, AND CULTURE COURSES

1060 PUTTING ARTS TO WORK I
This course examines the history, purpose, and uses of a Liberal Arts education, with attention to the three key areas identified in the major: communication, leadership and culture. In this course, students explore core Liberal Arts concepts-for example, language, history, and creativity-both in terms of how they are studied in the post-secondary classroom and how they are applied outside the university context. The applied part of the course focuses on community engagement, citizenship and social responsibility. Students are introduced to community-based research, participatory action research, and community service learning, as well as the use of technology to promote social change. This course is for students who would like a better understanding of Liberal Arts skills and knowledge, particularly in relation to civic engagement.
PREREQUISITE: None
3 credit hours

1080 DIGITAL LITERACY
This course enables students to develop the core competencies associated with digital literacy, which include the ability to evaluate, integrate, and communicate information safely, effectively, and ethically through the use of digital technology. Class readings, lectures, and individual assignments foster the ability to conceptualize the place of smart technology in contemporary life, stress the importance of managing identity online, and enable students to gain practical experience with different types of media, including digital storytelling, photography, videography, and data visualization, as they create and publish original content online.
PREREQUISITE: None
3 credit hours

1910 SPECIAL TOPICS
This is a uniquely titled course offered by the Applied Communication, Leadership, and Culture program at the first year level as a “special course” on a one-time basis.
3 credit hours

2030 INTRODUCTION TO LEADERSHIP STUDIES
PREREQUISITE: Second year standing
(See UNIV 2030).

2090 DIGITAL HUMANITIES
Digital Humanities involves the use of computational skills, programs and applications in the gathering of evidence and data, preserving and representation of texts and other artifacts, and the use of such tools and techniques in the analysis of this evidence. Digital Humanities approaches can encompass highly sophisticated computational analysis of texts and visualization of data, or the use of Geographical Information Systems (GIS) tools to map and analyse spatial and geographical aspects of a topic. In this course students explore the tools, methods and analytical potentials associated with digital humanity studies through team-based digital humanities projects. Each year, these course outcomes will be achieved through the study of a specific thematically based subject.
PREREQUISITE: None
3 credit hours

2910 SPECIAL TOPICS
This is a uniquely titled course offered by the Applied Communication, Leadership, and Culture program at the second year level as a "special course" on a one-time basis.
3 credit hours

3030 LEADERSHIP THEORY AND PRACTICE
PREREQUISITE: ACLC 2030
(See UNIV 3030).

3060 PUTTING ARTS TO WORK II
Building on ACLC 1060, students develop a deeper understanding of the Liberal Arts in theoretical, historical, and contemporary concepts. Students also explore the key career areas for Liberal Arts majors, such as journalism, human resources, marketing, NGOs, Arts and Culture, Government, and Education. Drawing upon skills learned in ACLC 1060 and ACLC 1080, this research-based course examines the skills and knowledge necessary to complete a research project. Each research project explores aspects of the Liberal Arts' intrinsic value, practical applications, social good, and/or personal benefits through a specific theme and primary text(s) of the student's choosing. While each student designs, researches, and presents an independent research project, students are supported by peer workshopping and feedback.
PREREQUISITE: ACLC 1060 or permission of the instructor
3 credit hours

3080 LEADERSHIP FOR A CHANGING WORLD
This course introduces students to pressing global problems and to the ways that individual visionaries, governments, NGOs, and businesses have attempted to solve them. Students explore the connections between the local and the global through location-specific case studies. Topics for discussion may include: war, poverty, disease, forced migrations, and various forms of social inequality.
PREREQUISITE: None
3 credit hours

3910 SPECIAL TOPICS
This is a uniquely titled course offered by the Applied Communication, Leadership, and Culture program at the third year level as a "special course" on a one-time basis.
3 credit hours

4000 ADVANCED WORKSHOP IN APPLIED COMMUNICATION
In ACLC 4000: Advanced Workshop in Applied Communication, students draw upon previous courses and accumulated knowledge about their chosen fields of future employment to design a subject-specific set of communication products. The purpose of this course is to provide upper-level students with an opportunity to hone the practical application of their communication skills through a workshop process. A requirement of the course will be that students use a variety of forms of communication in the presentation of their ideas and information on their chosen subjects.
PREREQUISITE: ACLC 3060 or English 2340 and English 3810
3 credit hours

4060 PUTTING ARTS TO WORK III
Following on the research skills and knowledge gained in ACLC 3060, this course guides students through the design, research, and presentation of a project with application outside the university context. Included in the course are an introduction to project management concepts and methods, with instruction on the process of developing a business plan, and an introduction to some of the fundamental techniques of modern marketing. Liberal arts skills and knowledge as well as case studies from related fields, such as arts and culture, heritage, journalism, politics, community organizations, are highlighted. For this applied, experiential project, students are expected to choose a topic on which they have already done considerable theoretical, critical, and/or research work (e.g., a substantial assignment in a previous course).

PREREQUISITE: ACLC 3060 or permission of the instructor
3 credit hours

4070 WORK INTEGRATED PRACTICUM
In this course theory and professional practice are combined. Students work in an approved agency or professional workplace for a total of 40 hours. This capstone experience provides students with an opportunity to integrate essential and advanced skills in a field related to their future career interests. While students engage this practicum/workplace project on their own, all projects are presented in a public forum.
PREREQUISITE: ACLC 3060 or ACLC/UNIV 3030 and permission of the instructor
3 credit hours

4910 SPECIAL TOPICS
This is a uniquely titled course offered by the Applied Communication, Leadership, and Culture program at the fourth year level as a "special course" on a one-time basis.
3 credit hours

# 55. Applied Human Sciences

**Applied Human Sciences Faculty**

Deborah MacLellan, Professor Emerita
Michael MacLellan, Associate Professor, Chair
Katherine Gottschall-Pass, Professor
Dany MacDonald, Professor
William Montelpare, Professor
Melissa Rossiter, Professor
Travis Saunders, Professor
Jennifer Taylor, Professor
Sarah Hewko, Associate Professor
Rebecca Reed-Jones, Associate Professor
Sarah Finch, Assistant Professor
Etienne Myette-Cote, Assistant Professor
Hanan Badr, Adjunct Professor
Hiwot Haileslassie, Adjunct Professor
Colleen Walton, Adjunct Professor

The mission of the Department of Applied Human Sciences is to promote the health and optimal development of individuals, families and communities by:

- Preparing students to be leaders in their chosen discipline or profession
- Generating new knowledge through outstanding scholarship
- Forming strong links with the community and engaging in professional service

The overall aim of the Department is to provide a liberal university education which draws from a broad academic base: the biological, physical and social sciences; humanities; and professional studies. The curriculum reflects current scientific knowledge in Foods and Nutrition, and Kinesiology, disciplines which are concerned with improving the health of individuals, families, and communities.

**DEGREE PROGRAMS**

The Department of Applied Human Sciences offers several programs of study.

**Foods and Nutrition Programs:**
Bachelor of Science with a Major in Foods and Nutrition
Bachelor of Science with an Honours in Foods and Nutrition
Minor in Foods and Nutrition
Integrated Dietetic Internship Program
Bachelor of Science with a Major in Foods and Nutrition, Co-operative Education

**Kinesiology**
Bachelor of Science with a Major in Kinesiology

# Foods and Nutrition

**REQUIREMENTS FOR A MAJOR IN FOODS & NUTRITION**

Students following this degree program must complete 45 semester hours of required courses in Foods and Nutrition. **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

**COURSE SEQUENCE**

The following are the course requirements for the Major in Foods and Nutrition:

**First Year**
Foods and Nutrition 1110 – Introductory Foods
Foods and Nutrition 1120- Food Systems and Planetary Health
Biology 1220 – Human Physiology
Biology 1310 – Introduction to Cell and Molecular Biology
Chemistry 1110 – General Chemistry I
Chemistry 1120 – General Chemistry II
Math 1110 – Finite Mathematics OR
Math 1120 – Calculus for the Managerial, Social and Life Sciences
IKE 1040 – Indigenous Teachings of Turtle Island
One of UPEI 1010, 1020 or 1030
One 3 semester hour humanities elective

**Second Year**
Foods and Nutrition 2110 – Introductory Nutrition I
Foods and Nutrition 2120 – Introductory Nutrition II
Foods and Nutrition 2230 – Determinants of Dietary Behaviour
Foods and Nutrition 2610 – Communications
Biology 2060 – Microbiology
Chemistry 2430 – Organic Chemistry for the Life Sciences
Statistics 1210 – Introductory Statistics
Business 1710- Organizational Behavior
One 3 semester hour Social Science
One free elective

**Third Year**
Foods and Nutrition 3020 – Advanced Foods
Foods and Nutrition 3310 – Introduction to Research Methods
Foods and Nutrition 3510 – Nutritional Assessment
Foods and Nutrition 3520 – Clinical Nutrition I
Foods and Nutrition 3820 – Program Planning & Evaluation
Chemistry 3530 – Biochemistry
Four free electives

**Fourth Year**
Foods and Nutrition 4120 – Human Metabolism
Foods and Nutrition 4340 – Community Nutrition

Two Foods and Nutrition elective at the 3000 or 4000 level
Six free electives

**DIETETIC OPTION**

In addition to the courses required for the Foods and Nutrition major, students interested in applying for dietetic internship (either UPEI Integrated Dietetic Internship or a post graduate internship) must take Foods and Nutrition 3210 (Foodservice Systems Management), Foods and Nutrition 3710 (Lifespan Nutrition), Foods and Nutrition 3830 (Professional Practice in Dietetics), Foods and Nutrition 4220 (Quantity Food Production), Foods and Nutrition 4310 (Evidence-Based Practice in the Health Sciences), and Foods and Nutrition 4610 (Clinical Nutrition II).

Foods and Nutrition 3210 – Foodservice Systems Management
Foods and Nutrition 3710 – Lifespan Nutrition
Foods and Nutrition 3830 – Professional Practice in Dietetics
Foods and Nutrition 4220 -Quantity Food Production
Foods and Nutrition 4310 – Evidence-Based Practice in the Health Sciences, and
Foods and Nutrition 4610 – Clinical Nutrition II

**REQUIREMENTS FOR HONOURS PROGRAM IN FOODS AND NUTRITION**

The Honours program in Foods and Nutrition is designed to provide research experience at the undergraduate level within the BSc Program. It is available to students with a strong academic background who intend to continue studies at the post graduate level in Foods and Nutrition or related field, or to students who intend to pursue a career where research experience would be an asset.

The Honours program differs from the major in requiring a two-semester research course with thesis report for a total of 126 semester hours for the degree. The research component is to be completed within the BSc program and may require one summer (four months) preceding the graduating year. Evaluation of the research data and writing of the thesis would normally be done during the fall and/or spring session in Foods and Nutrition 4900: Advanced Research and Thesis. The following are the course requirements for the Honours program in Foods and Nutrition.

**First Year**
Foods and Nutrition 1110 – Introductory Foods
Foods and Nutrition 1120 – Food Systems and Planetary Health
Biology 1220 – Human Physiology
Biology 1310 – Introduction to Cell and Molecular Biology
Chemistry 1110 – General Chemistry I
Chemistry 1120 – General Chemistry II
Math 1110 – Finite Mathematics OR
Math 1120 –Calculus for the Managerial, Social and Life Sciences
IKE 1040 – Indigenous Teachings of Turtle Island
One of UPEI 1010, 1020 or 1030
One 3 semester hour Social Science elective

Second Year
Foods and Nutrition 2110- Introductory Nutrition I
Foods and Nutrition 2120 – Introductory Nutrition II
Foods and Nutrition 2230 – Determinants of Dietary Behaviour
Foods and Nutrition 2610 – Communications
Biology 2060 – Microbiology
Chemistry 2430 – Organic Chemistry for the Life Sciences

Statistics 1210 – Introductory Statistics
Business 1710 – Organizational Behaviour
One 3 semester hour Humanities elective
One free elective

**Third Year**
Foods and Nutrition 3020 – Advanced Foods
Foods and Nutrition 3310 – Introduction in Research Methods
Foods and Nutrition 3510 – Nutritional Assessment
Foods and Nutrition 3520 – Clinical Nutrition I
Foods and Nutrition 3820 – Program Planning and Evaluation
Chemistry 3530 – Biochemistry
Four free electives

**Fourth Year**
Foods and Nutrition 4120 – Human Metabolism
Foods and Nutrition 4340 – Community Nutrition
Foods and Nutrition 4900 – Advanced Research and Thesis
Two Foods and Nutrition electives at the 3000 or 4000 level
Four free electives

**NOTE**: Honours students are advised to consult with their advisor for assistance in choosing electives that will support their research projects.

**ENTRANCE REQUIREMENTS**

For admission to the Honours program, students must have a minimum GPA of 3.0 in all Foods and Nutrition courses combined and a CGPA of 2.7 in all previous courses. Permission of the Department is also required and is contingent on the student finding an advisor and on acceptance of the research project by the Department of Applied Human Sciences. Students interested in completing an honours should consult with the Department Chair as early as possible and not later than March 31st of the student's third year.

To graduate with Honours in Foods and Nutrition, students must maintain a GPA of 3.0 in all Foods and Nutrition courses combined and a CGPA of 2.7.

**REQUIREMENTS FOR A MINOR IN FOODS AND NUTRITION**

Students in the Minor Program in Foods and Nutrition must complete a total of 21 semester hours of credit in Foods and Nutrition.

These consist of 9 semester hours of required core courses as follows:

- Foods and Nutrition 1110 – Introductory Foods
- Foods and Nutrition 2110 – Introductory Nutrition I
- Foods and Nutrition 2120 – Introductory Nutrition II

Twelve additional hours of electives must be chosen, with at least two at the 3000 or 4000 level. Students intending to do a Minor in Foods and Nutrition are advised to consult with the Chair of the Department of Applied Human Sciences to ensure that they have the required course prerequisites.

# Kinesiology

**REQUIREMENTS FOR A MAJOR IN KINESIOLOGY**

Students following this degree program must complete 60 semester hours of required courses in Kinesiology and 6 semester hours of required courses in Foods and Nutrition. Students are advised to consult with the Department Chair or their Faculty Advisor prior to registration. **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

**REQUIRED COURSES FOR THE KINESIOLOGY MAJOR**

**Kinesiology courses**
1010 – Introduction to Kinesiology
2020 – Introduction to Sport and Exercise Psychology
2210 – Introduction to Exercise Physiology
2320 – Introduction to Motor Learning and Control
2510 – Anatomical Kinesiology
2620 – Introduction to the Sociology of Sport and Exercise
3120 – Introduction to Biomechanics
3310 – Introduction to Research Methods
3410 – Human Motor Development
3430 – Physiological Assessment and Training
3510 — Ethical Issues in Fitness and Health
3530 – Exercise Techniques and Prescription for Resistance Training
Eight Kinesiology electives at the 3000 or 4000 level

**Foods and Nutrition**
2110 – Introductory Nutrition I
2120 – Introductory Nutrition II

**REQUIRED COURSES FROM OTHER DEPARTMENTS**

**Mathematics**
1120 – Calculus for the Managerial, Social and Life Sciences

**Statistics**
1210 – Introductory Statistics

**Chemistry**
1110 – General Chemistry I
1120 – General Chemistry II

**Physics**
1210 – Physics for Life Sciences I

**Biology**
1210 – Human Anatomy
1220 – Human Physiology
1310 – Introduction to Cell and Molecular Biology

**UPEI courses and Writing Intensive Course**
One of:
UPEI 1010 – Writing Studies – Engaging Writing, Rhetoric, and Communication,
UPEI 1020 – Inquiry Studies – Engaging Ideas and Cultural Contexts, OR
UPEI 1030 – University Studies – Engaging University Contexts and Experience; AND
One writing intensive course

**Psychology**
1010-1020 – Introductory Psychology I and II

**Indigenous Knowledge Education**
IKE 1040 – Indigenous Teachings
Students are advised to consult with the Department Chair or their Faculty Advisor prior to registration.

**COURSE SEQUENCE**

Following is the usual sequence for completion of courses

**Year One**

Kinesiology 1010 – Introduction to Kinesiology
Biology 1210 – Human Anatomy
Biology 1220 – Human Physiology
Chemistry 1110 – General Chemistry I
Chemistry 1120 – General Chemistry II
One of UPEI 1010, 1020 or 1030
Math 1120 – Calculus for the Managerial, Social and Life Sciences
Psychology 1010 – Introductory Psychology I
Psychology 1020 – Introductory Psychology II
IKE 1040 – Indigenous Teachings

**Year Two**
Kinesiology 2020 – Introduction to Sport and Exercise Psychology
Kinesiology 2210 – Introduction to Exercise Physiology
Kinesiology 2320 – Introduction to Motor Learning and Control
Kinesiology 2510 – Anatomical Kinesiology
Kinesiology 2620 – Introduction to the Sociology of Sport and Exercise
Foods and Nutrition 2110 – Introductory Nutrition I
Foods and Nutrition 2120 – Introductory Nutrition II
Biology 1310 – Introduction to Cell and Molecular Biology
Statistics 1210 – Introductory Statistics
Physics 1210 – Physics for Life Sciences I

**Year Three**

Kinesiology 3120 – Introduction to Biomechanics
Kinesiology 3310 – Introduction to Research Methods
Kinesiology 3410 – Human Motor Development
Kinesiology 3430 – Physiological Assessment and Training
Kinesiology 3530 – Exercise Techniques and Prescription for Resistance Training
Kinesiology 3510 Ethical Issues Fitness and Health

Two Kinesiology electives at the 3000 or 4000 level
Two free electives

**Year Four**

Six Kinesiology electives at the 3000 or 4000 level
Four free electives

**REQUIREMENTS FOR HONOURS PROGRAM IN KINESIOLOGY**

The Honours program in Kinesiology is designed to provide research experience at the undergraduate level within the BSc Program. It is available to students with a strong academic background who intend to continue studies at the post graduate level in Kinesiology or related field, or to students who intend to pursue a career where research experience would be an asset.

The Honours program differs from the major in requiring a two-semester research course with thesis report for a total of 126 semester hours for the degree. The research component is to be completed within the BSc program through completion of Kinesiology 4900: Advanced Research and Thesis.

The following are the course requirements for the Honours program in Kinesiology.

**Year One**
Kinesiology 1010 – Introduction to Kinesiology
Biology 1210 – Human Anatomy
Biology 1220 – Human Physiology
Chemistry 1110 – General Chemistry I
Chemistry 1120 – General Chemistry II
One of UPEI 1010, 1020 or 1030, AND IKE 1040
Math 1120 – Calculus for the Managerial, Social and Life Sciences
Psychology 1010 – Introductory Psychology I
Psychology 1020 – Introductory Psychology II
IKE 1040 – Indigenous Teachings

**Year Two**
Kinesiology 2020 – Introduction to Sport and Exercise Psychology
Kinesiology 2210 – Introduction to Exercise Physiology
Kinesiology 2320 – Introduction to Motor Learning and Control
Kinesiology 2510 – Anatomical Kinesiology
Kinesiology 2620 – Introduction to the Sociology of Sport and Exercise
Foods and Nutrition 2110 – Introductory Nutrition I
Foods and Nutrition 2120 – Introductory Nutrition II
Biology 1310 – Introduction to Cell and Molecular Biology
Statistics 1210 – Introductory Statistics
Physics 1210 – Physics for Life Sciences I

**Year Three**
Kinesiology 3120 – Introduction to Biomechanics
Kinesiology 3310 – Introduction to Research Methods
Kinesiology 3410 – Human Motor Development
Kinesiology 3430 – Physiological Assessment and Training
Kinesiology-3510 – Ethical Issues in Fitness and Health

Kinesiology 3530 – Exercise Techniques and Prescription for Resistance Training
Two Kinesiology electives at the 3000 or 4000 level
Two free electives

**Year Four**
Kinesiology 4900 – Advanced Research and Thesis
Four Kinesiology electives at the 3000 or 4000 level
Four free electives

**NOTE:** Honours students are advised to consult with their advisor for assistance in choosing electives that will support their research project.

**Entrance Requirements**
For admission to the Honours program, students must have a minimum GPA of 3.0 in all Kinesiology courses combined and an overall GPA of 2.7 in all previous courses. Permission of the Department is also required and is contingent on the student finding an advisor and on acceptance of the research project by the Department of Applied Human Sciences. Students interested in completing the honours program should consult with the Department Chair as early as possible, no later than March 31st of the student's third year.

To graduate with Honours in Kinesiology, students must maintain a minimum GPA of 3.0 in all Kinesiology courses combined and an overall GPA of 2.7.

**QUALIFICATION FOR PROFESSIONAL CERTIFICATION**
Graduates of our Kinesiology program are eligible to apply for many certifications after graduation. Depending on the desired certifications, students may need to take certain elective courses beyond the core curriculum of the program. Additionally, most certifications require an entrance exam and volunteer hours prior to becoming certified. Students are encouraged to review certification requirements early in their degree so they are able to plan their education and volunteer hours accordingly. Below is a list of popular certifications, although this list is not exhaustive.

*Canadian Society for Exercise Physiology* (CSEP):
Certified Personal Trainer (CSEP-CPT) and Certified Exercise Physiologist (CSEP-CEP)

*College of Kinesiologists of Ontario*
Health and Fitness Federation of Canada:
Certified Personal Trainer (HFFC-CPT) and Certified Exercise Physiologist (HFFC-CEP)

*National Strength and Conditioning Association* (NSCA):
Certified Strength and Conditioning Specialist (CSCS)

# CO-OPERATIVE EDUCATION IN APPLIED HUMAN SCIENCES

The UPEI Co-operative Education Program is an integrated approach to university education which enables students to alternate academic terms on campus with work terms in suitable employment. The success of such programs is founded on the principle that students are able to apply theoretical knowledge from course studies in the workplace and return to the classroom with practical workplace experience. Students who successfully complete all the requirements of the program will have the notation entered on their transcripts and on the graduation parchment.

In addition to the courses required for the Foods and Nutrition major, students enrolled in the Foods and Nutrition Co-operative Education Program must successfully complete Foods and Nutrition 3210 Food Service Systems

Management, Foods and Nutrition 4020 Advanced Foods II and Business 1410 Marketing, as well as the required minimum number of Co-operative courses to be eligible for the Co-operative designation

Students accepted into the program complete at least three paid work terms of normally 14 weeks duration, and three professional development courses. Credits earned through completion of work terms are counted as general electives.

The Co-operative Education Program option is available to full-time students in the Foods and Nutrition program (excluding dietetic option). Applications to the Co-operative Education Program are normally made after completion of the first year of study.

See the Co-operative Education Program section of the UPEI Academic Calendar for more information.

**COURSE SEQUENCE**

**First Year**

Foods and Nutrition 1110 – Introductory Foods
Foods and Nutrition 1120 – Food Systems and Planetary Health
Biology 1220 – Human Pphysiology
Biology 1310 – Introduction to Cell and Molecular Biology
Chemistry 1110 – General Chemistry I
Chemistry 1120 – General Chemistry II
Math 1110 – Finite Mathematics OR
Math 1120 – Calculus for the Managerial, Social and Life Sciences
IKE 1040 – Indigenous Teachings of Turtle Island
One of UPEI 1010, 1020 or 1030
One 3 semester hour Social Science elective

**Second Year**

Foods and Nutrition 2110 – Introductory Nutrition I
Foods and Nutrition 2120 – Introductory Nutrition II
Foods and Nutrition 2230 – Determinants of Dietary Behaviour
Foods and Nutrition 2610 – Communications
Biology 2060 – Microbiology
Chemistry 2430 – Organic Chemistry for the Life Sciences
Statistics 1210 – Introductory Statistics
Business 1710 – Organizational Behaviour
One 3 semester hour Humanities elective
COOP 2110-2120 – Career Skills I
COOP 2210 – Work term

**Third Year**

Foods and Nutrition 3020 – Advanced Foods
Foods and Nutrition 3210 – Food Service Systems Management
Foods and Nutrition 3310 – Introduction to Research Methods
Foods and Nutrition 3510 – Nutritional Assessment
Foods and Nutrition 3520 – Clinical Nutrition I
Foods and Nutrition 3820 – Program Planning & Evaluation
Chemistry 3530 – Biochemistry
Business 1410 – Marketing
One free elective
COOP 3110-4110 – Career Skills II and III
COOP 3210 – Work term

**Fourth Year**

Foods and Nutrition 4020 – Advanced Foods II
Foods and Nutrition 4120 – Human Metabolism

Foods and Nutrition 4340 – Community Nutrition
One Foods and Nutrition elective at the 3000 or 4000 level
Five free electives
COOP 4210 – Work term

## Integrated Dietetic Internship Program

The Integrated Dietetic Internship is a 126-semester hour program that leads to a major in Foods and Nutrition with Dietetic Internship, and meets current standards for dietetic education and practice

Students majoring in Foods and Nutrition may apply for admission to the optional Integrated Dietetic Internship Program. The integrated approach to professional training enables students to build upon and apply theoretical knowledge gained from their academic program. On successful completion of the Internship Program, students will have fulfilled the competencies required to reach entry-level professional dietetic competence, and will be eligible to apply for admission to the dietetics profession.

**ADMISSION REQUIREMENTS**

Normally, students are eligible to apply for admission in Fall of the 3rd year of the major in Foods & Nutrition program.

**A. CASPer Test Requirement**

All applicants to Integrated Dietetic Internship Program are required to complete a CASPer assessment (CASPer Test), in addition to meeting academic requirements. Successful completion of CASPer is **mandatory** in order to maintain admission eligibility.

CASPer is an online test which assesses for non-cognitive skills and interpersonal characteristics that are important for successful students and graduates of the Dietetics program. In implementing CASPer, we are trying to further enhance fairness and objectivity in our admission selection process.

Please note that the CASPer test can only be written once within an admission cycle. Multiple test attempts are not permitted. Additionally, CASPer test results are only valid for one admission cycle. Applicants who have already taken the test in previous years must re-take it.

To view UPEI CASPer test dates and to learn more about CASPer visit this link: https://takealtus.com/faq/#prepare
Please direct any inquiries on the test to CASPer provider, Altus.

**B. Academic Requirements**

All students majoring in Foods and Nutrition who have achieved a minimum cumulative GPA of 3.0 with no Foods and Nutrition course with a grade below 70%, and have completed the following required courses will be eligible to apply for the program:

Foods & Nutrition 1110 – Introductory Foods
Foods & Nutrition 1120 – Food Systems and Planetary Health
Foods & Nutrition 2110 – Introductory Nutrition I
Foods & Nutrition 2120 – Introductory Nutrition II
Foods & Nutrition 2230 – Determinants of Dietary Behaviour
Foods & Nutrition 2610 – Communications
Foods & Nutrition 3210 – Food Service Management
Foods & Nutrition 3310 – Research Methods
Foods & Nutrition 3510 – Nutritional Assessment
Foods & Nutrition 3830 – Professional Practice in Dietetics
Biology 1220 – Human Physiology
Biology 1310 – Introduction to Cell and Molecular Biology

Biology 2060 – Microbiology
Chemistry 1110 – General Chemistry I
Chemistry 1120 – General Chemistry II
Chemistry 2430 – Organic Chemistry

Interested candidates are encouraged to consult the Director of the Foods & Nutrition Program early in their program to discuss admission and course scheduling. Students interested in pursuing this option are also encouraged to seek relevant paid or unpaid work experience in the summer preceding application. A formal application for admission to the Integrated Dietetic Internship Program is required. Application forms are available from the Professional Practice Coordinator.

A selection panel will determine student admissibility based upon academic performance, work and volunteer experience as demonstrated in their e-portfolio (including resume) and the letter of intent. References will also be considered.

Students meeting the admission criteria will be ranked and the top candidates will be interviewed. By the first week of February, the Professional Practice Coordinator will notify, in writing, all students interviewed as to the outcome of the process.

Students accepted into the dietetic internship program must show evidence of all immunizations being up to date prior to starting the program. As well, each student will be required to show proof of a completed criminal record and vulnerable sector checks prior to the start date.

**CONTINUANCE REQUIREMENTS**

Once admitted to the program, students must continue in full-time enrolment between internship courses. An academic review of students' performance will take place at the end of each semester. Students are required to maintain a cumulative GPA of 3.0 with no Foods and Nutrition course below a grade of 70%. Students who fail to meet these standards or who fail a required course(s) will not be permitted to begin the next internship course until standards are met.

Internship students must complete all of the regular requirements for a Bachelor of Science Foods and Nutrition) degree including the courses required for the dietetic option

In addition to the above requirements, students must successfully complete three internship courses.

**INTERNSHIP SCHEDULE**

Students must complete three internship courses in the Integrated Dietetic Internship Program. Normally FN-3001 (Integrated Dietetic Practice I) is scheduled in the summer semester following the third academic years. Normally FN-4001 (Integrated Dietetic Practice II) is scheduled in the summer semester following completion of all academic requirements and FN-4002 (Integrated Dietetic Practice III) is scheduled in the fall semester following completion of FN 4001. Normally completion of the Integrated Dietetic Internship is at the end of the fall semester of the fifth academic year.

The internship courses will consist of 35 weeks (1250 hours). Placements may be extended if an intern has not completed all competencies.
Satisfactory fulfilment of the Integrated Dietetic Internship courses requires:

1. A satisfactory evaluation from the Preceptor at the placement site.
2. Completion of the minimum number of required competencies as indicated on the appropriate evaluation form.

**COURSE SEQUENCE: DIETETICS**

Following is the usual sequence for completion of courses:

**First Year**

Foods and Nutrition 1110 – Introductory Foods
Foods and Nutrition 1120 – Food Systems and
Biology 1220 – Human Physiology
Biology 1310 – Introduction to Cell and Molecular Biology
Chemistry 1110 – General Chemistry I
Chemistry 1120 – General Chemistry II
Math 1110 – Finite Mathematics OR Math 1120 – Calculus for the Managerial, Social and Life Sciences
IKE 1040 – Indigenous Teachings of Turtle Island
One of UPEI 1010, 1020 or 1030
One 3 semester hour Social Science elective

**Second Year**

Foods and Nutrition 2110 – Introductory Nutrition I
Foods and Nutrition 2120 – Introductory Nutrition II
Foods and Nutrition 2230 – Determinants of Dietary Behaviour
Foods and Nutrition 2610 – Communications
Biology 2060 – Microbiology
Chemistry 2430 – Organic Chemistry for the Life Sciences
Statistics 1210 – Introductory Statistics
Business 1710 – Organizational Behaviour
One 3 semester hour Humanities elective
One free elective

**Third Year**

Foods and Nutrition 3020 – Advanced Foods
Foods and Nutrition 3210 – Foodservice Systems Management
Foods and Nutrition 3310 – Introduction to Research Methods
Foods and Nutrition 3510 – Nutritional Assessment
Foods and Nutrition 3520 – Clinical Nutrition I
Foods and Nutrition 3820 – Program Planning & Evaluation
Foods and Nutrition 3830 – Professional Practice in Dietetics
Chemistry 3530 – Biochemistry
One free electives

**Summer Semester**

Foods and Nutrition 3001 – Integrated Dietetic Practice I

**Fourth Year**

Foods and Nutrition 3710 – Lifespan Nutrition
Foods and Nutrition 4120 – Human Metabolism
Foods and Nutrition 4220 – Quantity Food Production
Foods and Nutrition 4310 – Evidence-Based Practice in the Health Sciences
Foods and Nutrition 4340 – Community Nutrition
Foods and Nutrition 4610 – Clinical Nutrition II
Four Three free electives

**Fifth Year**

Foods and Nutrition 4001 – Integrated Dietetic Practice II
Foods and Nutrition 4002 – Integrated Dietetic Practice III

**WITHDRAWAL CONDITIONS**

Students will be required to withdraw from the Integrated Dietetic Internship Program if:

They fail to abide by the policies and procedures set out by the Advisory Committee for the Integrated Dietetic Internship Program and/or those of the placement organization.

Students who voluntarily withdraw from or who are required to withdraw from the Integrated Dietetic Internship Program may remain in and continue with the regular Foods and Nutrition majors program.

**REGISTRATION AND FEES**

Students are required to register for all three internship courses (FN-3001, 4001, 4002) according to normal registration procedures. Internship courses will officially be designated on students' transcripts as pass or fail. Students pay for their internship courses as they are taken. Students accepted to the Integrated Dietetic Internship Program are required to pay an Internship Fee (see Calendar section on fees). This amount is to be paid prior to the start date for the specified internship course. Additional information on policies and procedures related to the Integrated Dietetic Internship Program are available from the Department.

# FOODS AND NUTRITION COURSES

1010 CONCEPTS AND CONTROVERSIES IN NUTRITION
This course enables non-Foods and Nutrition students to understand how food impacts their current and future health. Students will learn about current dietary recommendations and how to apply these to create a healthy eating pattern. They will also learn how to detect online nutrition misinformation.
Three lecture hours
NOTE: Credit will not be allowed for FN 1010 if completed after FN 2110 or after FN 1020.

1020 NUTRITION FOR NURSING PRACTICE
This course is an introduction to the science of nutrition specifically designed for nursing students. Topics discussed include: the nutrients, role of these nutrients in chronic disease prevention, diet therapy for specific disease conditions, nutritional needs across the lifespan and the selection of a healthy diet.
PREREQUISITE: Biology 1210
COREQUISITE: Biology 1220
Three lecture hours
NOTE: Credit will NOT be allowed for FN 1020 if a student has already received credit for FN 1010.

1110 (Previously 2810) INTRODUCTORY FOODS
This course is a study of the physical, chemical, and nutritive properties of food; the changes that occur during food preparation, storage, and handling; the factors affecting food acceptability and quality.
Three lecture hours, three-hour laboratory
PREREQUISITE/COREQUISITE: Chemistry 1110 must be completed or taken concurrently.

1120 (Previously 2820) FOOD SYSTEMS AND PLANETARY HEALTH
This course will introduce students to the concept of food systems at the local, regional, and global levels. Students will examine and reflect on critical food system issues, including challenges with food production, processing, marketing, food consumption and waste, with a focus on sustainable food systems and the planetary health eating pattern.

PREREQUISITE: FN 1110 or permission of the instructor
Three lecture hours

2110 INTRODUCTORY NUTRITION I
This course is a study of applied human nutrition with a focus on carbohydrates, lipids, proteins, and select micronutrients; requirements and food sources of these nutrients and their role in chronic disease prevention; digestion, absorption and metabolism; and assessment of nutritional status.
PREREQUISITE: Chemistry 1110, or permission of instructor
Three lecture hours

2120 INTRODUCTORY NUTRITION II
This course is a continuation of FN 2110 with a focus on water, major minerals and trace minerals; requirements and food sources of these nutrients; role of these nutrients in chronic disease prevention; nutritional needs across the lifespan, and the selection of an adequate diet.
PREREQUISITE: Foods and Nutrition 2110 or permission of instructor
Three lecture hours

2230 DETERMINANTS OF DIETARY BEHAVIOUR
This course studies the factors influencing human dietary behaviour and ultimately nutritional health. Topics include the food system, development of food preferences, food and culture, school food issues, food insecurity, food marketing, and sensory influences on dietary behaviour.
PREREQUISITE: Foods and Nutrition 2110
Three lecture hours

2310 FOOD AND CULTURAL STUDIES
(See Diversity and Social Justice Studies 2120)

2610 COMMUNICATIONS
This course is an introduction to the basic principles of communication for health professionals. The course balances communication theory with skills acquisition and practice to enable students to communicate more effectively in a variety of professional settings. Students are provided with an opportunity to develop skills in interpersonal and group communication, delivering effective oral presentations, active listening and conflict management.
Cross-listed with Kinesiology 3610.
PREREQUISITE: Student must be admitted to Foods and Nutrition, or Radiography, or Kinesiology programs.
Three lecture hours

3001 INTEGRATED DIETETIC PRACTICE I
This course introduces students to dietetic practice and provides opportunities for students to integrate theory and practice. Students complete one week of classroom experience followed by two separate work practica for a total of 9 weeks experience in select dietetic practice settings.
PREREQUISITES: FN 3210, 3520, 3820, 3830, Admission to the UPEI Integrated Dietetic Internship Program
Three lecture hours

3020 ADVANCED FOODS
This course is an advanced study of the physical, chemical, and biological properties of foods through food experimentation; objective and subjective testing of food attributes with emphasis on sensory analysis; and principles of research methodology as applied to foods. Current trends are discussed. A product development project is required.
PREREQUISITES: Chemistry 1120, Foods and Nutrition 1110, and Foods and Nutrition 3310 or permission of instructor
Three lecture hours, three-hour laboratory

3090 SPECIAL TOPICS
Creation of a course code for special topics offered by Foods and Nutrition at the 3000 level.

3210 FOOD SERVICE SYSTEMS MANAGEMENT

This course is a study of food service management with emphasis on concepts and theories of organizational behaviour; safety, sanitation and hygienic practices in food service; quality and cost control; personnel management, staffing, physical design and delivery systems and the process of management in an institutional setting and in other food service operations. Other topics include menu planning, marketing, management information systems, budgeting, and the role of computers in food service management.

PREREQUISITE: Foods and Nutrition 1110 or permission of the instructor

Three lecture hours

3310 INTRODUCTION TO RESEARCH METHODS

This course is an introduction to research intended to enable students to read critically and evaluate current research. Students are introduced to various types of research designs,

research terminology, and the components of the research process.

(Cross-listed with Kinesiology 3310)

PREREQUISITES: Statistics 1210 or Psychology 2710

NOTE: Preference for admission will be given to students registered in the Foods and Nutrition, Kinesiology or Radiography programs.

Three lecture hours

3510 NUTRITIONAL ASSESSMENT

This course is an advanced study of current issues in nutrition assessment. Topics include dietary, anthropometric, laboratory and clinical methods currently in use to assess nutritional status at the population and individual level; challenges in interpreting nutritional assessment data; and nutrition counselling.

PREREQUISITES: Foods and Nutrition 2120 or permission of the instructor

Three lecture hours, three hours laboratory

3520 CLINICAL NUTRITION I

This course introduces the nutrition care process and the fundamentals of the pathophysiology and medical nutrition therapy for treatment of chronic diseases such as diabetes, cardiovascular disease, diseases of the gastrointestinal tract, and disorders of energy balance. Monitoring of nutritional status, the development, implementation, and evaluation of nutrition careplans, medical terminology and drug-nutrient interactions are also discussed.

PREREQUISITE: Foods and Nutrition 3510 and Biology 1220

Three lecture hours

3710 LIFESPAN NUTRITION

This course builds on FN 2120 Introductory Nutrition II by exploring in depth the nutritional foundations necessary for growth, development, normal functioning, and disease prevention at various stages of the life cycle.

PREREQUISITES: Foods and Nutrition 2120, or permission of the instructor

Three semester hours

3750 NUTRITION FOR FITNESS & SPORT

(See Kinesiology 3750)

3820 PROGRAM PLANNING AND EVALUATION

In this course, students develop competency in planning, implementing, and evaluating programs for health promotion. Topics include theories and models commonly used for program planning and behaviour change, assessing needs, selecting appropriate intervention strategies, identification and allocation of resources, the marketing process, and evaluation models and design.

PREREQUISITES: Foods and Nutrition 2120 and Foods and Nutrition Major

Three lecture hours and the development, implementation and evaluation of a program.

3830 PROFESSIONAL PRACTICE IN DIETETICS

This course is designed to prepare students for a career in dietetic practice within the Canadian context. Students will learn to practice in a manner that promotes cultural safety, will be introduced to the Integrated Competencies for Dietetic Education and Practice (ICDEP) and will develop a professional e-portfolio which will illustrate their achievement of professional competencies.

PREREQUISITE: Students must be a third year Foods and Nutrition major intending to enter the field of dietetics

Three lecture hours

4001 INTEGRATED DIETETIC PRACTICE II

Students continue to synthesize their knowledge, skills, and professional competence in dietetic practice settings. Emphasis is on more complex dietetic practice. Students complete 14-16 weeks full-time experience in select dietetic practice settings.

PREREQUISITE: Foods and Nutrition 3001

Three lecture hours

4002 INTEGRATED DIETETIC PRACTICE III

This course is a continuation of FN 4001 and may involve supervised staff relief. Students complete 12-14 weeks full-time experience in select dietetic practice settings.

PREREQUISITE: Foods and Nutrition 4001

Three lecture hours

4010 ETHICAL ISSUES IN FITNESS & HEALTH

PREREQUISITE: Third year standing in Kinesiology or Foods & Nutrition, Kinesiology 2020 or Foods and Nutrition 2120 (See Kinesiology 3510)

FN 4020 ADVANCED FOODS II

This course is a continuation of Advanced Foods (FN 3020) with focus on commercialization, food packaging, food laws and regulations, food additives, and quality assurance. Students will develop Standard Operating Procedures (SOP), plan for scaling-up production, and industrial ingredient sourcing.

PREREQUISTE: Foods and Nutrition 3020 or permission of the instructor

Three lecture hours

4090 SPECIAL TOPIC

Creation of a course code for special topics offered by Foods and Nutrition at the 4000 level.

4120 HUMAN METABOLISM

This course is an advanced study of the role of macronutrients in physiological and biochemical processes, their regulation in the human body, and their involvement in human health and disease. Application of current nutrition research findings and the rationale for current recommendations will also be discussed.

PREREQUISITES: Biology 1220, Statistics 1210, Chemistry 3530, and Foods and Nutrition 2120 or permission of the instructor

Three lecture hours

4220 QUANTITY FOOD PRODUCTION

This course is a study of food service production and management. Topics include quantity food purchasing and preparation, food safety and HACCP, sanitation, human resource planning and supervision. Practical experience in quantity food production and food service administration is gained by running a food catering operation using a team approach to management.

PREREQUISITES: Foods and Nutrition 3210

Two lecture hours, six hours laboratory

4310 EVIDENCE-BASED PRACTICE IN THE HEALTH SCIENCES

This course focuses on the development of skills and knowledge required to find, appraise, use and communicate

evidence in the health sciences. It provides students with the opportunity for the continued development of reasoning and decision-making skills allowing them to integrate research evidence and critical thinking into professional practice. Cross-listed with Kinesiology 4310.
PREREQUISITE: Foods and Nutrition/Kinesiology 3310 or permission of the instructor

4340 COMMUNITY AND PUBLIC HEALTH NUTRITION
This course is an introduction to the field of community and public health nutrition. Students develop an increased awareness of the theory and practice of community and public health nutrition, using a critical approach to nutrition programs and policies at the provincial, national and international levels. Topics include population health, food insecurity, nutrition education; food literacy advocacy and working with diverse populations. Students participate in an experiential learning project.
PREREQUISITES: Foods and Nutrition 3820 or permission of instructor
Three lecture hours, three hour laboratory

4400 SENIOR UNDERGRADUATE RESEARCH PROJECT
This course allows senior students majoring in Foods and Nutrition to carry out a full-year research project under the supervision of a faculty member. Entry into this course is contingent upon the student finding a departmental faculty member willing to supervise the research and permission of the department.
PREREQUISITE: Fourth year standing in the Foods and Nutrition program
Six semester hours of credit

4410/4420 DIRECTED STUDIES IN FOODS AND NUTRITION
(See Academic Regulation 9 for regulations Governing Directed Studies.)

4610 CLINICAL NUTRITION II
This course is a continuation of Foods and Nutrition 3520 with emphasis on the pathophysiology and medical nutrition therapy for disease states that are typically treated in a tertiary care setting such as liver and gallbladder diseases, renal system diseases and diseases of the hematological, neurological, and respiratory systems. Additional topics such as specialized nutrition support, and medical nutrition therapy for psychiatric conditions, will also be discussed.
PREREQUISITE: Foods and Nutrition 3520
Three lecture hours and 3 hour laboratory

4720 CURRENT ISSUES IN NUTRITION
This course is an advanced study of current issues in nutrition research. Students use independent research and problem- solving skills to critique literature, present seminars, and write a scientific paper.
PREREQUISITES: Foods and Nutrition 2120, or permission of the instructor
Three lecture hours

4760 APPLIED DATA ANALYSIS AND INTERPRETATION
The purpose of this course is to build on the material discussed in KINE/FN 3310. The course will explore more complex methodological and statistical approaches to data. The emphasis will be on understanding the process of data analysis and engage in applied manipulation and interpretation of data. In addition, the course will delve into the role that statistics play in shaping how we consume and develop knowledge.
PREREQUISITE: KINE 3310 OR FN 3310
Cross-listed KINE 4760
Three lecture hours

4900 ADVANCED RESEARCH AND THESIS
The objective of this course is to provide research experience for the student who intends to take up further studies at a post graduate level or who is planning on entering a career where research experience in foods and nutrition would be an asset. Students are provided with the opportunity to design, carry out, evaluate and write up a research project in

an approved scientific format, while working under the direction of an advisor. Some of this work may be carried out in the summer months.
PREREQUISITE: Acceptance to the Honours Program
12 semester hours of credit

## KINESIOLOGY COURSES

Please note: Kinesiology 1010 is an introductory course required for, but not restricted to, Kinesiology majors. A grade of at least 60% in Kinesiology is a prerequisite for all Kinesiology courses above the 1000 level.

1010 INTRODUCTION TO KINESIOLOGY
This course will provide students with an introduction to the study of human movement, and explore the physical, social, and psychological aspects of development as they relate to physical activity. Topics include: exercise physiology, biomechanics, sport psychology, sport sociology and exercise psychology.
PREREQUISITE: None
Three hours a week

2020 INTRODUCTION TO SPORT & EXERCISE PSYCHOLOGY
The purpose of this course is to provide insight into the theories, subject matter, and empirical research concerning the psychological processes that influence performance in sports, exercise, and other physical activities.
PREREQUISITE: Kinesiology 1010, Psychology 1020 and admission to BSc Kinesiology program
Three hours a week

2210 INTRODUCTION TO EXERCISE PHYSIOLOGY
This course discusses the physiological response to exercise, examining both acute and chronic adaptations to an exercise stress. Discussed from a physiological systems perspective, this course will examine the functional capacity of individual physiological systems, including the muscular, cardiovascular, respiratory, and nervous systems, and discuss the system's response to submaximal and maximal exercise and its impact on human performance. The environmental impact on physical performance will also be discussed.
PREREQUISITE: Kinesiology 1010, Biology 1220 and admission to the BSc Kinesiology program.
Three hours lecture, two hours laboratory

2320 INTRODUCTION TO MOTOR LEARNING AND CONTROL
This course will introduce students to the basic principles of motor behaviour and motor control. Included will be considerations of the physical changes during growth and motor developmental while considering the role of feedback and practice on skilled behaviour.
PREREQUISITE: Kinesiology 1010, Biology 1220 and admission to BSc Kinesiology program
Three lecture hours, three hours laboratory a week.

2510 ANATOMICAL KINESIOLOGY
This course introduces kinesiology students to the science of human movement with special consideration given to skeletal, muscular and neural contributions. Topics include: anatomical directional terminology; basic biomechanical factors and concepts; muscular analysis of trunk, upper/lower extremities with reference to sport performance/technique/training; and neuromuscular fundamentals.
PREREQUISITE: Biology 1210 and admission to BSc Kinesiology program
Three lecture hours, three hours laboratory a week

2620 INTRODUCTION TO THE SOCIOLOGY OF SPORT AND EXERCISE

This course will explore the significance of sport across society and culture. Students will gain an understanding of the role of sport in culture and how sport is structured within society. Different sociological theories will be presented and discussed throughout the class to explain the intersection of sport and society.
Cross-listed with Sociology 2210.
PREREQUISITES: Kinesiology 1010 and admission to the Kinesiology program.
Three lecture hours

3090 SPECIAL TOPICS
A course in which topics or issues are explored outside the core area.

3120 INTRODUCTION TO BIOMECHANICS
This course introduces kinesiology students to the biomechanical basis of fundamental human movement. Topics include: skeletal, muscular and neural considerations for movement; functional anatomy; and essential mechanics and mathematics for the analysis of human motion.
Cross-listed with Physics 2420.
PREREQUISITE: Kinesiology 2510, Biology 1220, Math 1120, Physics 1210 and admission to BSc Kinesiology program. NOTE: Prerequisites for Physics 2420 – Kinesiology 1010 or Physics 1110 or Physics 1210; and Math 1120 or Math 1910.
Three hours lecture, three hours laboratory a week

3310 INTRODUCTION TO RESEARCH METHODS
PREREQUISITES: Statistics 1210 or Psychology 2710
(See Foods & Nutrition 3310).

3410 HUMAN MOTOR DEVELOPMENT
This course explores the physical and psychosocial growth of children and adolescents and how it relates to their development of motor skills. Topics such as locomotion, fine and gross motor skills, and sensory impact on development will be addressed. The reciprocal relationship between human development and their environments is emphasized.
PREREQUISITE: Kinesiology 2320
Three lecture hours

3430 PHYSIOLOGICAL ASSESSMENT AND TRAINING
This course will equip students with theoretical concepts and applied experience regarding fitness assessment, physical activity prescription and client management. Content is tailored to focus on training with low-risk healthy adult populations with an emphasis on the relationships between physical activity, physical fitness, and various health-related outcomes.
PREREQUISITE: Kinesiology 2210 and admission to BSc Kinesiology Program
Three lecture hours, three hours laboratory a week

3440 ACTIVE LIVING PRACTICUM
This course will provide students with in-depth experience with one-on-one personal training and client management. Students will work with community volunteers to develop and oversee progressive, personalized training programs with a focus on improving health and performance.
This course will be graded on a pass/fail basis.
PREREQUISITE: KINE 3430
Three lab hours per week
Three hours credit

3510 ETHICAL ISSUES IN FITNESS & HEALTH
This course explores philosophical issues related to fitness and health. Students will discuss and evaluate arguments focused on important ethical issues arising in practice.
Cross-listed with Foods & Nutrition 4010.

PREREQUISITE: Third year standing in Kinesiology or Foods & Nutrition, Kinesiology 2020 or Foods and Nutrition 2120
Three hours lecture a week

3520 CARE & PREVENTION OF ATHLETIC INJURIES
This course is an introduction to the prevention and recognition of injuries from accidents in athletic activities. Analysis of the incidence of these athletic injuries, assessment techniques and therapeutic aids, support methods, conditioning and reconditioning exercises are discussed.
PREREQUISITE: Kinesiology 2210
CO-REQUISITE: Kinesiology 3530 must be taken concurrently
Three hours lecture a week

3530 EXERCISE TECHNIQUE AND PRESCRIPTION FOR RESISTANCE TRAINING
This course will provide students with an applied learning experience on the fundamentals of exercise techniques, program design for resistance training, and administration of maximal strength testing. Theoretical concepts such as the musculoskeletal system, exercise selection, injury prevention, and periodization, as well as muscle adaptations, and age- and sex-related differences will be addressed.
PREREQUISITE: KINE 2510
C0-REQUISITE: KINE 3430 must be taken concurrently
Two hours lecture per week; One hour laboratory per week

3610 COMMUNICATIONS
(See Foods & Nutrition 2610).

3710 THE ECONOMICS OF SPORTS
(See Economics 3710).

3750 NUTRITION FOR FITNESS & SPORT
This course will focus on the role of nutrition in athletic performance and fitness. Topics include energy expenditure, macro- and micro-nutrients, hydration and dietary supplementation. Eating strategies for optimal performance and other current topics in sports nutrition will also be discussed.
Cross-listed with Foods & Nutrition 3750.
PREREQUISITE: Foods & Nutrition 2120
Three hours lecture a week

3820 PROGRAM PLANNING AND EVALUATION
In this course, students develop competency in planning, implementing, and evaluating programs for health promotion and family education. Topics include theories and models commonly used for program planning and behaviour change, assessing needs, selecting appropriate intervention strategies, identification and allocation of resources, the marketing process, and evaluation models and design.
Cross-listed with Foods & Nutrition 3820.
PREREQUISITES: Kinesiology 2320 or permission of the instructor

4090 SPECIAL TOPICS
A course in which topics or issues are explored outside the core area.

4110/4120 FIELD PLACEMENT I/II
These courses provide students with the opportunity to integrate theory into practice in a variety of multidisciplinary environments. Students complete a combination of supervised and independent work experience and share their experiences in the classroom.
PREREQUISITES: Kinesiology 3120, 3430, and permission of the Department Chair
Two lecture hours per week and 60 hours of field placement

4210 ERGONOMICS

This course will take an occupational biomechanics approach to ergonomics. This course will emphasize the knowledge and skills required to perform biomechanical analyses of workplace tasks, identify occupational ergonomic issues and use ergonomic assessment tools to modify physical demands to prevent work-related musculoskeletal disorders (WMSDs). Interdisciplinary approaches to human factors, the study of human-machine interfaces, will also be discussed. Skill development will be achieved through practical experiences.

PREREQUISITE: Kinesiology 3120

Three lecture hours

4310 EVIDENCE-BASED PRACTICE IN THE HEALTH SCIENCES

(See Foods & Nutrition 4310).

PREREQUISITE: Foods and Nutrition/Kinesiology 3310 or permission of the instructor

4320 MOVEMENT DISORDERS

This course is a study of movement disorders associated with a range of special populations from healthy older adults to those with neurological, degenerative or developmental disorders. Students will be provided with hands-on experiences using state-of-the-art techniques in motion analysis to understand the kinematics, kinetics, and neural control of standing posture, stepping, walking, and other activities of daily living. The graduate component of the course will require students to lead a seminar, and prepare a research proposal related to the study of a specific movement disorder. Cross-level listed with Human Biology 8320.

PREREQUISITE: Kinesiology 3120

Three lecture hours

**NOTE:** Responsibility for this course rests within the Department of Applied Human Sciences.

4330 PSYCHOLOGICAL ASPECTS OF SPORT PERFORMANCE

This course integrates theory, research, and applied perspectives to the area of sport psychology. Discussions will focus on theoretical constructs related to sport performance and provide students with a broad understanding of how athletes mentally train to reach high levels of proficiency in sport. Mental skills such as imagery, positive self-talk, goal setting, and other psychological skills will be introduced.

PREREQUISITE: Kinesiology 2020

Three semester hours of credit

4350 PRINCIPLES OF POSITIVE YOUTH DEVELOPMENT THROUGH SPORT

This course will explore the different aspects related to positive youth development through sport and investigate the most current research available to understand how positive experiences in sport can be achieved. Topics that will be addressed in the course include, but are not limited to, the multiple definitions of positive development in sport (life skills, developmental assets, 5 Cs, initiative), sport as a vehicle for positive development, and characteristics associated with a positive sport environment.The graduate component of the course will require students to lead a number of seminars throughout the semester, write a reflective journal, and prepare a grant application related to a topic of interest within the area of positive youth development.

Cross-level listed with Human Biology 8350.

PREREQUISITES AND/OR CO-REQUISITES: Kinesiology 2020; Graduate students need permission of the instructor

Three semester hours of credit

4400 SENIOR UNDERGRADUATE RESEARCH PROJECT

This course allows senior students majoring in Kinesiology to carry out a full-year research project under the supervision of a faculty member. Entry to this course is contingent upon the student finding a departmental faculty member willing to supervise the research and permission of the department.

PREREQUISITE: Fourth-year standing in the Kinesiology program

Six semester hours of credit

4420 DIRECTED STUDIES IN KINESIOLOGY

These courses may be offered at the discretion of the department to advanced students. Conditions under which they are offered and entry will be subject to the approval of the Chair of the Department and the Dean of Science.
(See Academic Regulation 9 for rules governing Directed Studies.)

4430 ADVANCED PHYSIOLOGY OF EXERCISE ADAPTION AND PERFORMANCE

This course focuses on factors governing chronic exercise adaptations, acute exercise performance and health. Course content explores concepts such as skeletal muscle repair, genetics of sport performance and the effects of various training modalities (HIIT, resistance etc.). Students will combine theoretical background with applied learning experiences in advanced fitness appraisal methods and techniques.
Cross-level listed with Human Biology 8430. Objectives, assessment and outcomes will be commensurate with the undergraduate level.
PREREQUISITE: Kinesiology 2210, 3430 and 3530
Three lecture hours, three laboratory hours per week

44500 PHYSICAL ACTIVITY AND CHRONIC DISEASE

This course will explore the relationship between physical activity, sedentary behaviour, and chronic disease. Students will be introduced to the pathophysiology of prevalent chronic conditions, as well as modifiable and non-modifiable risk factors. The impact of common medications and key considerations for developing safe and effective exercise programs for these populations will also be examined.
PREREQUISITE: Kinesiology 2210, Kinesiology 3430
Three lecture hours

4520 AGING: BIOLOGICAL & LIFESTYLE PERSPECTIVES

This course is an examination of the physiological changes that occur within the major organ systems (skeletal, muscular, neural, and cardiovascular) with normal human aging. The role of physical activity and nutrition to promote physiological function and quality of life as we age is emphasized. This course includes an examination of current biological theories of aging.
Cross-listed with Foods & Nutrition 4520.
PREREQUISITE: Biology 1220 and Foods & Nutrition 2120
Three semester hours of credit

4720 NEURAL CONTROL OF MOVEMENT

The aim of this course is to provide students with an understanding of the neural signaling, sensory processing, and nervous system pathways involved in human movement. Topics include nerve cell properties, functions of the proprioceptive, visual, and vestibular systems, as well as spinal circuits, descending pathways, and supraspinal contributions to movement. Course content will be applied to further student's understanding of movement-related neuropathologies.
PREREQUISITE: Kinesiology 2320
Three semester hours of credit

4760 APPLIED DATA ANALYSIS AND INTERPRETATION

The purpose of this course is to build on the material discussed in KINE/FN 3310. The course will explore more complex methodological and statistical approaches to data. The emphasis will be on understanding the process of data analysis and engage in applied manipulation and interpretation of data. In addition, the course will delve into the role that statistics play in shaping how we consume and develop knowledge.
PREREQUISITE: KINE 3310 OR FN 3310
Cross-listed: FN 4760
Three lecture hours

4810 ANALYSIS OF HUMAN MOVEMENT

This course is a continuation of Kinesiology 3120 and provides students with in-depth case studies of how physics concepts explain the optimal biomechanics for fundamental human movements and sports activities.
Cross-listed with Physics 3510.
PREREQUISITE: Kinesiology 3120. Note: Prerequisite for Physics 3510 – Physics 2420
Three hours lecture, three hours laboratory a week

4900 ADVANCED RESEARCH AND THESIS
The objective of this course is to provide research experience for the student who intends to take up further studies at a post graduate level or who is planning on entering a career where research experience in Kinesiology would be an asset. Students are provided with the opportunity to design, carry out, evaluate and write up a research project in an approved scientific format, while working under the direction of an advisor.
PREREQUISITE: Acceptance to the Honours Program
12 semester hours of credit

# 56. Arts Seminars

**Co-ordinator:** Philip Smith

First-year students seeking the challenge of in-depth examination of a theme in the humanities and social sciences, and enhancement of academic reading, writing, thinking, and oral presentation skills in a supportive seminar environment, are invited to consider enrolling in Arts 1010. These first-year seminars are led by selected third- and fourth-year students who are well prepared in the content area and with skills in seminar leadership. Both Arts 1010 and Arts 4000 are graded on a pass/fail basis.

1010 FIRST-YEAR ARTS SEMINAR
In this course, first-year students explore a theme in the humanities and social sciences in seminars led by pairs of selected third- or fourth-year Arts students. Theme topics vary from section to section of the course and are available on the University website and from the Co-ordinator. Multiple opportunities are presented for careful reading, participation in class discussions, oral presentations, and written work.
Enrolment is limited to a maximum of 14 students to enhance prospects for full engagement in the academic content of the seminar, in development of academic skills, and in community-building.
PREREQUISITE: Permission of the Co-ordinator
Three hours a week; Three semester hours of credit

1050 BIG IDEAS IN ARTS
Taught by faculty members from across the Faculty of Arts, this course offers students the opportunity to explore topics and controversies that define our contemporary world. Students will learn about and draw upon various fields of study within the Faculty of Arts. The instructors will determine the focus for each course, for example utopias and dystopias, prisons and prisoners, revolutions, travel and migration, sports and entertainment, science fiction/science fact, social media, celebrities and scandals, environmental challenges, good courts and famines, love and labour, religious faith and scientific knowledge, money and power, the future of work and play.
Limited to first-year Arts students and an enrolment of twenty-five.
Three semester hours of credit

4000 LEADING A FIRST-YEAR ARTS SEMINAR
In this course, pairs of selected third- or fourth-year students lead seminars for first-year students, exploring a theme in the humanities and social sciences. Seminar leaders propose to the Co-ordinator a theme for their semester-long seminar; develop, with appropriate faculty consultation, a proposed seminar syllabus, including reading lists, assignments, and class activities; lead a first-year seminar of 12 to 14 students; provide feedback on assignments; and assign a grade to students. Seminar leaders participate in workshops prior to the first semester, and, during the first semester, in a one-hour-per-week seminar with other student leaders and a faculty member, to address integration and analysis of the subject matter under consideration and to develop pedagogical skills in seminar design, active learning, responding to oral and written presentations, and shaping the classroom environment.
PREREQUISITE: Third-or fourth-year standing in Arts and permission of the instructor
Three-hour seminar a week
Six semester hours of credit

4010 CAPSTONE IN ARTS
This course for graduating Arts students examines the principles, purpose, and history of a liberal arts education. Students examine the place of the liberal arts outside the university setting and complete a career portfolio.
Cross-listed with English 4010.
PREREQUISITES: Fourth-year standing in Arts or permission of the instructor

# 57. Asian Studies

Edward Y. J. Chung, Coordinator
Brendan Wright, Assistant Professor

Asia is the home of the most ancient and longest-lived civilizations the world has witnessed and of most of the world's present population. Moreover, recent history would be impossible to write without frequent reference to Asia. Many of the momentous events of modern times can be evoked by the names of Asian countries: Japan, China, Korea, Vietnam, India, Pakistan, Southeast Asian countries, and Middle Eastern countries. The resolution of many of today's pressing issues requires an understanding of the needs and interests of the Asian peoples.

**REQUIREMENTS FOR A MINOR IN ASIAN STUDIES**

The Asian Studies minor consists of twenty-one (21) semester hours of credit (seven courses in total). To obtain a degree with a Minor in Asian Studies, a student must successfully complete:

- Either AST 2010 or AST 2020
- One course from the Asian Language Courses group
- One course from the Asian Studies Electives group
- Four courses taken from: the Asian Language Courses group, Korean Studies Courses group, Asian Studies Electives group, and/or Asian Studies Special Topics/Directed Studies group.

**Note:** Students are allowed to declare only one minor option: either Asian Studies or Korean Studies.

**REQUIREMENTS FOR A MINOR IN KOREAN STUDIES**

The Korean Studies minor consists of twenty-one (21) semester hours of credit (seven courses in total). To obtain a degree with a Minor in Korean Studies, a student must successfully complete:

- Either AST 2010 or AST 2020
- One Korean language course (either AST 1012 or AST 1022)
- Two courses from the Korean Studies Courses group (AST 2101, 2201, 2301, 2401, 3101, 3201, 3301)
- Three courses taken from: the Asian Language Courses group, Korean Studies Courses group, Asian Studies Elective group, and/or Asian Studies Special Topics/Directed Studies group.

**Note:** Students are allowed to declare only one minor option: either Asian Studies or Korean Studies.

**ASIAN STUDIES COURSES**

**Core Introductory**

2010 INTRODUCTION TO WEST ASIA

This course is an historical introduction to the peoples and cultures of West Asia. It explores the major cultural, intellectual, institutional, social, and religious features of the Middle East, central Asia, and the Indian subcontinent, covering each region's traditions and historical development. The course also deals with modernization and the impact of Western ideas, values, and institutions on modern West Asia. This is a required course for the Minor in Asian Studies. Cross-listed with History 2910.

Three hours a week

2020 INTRODUCTION TO EAST ASIA

This course is an historical introduction to the peoples and cultures of East Asia. It explores the major cultural, intellectual, institutional, social, and religious features of China, Japan, and Korea, covering each region's traditions and modern developments. This course also introduces Taiwan, Hong Kong, and the impact of Western ideas and institutions on modern East Asia. This is a required course for the Minor in Asian Studies.

Cross-listed with History 2920.
Three hours a week

**Special Topics and Directed Studies**

2090 SPECIAL TOPICS
Creation of a course code for special topics offered by Asian Studies at the 2000 level.

3090 SPECIAL TOPICS
Creation of a course code for special topics offered by Asian Studies at the 3000 level.

4090 SPECIAL TOPICS
Creation of a course code for special topics offered by Asian Studies at the 4000 level.

4510-4520 DIRECTED STUDIES
These courses may be offered to meet particular student needs or take advantage of special faculty expertise.
Three hours a week per course

**NOTE:** Directed Studies courses from other disciplines with an Asian focus may be accepted for credit towards the Minor with the approval of the Co-ordinator of Asian Studies. (See Academic Regulation 9 for Regulations Governing Directed Studies.)

**ASIAN LANGUAGE COURSES**

1010 INTRODUCTION TO [A SELECTED LANGUAGE NOT LISTED BELOW] I
This course is intended for students with no proficiency in the language. This course provides an introduction to the language in question, through the study of pronunciation, vocabulary and grammar. It includes numerous oral drills, frequent written exercises, short oral presentations and simple readings.
Cross-listed with Modern Languages 1010.
Three hours a week

1020 INTRODUCTION TO [A SELECTED LANGUAGE NOT LISTED BELOW] II
This course is a continuation of 1010. It provides further study of vocabulary and grammar and introduces aspects of civilization.
Cross-listed with Modern Languages 1020.
Three hours a week

1011 INTRODUCTION TO JAPANESE I
This course is intended for students with no proficiency in Japanese. It provides an introduction to the Japanese language, through the study of pronunciation, vocabulary and grammar. It includes numerous oral drills, frequent written exercises, short oral presentations and simple readings.
Cross-listed with Modern Languages 1011
Three hours a week

1012 INTRODUCTION TO KOREAN I
This course is intended for students with no proficiency in Korean. It provides an introduction to the Korean language, through the study of pronunciation, vocabulary and grammar. It includes numerous oral drills, frequent written exercises, short oral presentations and simple readings.
Cross-listed with Modern Languages 1012
Three hours a week

1013 INTRODUCTION TO MANDARIN CHINESE I
This course is intended for students with no proficiency in Mandarin Chinese. It provides an introduction to the Mandarin Chinese language, through the study of pronunciation, vocabulary and grammar. It includes numerous oral drills, frequent written exercises, short oral presentations and simple readings.
Cross-listed with Modern Languages 1013
Three hours a week

1021 INTRODUCTION TO JAPANESE II
This course is a continuation of AST 1011. It provides further study of Japanese vocabulary, grammar, and conversation and also introduces aspects of Japanese culture.

Cross-listed with Modern Languages 1021
PREREQUISITE: AST 1011, ML 1011, or permission of the instructor
Three hours a week

1022 INTRODUCTION TO KOREAN II

This course is a continuation of AST 1012. It provides further study of Korean vocabulary, grammar, and conversation and also introduces aspects of Korean culture.
Cross-listed with Modern Languages 1022
PREREQUISITE: AST 1012, ML 1012, or permission of the instructor
Three hours a week

1023 INTRODUCTION TO MANDARIN CHINESE II

This course is a continuation of AST 1013. It provides further study of Mandarin Chinese vocabulary, grammar, and conversation and also introduces aspects of Chinese culture.
Cross-listed with Modern Languages 1023
PREREQUISITE: AST 1013, ML 1013, or permission of the instructor
Three hours a week

**Korean Studies Courses**

2101 KOREAN CIVILIZATION

This course presents a general overview of Korean civilization from its prehistory to the nineteenth century by focusing on the emergence of a distinctive culture on the Korean peninsula. It discusses Korea's religious, cultural, social, and institutional traditions and developments. Primary and secondary sources are used to understand the trajectory of Korean civilization.
Three hours a week

2201 KOREAN SOCIETY AND CULTURE

This course presents the key themes and patterns of Korean society and culture: traditional and modern. Its topic coverage ranges from traditional beliefs, norms, customs, and values to contemporary education, ideas, ideologies, systems, lifestyles, women's roles, and other changes. The course also considers the impact of the modern West on the unity, transformation, and diversity of Korean society and culture.
Three hours a week

2301 KOREAN RELIGIONS

This introductory course explores Korean religions by covering shamanism, Buddhism, Confucianism, Christianity, and new religions such as Cheondogyo and Won Buddhism. It utilizes an interdisciplinary approach to discuss their histories, beliefs, rituals, moral and philosophical doctrines, and institutional changes. We also consider each religion's influence on contemporary Korean culture and national identity.
Cross-listed with Religious Studies 2301
Three hours a week

2401 MEDIA AND POP-CULTURE IN SOUTH KOREA

This course introduces the interplay between digital media and popular culture in South Korea. Its range of lessons includes blogging culture, webtoons, social media platforms, e-sports, SNS culture, e-journalism, the relationship between K-celebrities and digital media, etc. Students learn how these digital media platforms and new communication systems influence Korean people, society, economy, and politics.
Three hours a week

3101 MODERN KOREAN HISTORY

This course presents the intellectual, social, political, and economic history of modern Korea from the early twentieth century to the present day. It discusses modernization, the rise of modern ideologies such as nationalism, communism, and democracy, the Korean war, the transformation of Korean identity, urbanization, changing status and roles of women, and the religious landscape of today's Korea.
Three hours a week

3201 KOREAN ART: TRADITIONAL AND MODERN

This course discusses the key traditions and modern trends of art in Korea. Its topic range covers Korean art, artisan lives, and their heritage and contemporary changes. Students will explore various types of Korean artistic genres and art mediums, including painting, ceramics, papers/textiles, sculpture, and visual art.
Three hours a week

3301 KOREAN CINEMA

This seminar course is a historical and cultural study of "Korean-wave" cinema. It presents the famous examples of directors and genres from Korea's traditional drama and contemporary movies. Our basic goal is to understand Korean society and culture through its cinematic representations. Students also learn how Korean films deal with historical trauma such as the Korean War and reflect on social issues and cultural values.
Three hours a week

**ASIAN STUDIES ELECTIVES**

**Peoples and Cultures**
Sociology/Anthropology 2120 – Peoples of South Asia

**Religion and the Arts**
Religious Studies 2210 – Buddhism East and West
Religious Studies 2420 – The Hindu Religious Tradition
Religious Studies 2510 – Japanese Religion and Culture
Religious Studies 2610 – Religion and Philosophy in China

**History and Politics**
Political Science 3430 – Comparative Politics of South Asia
Political Science 3630 – Comparative Politics of the Middle East

PREREQUISITES: The Departments of Political Science, Religious Studies, and Sociology/Anthropology accept Asian Studies 2010/2020 as substitute prerequisites for any of their courses on this list.

# 58. Biology

## Biology

**Biology Faculty**

Donna Giberson, Professor Emerita
Christian R. Lacroix, Professor, Chair
Robert Hurta, Professor
Pedro Quijon, Professor
Marva I. Sweeney-Nixon, Professor
Michael R. van den Heuvel, Professor
Lawrence R. Hale, Associate Professor
Marina B. Silva-Opps, Associate Professor
Kevin L. Teather, Associate Professor
H. Carolyn Peach Brown, Professor
J. Patrick Murphy, Assistant Professor
P. Joel Ross, Assistant Professor
Stevan Springer, Assistant Professor
Denis Barabé, Adjunct Professor
David Cairns, Adjunct Professor
Simon Courtenay, Adjunct Professor
Michael Davies, Adjunct Professor
Bourlaye Fofana, Adjunct Professor
Adam Foster, Adjunct Professor
Xiang (Sean) Li, Adjunct Professor
Jason McCallum, Adjunct Professor
Andrew McKenzie-Gopsill, Adjunct Professor
Hai Nguyen, Adjunct Professor
Christine Noronha, Adjunct Professor
Rick Peters, Adjunct Professor
Jeremy Pittman, Adjunct Professor
Andre St-Hilaire, Adjunct Professor
Russell Wyeth, Adjunct Professor

**REQUIREMENTS FOR A MAJOR IN BIOLOGY**

A student enrolled in the Majors program in Biology will complete a minimum of 42 semester hours in Biology, and additional courses according to the program outlined below. Students may choose to take a general Biology degree or to obtain a Life Sciences or Environmental Biology specialization. Students in the 'pre-vet' program should follow the Life Sciences specialization, and may select courses of interest in animal biology or other areas.

**NOTE:** Biology 1310-1320 are introductory biology courses required for all students enrolled in the Biology Majors program. Biology 1310 and Biology 1320 must be completed prior to enrollment in Biology courses at the 3000 and 4000 levels.

**NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

**COURSE REQUIREMENTS FOR THE AREAS OF SPECIALIZATION**

Students may apply for a particular specialization any time before the end of their third year. Those who have not specified a specialization must meet the requirements for the General Biology Program. The Life Sciences specialization may be of interest to students who intend to pursue careers or graduate studies related to veterinary medicine ('pre-vet'), human health professions, or research in biomedical or biotechnological sciences. The Environmental Biology specialization may be of interest to students interested in careers or graduate studies related to biodiversity and conservation, or wildlife biology in the modern context of climate change and human interactions. The General Biology Program will give students a broad background in biology.

**GENERAL BIOLOGY PROGRAM**

| Core Biology Courses | **Hours Credit** |
|---|---|
| Biology 1310-1320 | 6 |
| Two of Biology 2020, 2040 and 2060 | 6 |
| Two of Biology 2210, 2220 and 2230 | 6 |
| Biology 3260 or 3820 | 3 |
| At least seven additional Biology electives at or above the 2000-level that fit the following criteria;<br>at least two must be at the 4000 level | 21 |
| Required courses in other departments, and electives to total 120 semester hours of credit: See list below. | |

**LIFE SCIENCES SPECIALIZATION (including Pre-Veterinary Medicine Stream)**

| Core Biology Courses | Hours Credit |
|---|---|
| Biology 1020 or 1030 | 3 |
| Biology 1310-1320 | 6 |
| Biology 2040 and 2060 | 6 |
| Biology 2210 and 2230 | 6 |
| Foods and Nutrition 2110 or Biology 2430 | 3 |
| Biology 3260 | 3 |
| Biology 3520 or Biology 3440 | 3 |
| At least six additional Biology electives at or above the 2000 level that fit the following criteria:<br>• at least two must be at the 4000 level and from the Life Sciences Specialization list;<br>• at least an additional two must be selected from the Life Sciences Specialization list;<br>• at least two must be a Biology course not on the Life Sciences specialization list.<br>Required courses in other departments, and electives to total 120 semester hours of credit. See list below. | 18 |

| ENVIRONMENTAL BIOLOGY SPECIALIZATION | |
|---|---|
| **Core Courses** | Hours Credit |
| Environmental Studies 1010 | 3 |
| Biology 1310-1320 | 6 |
| Biology 2020, 2040 and 2060 | 9 |
| Biology 2220 and 2230 | 6 |
| Biology 3820 | 3 |
| At least six additional Biology electives at or above the 2000 level that fit the following criteria:<br><br>• at least two must be at the 4000 level and from the Environmental Biology Specialization list<br>• at least an additional two must be selected from the Environmental Biology Specialization list<br>• at least two must be Biology courses not on the Environmental Biology Specialization list. | 18 |

Required courses in other departments, and electives to total 120 semester hours of credit. See list below.

**REQUIRED COURSES FROM OTHER DEPARTMENTS**

One of UPEI 1010, 1020, or 1030;
AND IKE 1040; AND One Writing Intensive Course

**Chemistry:**
Chemistry 1110 and 1120
Chemistry 2410-2420 or Chemistry 2430 (credit will not be given for both Chemistry 2430 and Chemistry 2410 or 2420)
Chemistry 3530 or Biology 2250 is required for the General Program and Life Sciences Specialization; Chemistry 3530 or Chemistry 2020 or Biology 2250 is required for the Environmental Biology Specialization (**credit will not be given for both Chemistry 3530 and Biology 2250)**

**Physics:**
Physics 1210 (or 1110) and Physics 1220 (or 1120)

**Mathematics and Statistics:**
Math 1120 or Math 1910
Statistics 1210
Note: Some students may wish to take upper level Mathematics, Chemistry, or Physics courses for which Mathematics 1910-1920 is required: therefore Mathematics 1910-1920 may be taken in place of Mathematics 1120 but the statistics requirement of Statistics 1210 remains. Credit will not be given for both Mathematics 1120 and Mathematics 1910.

**Other electives:**
The remaining number of semester hours required to complete the requirements for the Biology major will be made up from courses selected by the students.

Note: Please see Academic Regulation 14(4): Application of Certain Professional Courses.

**SUGGESTED COURSE SEQUENCES**

**First Year (10 courses – 30 semester hours)**
Introductory Biology (BIO 1310-1320)
Introductory Chemistry (CHEM 1110-1120)
Calculus (MATH 1120 or 1910)
Indigenous Teachings of Turtle Island (IKE 1040)
Physics for the Life Sciences (PHYS 1210 and 1220)
One of UPEI 1010, 1020, or 1030

- For the General Biology Program: one elective
- For the Environmental Biology Specialization: Introductory Environmental Studies (ENV 1010)
- For the Life Sciences Specialization: Human Health (BIO 1020) OR Animal Health (BIO 1030)

**Second Year (10 courses-30 semester hours)**
Organic Chemistry (CHEM 2410-2420 or 2430)
Statistics (STAT 1210)

- For the General Program:
  Two of: Botany (BIO 2020), Zoology (BIO 2040), Microbiology (BIO 2060)
  Two of: Cell & Molecular Biology (BIO 2210), Botany (BIO 2020), Genetics I (BIO 2230)
  Electives to make up 30 semester hours of credit
- For the Environment and Ecology Specialization:
  Botany (BIO 2020) AND Zoology (BIO 2040), AND Microbiology (BIO 2060)
  Ecology (BIO 2220) AND Genetics I (BIO 2230)
  Elective(s) to make up 30 semester hours of credit
- For the Life Sciences Specialization:
  Zoology (BIO 2040) AND Microbiology (BIO 2060)
  Cell and Molecular Biology (BIO 2210) AND Genetics (BIO 2223)
  Introductory Nutrition (FN 2110) OR Physics of the Human Body (BIO 2430)
  Electives to make up 30 semester hours of credit

**Third Year (10 courses-30 semester hours)**

- For the General Program:
  Physiology of Cells and Organisms (BIO 3260) OR Evolutionary Biology (BIO 3820)
  Biochemistry (CHEM 3530) OR Human Biochemistry (BIO 2250)
  5 Biology Electives at or above the 2000-level
  Electives to make up 30 semester hours of credit
- For the Environmental Specialization:
  Evolutionary Biology (BIO 3820)
  Environmental Chemistry (CHEM 2020) OR Biochemistry (CHEM 3530) OR Human Biochemistry (BIO 2250)
  Two Biology Electives at or above the 2000-level from the Environmental Biology Specialization List
  Two Biology Electives at or above the 2000-level chosen from courses not on the Life Sciences Specialization List
  Electives to make up 30 semester hours of credit
- For the Biology of Health and Diseases Specialization:
  Physiology of Cells and Organisms (BIO 3260)
  Molecular Biology Research Techniques (BIO 3520) OR Biomedical Imaging (BIO 3440)
  Biochemistry (CHEM 3530) OR Human Biochemistry (BIO 2250)
  Two Biology Electives at or above the 2000-level from the Life Sciences Specialization List

One Biology Elective at or above the 2000-level from courses not on the Life Sciences Specialization List
Electives to make up 30 semester hours of credit

**Fourth Year (10 courses)**
Two Biology electives at 4000 level from the required specialization lists
Electives to make up 30 semester hours of credit

**LIST OF COURSES THAT MAY BE USED TOWARDS THE SPECIALIZATION AREAS IN BIOLOGY**

Certain courses like BIO 4410 (Directed studies) or BIO 4090 (Special Topics) courses, or courses transferred from other universities for Biology credit, may be credited toward a specialization with prior permission of the Chair.

**ELECTIVE COURSES IN THE LIFE SCIENCES SPECIALIZATION**

*Biology 2260—Human Anatomy and Histology
Biology 2310- Biological Physics of Molecules
Biology 2430—Physics of the Human Body
*Biology 3110—Plants and People
Biology 3750—Medical Microbiology
Biology 3220—Bioinformatics
*Biology 3230—Genetics II
*Biology 3040—Vertebrate Zoology
*Biology 3240—Comparative Vertebrate Anatomy
*Biology 3350—Animal Behaviour
Biology 3420- Introduction to Medical Physics
Biology 3440- Medical Imaging
*Biology 3710—Life of Mammals
Biology 3720- Virology
*Biology 4010—Human Physiology and Pathophysiology
*Biology 4020—Comparative & Environmental Vertebrate Physiology
*Biology 4030—Developmental and Stem Cell Biology
*Biology 4040—Endocrinology
*Biology 4050—Medical Biology
Biology 4320- Biological Physics of Cells
Biology 4350—Biology of Sex
Biology 4710—Molecular Biotechnology
*Biology 4720—Biology of Cancer and Other Diseases
Biology 4750—Basic and Clinical Immunology

**ELECTIVE COURSES IN THE ENVIRONMENTAL BIOLOGY SPECIALIZATION**

Biology 2130-Integrated Watershed Management
Biology 2630- Climate Physics
*Biology 3020-Aquaculture and the Environment
*Biology 3040—Vertebrate Zoology
*Biology 3140—Plant Community Ecology
*Biology 3270—Field Coastal Ecology
*Biology 3350—Animal Behaviour
*Biology 3610—Biology of Fishes
*Biology 3710—Life of Mammals
*Biology 3910—Marine Biology
*Biology 4110—Wildlife Biology

*Biology 4130—Conservation Genetics
*Biology 4520—Biogeography and Macroecology
*Biology 4540—Biodiversity and Conservation Ecology
*Biology 4620—Watershed Ecology
*Biology 4650—Marine Community Ecology
*Biology 4660—Plant-Animal Interactions
*Biology 4850—Environmental Toxicology

OTHER BIOLOGY ELECTIVES NOT DESIGNATED AS SPECIALIZATION ELECTIVES IN THE ENVIRONMENTAL BIOLOGY OR LIFE SCIENCES
*Biology 2020—Botany
*Biology 2040—Zoology
*Biology 2060—Microbiology
Biology 2310- Biological Physics of Molecules
Biology 2430 Physics of the Human Body
Biology 2630 Climate Physics
Biology 3120—History of Biology
Biology 3310- Research Methods and Communications in Biology
Biology 3420 Introduction to Medical Physics
Biology 3440 Biomedical Imaging
*Biology 3520—Molecular Biology Research Techniques
Biology 3620- Computational Biology
Biology 3820- Evolutionary Biology
Biology 3900- Work Integrated Learning in the Biological Sciences
*Biology 4210—Design and Analysis of Biological Studies
Biology 4320 Biological Physics of Cells

Note: Students who plan to complete a minor in Medical and Biological Physics should consult with the Physics Department to verify the eligibility of Biology courses that are cross-listed with Physics courses.

**REQUIREMENTS FOR HONOURS IN BIOLOGY**

The Honours program in Biology is designed to provide research experience at the undergraduate level within the BSc program. It is available to students with a strong academic background who intend to continue studies at the postgraduate level in Biology or some related field, or to students who intend to pursue a career where research experience would be an asset. Students may also carry out a research project by registering for Biology 4400. ( 6 semester hours of credit.)

The Honours program differs from the BSc Major program in having a research and thesis component. The total number of courses is the same, five courses per semester for eight semesters, but the honours thesis course counts as 12 credits, so the total semester hours of credit for the Honours is 126, compared to 120 hours for the BSc Major. The research component is to be completed within the BSc program and may require the equivalent of one summer of research (four months) preceding the graduating year during which Biology 4900 (Advanced Research and Thesis) will be taken.

**COURSE REQUIREMENTS OF THE HONOURS PROGRAM**

Students may complete an Honours Degree in the General Biology Program or of the two Biology Specializations (Life Sciences, or Environmental Biology). The program is the same as the Majors program with the addition of Biology 4900 (Advanced Research and Thesis) , Biology 3310 (Research Methods and Communications in Biology) and two other Biology electives. These would normally be completed in the student's final year.

Students who have completed a BSc Major in Biology at UPEI can be admitted to the Honours Conversion Program and achieve the BSc Honours designation by completing the additional course requirements of the program.

**ENTRANCE REQUIREMENTS**

For admission to the Honours program or Honours Conversion program, students should have a combined minimum average of 70% in all previous courses and a combined minimum average of 75% in all previous biology courses taken. Permission of the Department is also required and is contingent on the student finding a thesis advisor, on being assigned an advisory committee, on acceptance of the research project by the Biology Department, and on general acceptability. Students interested in doing Honours should consult with the Departmental Chair or the Coordinator of the Honours program as early as possible and apply to the program after their third year of study.

**PERFORMANCE**

To graduate with a BSc Honours in Biology, students must complete 126 semester hours of credit which includes 12 semester hours of credit for the research and thesis, attain a minimum average of 75% in all Biology courses combined, and achieve a minimum overall average of 70% in all courses submitted for the degree. Students failing to meet these requirements may transfer their program to the BSc Major in Biology or to other degree programs.

Note: Detailed information the Honours Program is available from the Department.

**REQUIREMENTS FOR MINOR IN BIOLOGY**

To qualify for a minor, students must complete a total of 21 semester hours of credit in Biology, 6 semester hours of which are required courses.

The requirements for a minor in Biology are:
Biology 1310-1320 (6 hours of credit) and any 5 Biology electives at 2000 level or above (15 semester hours)
Total Semester Hours = 21

# CO-OPERATIVE EDUCATION in BIOLOGY

The UPEI Co-operative Program is an integrated approach to university education which enables students to alternate academic terms on campus with work terms in suitable employment. The success of such programs is founded on the principle that students can apply theoretical knowledge from course studies in the workplace and return to the classroom with practical workplace experience. Students who successfully complete all the requirements of the program will have the notation entered on their transcripts and on the graduation parchment.

Students accepted into the program complete at least three paid work terms of 14 to 16 weeks duration, and a series of Career Skills courses. Credits earned through completion of work terms are counted as general electives.

The Co-operative option is available to full-time students in the Biology Major or Honours program. Applications to the Co-operative Education Program are normally made after completion of the first year of study.

See the Co-operative Education Program section of the UPEI Academic Calendar for more information.

# BACHELOR OF WILDLIFE CONSERVATION

This program combines the practical, theoretical and analytical strengths of courses provided by accredited NAWTA (North American Wildlife Technology Association) programs, and by the University of Prince Edward Island, for students interested in obtaining rigorous training in wildlife conservation. Foundational science courses as well as senior analytical courses in the environmental sciences at the university level complement the strong field training acquired during the college diploma program.

Students graduating from an accredited NAWTA college with a minimum 70% average are eligible to apply to UPEI for formal entry into the Bachelor of Wildlife Conservation degree program. Entry to the program is restricted to September of each year and applications must be received by June 1st. Once accepted to UPEI, students will undertake a rigorous program of 20 courses, 17 of which will be required, with an additional 3 courses to be chosen from a list of acceptable electives. Students who are accepted to the program must be able to demonstrate that they have been immunized for the prevention of Rabies, or obtain a rabies vaccination during the first year of their program. Students are subject to all of the Academic Regulations of the University.

**(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

**9 Core Biology courses:**
Biology 1310—Introduction to Cell and Molecular Biology
Biology 2220—Ecology
Biology 3310—Research Methods and Communications in Biology
Biology 3820—Evolutionary Biology
Biology 3910—Marine Biology OR Biology 4620—Watershed Ecology
Biology 4130—Conservation Genetics
Biology 4150—Wildlife Health
Biology 4520—Biogeography and Macroecology OR Biology 4540—Biodiversity and Conservation Biology
Biology 4910—Wildlife Conservation and Environmental Management Practicum

**8 Core Courses in Other Departments:**
Environmental Studies 1010 – Introduction to Environmental Studies
Environmental Studies 2120 – Earth's Physical Environment
Environmental Studies 4310 – Environmental Impact Assessment
Economics 1010 – Introductory Microeconomics
Economics 2110 – Introduction to Resource Economics
Economics 2150 – Environmental Economics
UPEI 1010 or UPEI 1020 or UPEI 1030
IKE 1040- Indigenous Teachings of Turtle Island

Students complete the degree requirements by choosing two science and two non-science electives.

# BIOLOGY COURSES

**NOTES REGARDING 1000-LEVEL BIOLOGY COURSES**

- Biology 1310 and 1320 are Introductory Biology courses and are the prerequisites for upper level Biology courses. Take these courses if you plan to complete a Biology major or minor, or if your program requires one or both courses. Biology 1010 is not accepted for credit within the Biology Majors program, but can fulfill a general elective degree requirement.
- Biology 1020 and 1030 are introductory courses for students in the Life Science specialization, but any student may take these courses.
- Biology 1060 is restricted to students enrolled in programs offered by the Faculty of Nursing.

1010 CURRENT ISSUES IN ENVIRONMENTAL BIOLOGY
This course considers environmental problems from a biological perspective. Human ecology, populations, pollution,

resource use and other topics are discussed critically.
Lectures and field trips to the equivalent of six hours a week

1020 HUMAN HEALTH
An introductory course dealing with the structure and function of the human body as the biological foundation of human health and disease. Course topics will include a survey of human organ systems and prevalent diseases of the adult human, introducing concepts of disease prevention and wellness.
Three hours lecture a week

1030 ANIMAL HEALTH
An introductory course dealing with current issues related to animal health and disease in a global context. Course topics will introduce causes of disease in animals and the principles of maintaining healthy animals, as well as an interdisciplinary overview of the role and importance of animal health in modern society.
Three hours lecture

1060 INTRODUCTORY MICROBIOLOGY FOR HEALTH SCIENCES
This course is an introduction to the basic concepts and principles of microbiology. The structure and function of the major groups—viruses, bacteria, fungi and protozoa—which affect human health, are studied. Topics include the process of disease transmission, immunology, physical and chemical methods of disease prevention and control, as well as major infectious diseases of the body systems.
PREREQUISITE: Admitted to the Nursing
Three hours of lecture and two hours of laboratory per week
**NOTES:** Students will not receive credit for both BIO 1060 and BIO 2060.

1210 HUMAN ANATOMY
This course covers the structure of the human body from cells to tissues to organ systems. The gross anatomy and histology of the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, respiratory, lymphatic, digestive, urinary and reproductive system of humans is surveyed.
Cross-listed with Biology 2260.
Three hours lecture, 2.5 hours laboratory a week
RESTRICTION: Must be a student in the Nursing or Kinesiology program.
**NOTE:** Students will not get credit for both Biology 1210 and Biology 2260

1220 HUMAN PHYSIOLOGY
This course deals with the functioning of the human body. The physiology of the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary and reproductive systems is surveyed.
PREREQUISITE: Biology 1310 or Biology 1210
Three hours lecture, 2.5 hours laboratory a week

1310 GENES, CELLS AND MACROMOLECULES
This course provides an introduction to the science of Biology, with emphasis on life processes at the cellular and molecular level. The course covers the cellular nature of life, the physical basis of heredity, development and the chemistry of life. Part of the laboratory component involves training in microscopy and molecular techniques.
Three hours lecture, three hours laboratory a week

1320 ORGANISMS AND THEIR ENVIRONMENT
This course provides an introduction to the science of Biology, with emphasis on organismal biology and unifying themes. The course deals with evolution, the diversity of life, form and function, and ecology. Part of the laboratory component involves training in dissection techniques.
Three hours lecture, three hours laboratory a week

2020 BOTANY

A survey of bacteria, fungi, algae, and major plant groups (bryophytes, vascular cryptogams and seed plants) emphasizing morphology, life histories and evolutionary relationships.

PREREQUISITE: Biology 1320

Three hours lecture, three hours laboratory a week

2040 ZOOLOGY

A survey of the major groups of animals, beginning with the sponges and ending with the mammals. Topics emphasize evolutionary relationships, development, structure and function, and ecology. Laboratory work includes the study of selected representatives from each of the major groups.

PREREQUISITE: Biology 1320

Three hours lecture, three hours laboratory a week

2060 MICROBIOLOGY

This course deals with basic microbial biology including discussion of industrial, ecological, environmental and medical microbiology, and other relevant topics. Laboratory sessions provide training in relevant microbiology techniques/ approaches.

PREREQUISITE: Biology 1310

Three hours lecture, three hours laboratory a week

**NOTE:** Additional lab time may be required outside of scheduled laboratory periods.

2090 SPECIAL TOPICS

Creation of a course code for special topics offered by Biology at the 2000 level.

2130 INTEGRATED WATERSHED MANAGEMENT

This field course focuses on integrated water management at the watershed level with a focus on the Prince Edward Island context. The physical and biological characteristics of watersheds will be explored along with planning approaches, adaptive management strategies, watershed governance, as well as Indigenous perspectives.

Three hours lecture, three hour field

2210 CELL AND MOLECULAR BIOLOGY

This course examines the structure and function of living cells. Topics include macromolecules, organelles, membranes, cellular energetics, cell signalling, gene expression, cell division, cell death and special topics in biomedical cell and molecular biology.

PREREQUISITE: Biology 1310

Three hours lecture, one hour tutorial a week

2220 ECOLOGY

This course introduces and discusses the basic themes and concepts of Ecology. Students examine the hierarchy of Ecology by investigating individual organisms, populations, communities, and ecosystems. Topics covered in the course include: natural selection, energy flow, nutrient cycling, population growth, plant/animal interactions and biodiversity. The course involves reading and discussion of current and classical literature in the field. Laboratories will primarily consist of field investigations and analysis of field data.

PREREQUISITE: Biology 1320 or registration in the Bachelor of Wildlife Conservation program

Three hours lecture, three hours laboratory a week

2230 GENETICS I

The goal of this course is to learn how genetic logic helps us understand biology. We will think about organisms as the result of information passed each generation from parent to offspring. We will apply genetic principles to all of biology–from interactions between molecules and cells, to organismal traits, to evolutionary change in populations. We will also explore the many uses of genetic information. We will learn how genetic patterns in the real world can help us

conserve species or trace how diseases spread. We will also see how manipulating genetic information can help us reveal gene function and engineer useful traits into organisms. Genetics has a strong emphasis on problem solving, probability, and statistics.
PREREQUISITE: Biology 1310
Three hours lecture, one hour tutorial a week
**NOTES:** Biology majors and minors are expected to take BIO 2230. Students will not get credit for both BIO 2230 and BIO 2240.

2310 BIOLOGICAL PHYSICS OF MOLECULES

2240 HUMAN GENETICS
The principles of genetics are considered in a broad perspective. Topics include chromosome structure and behaviour, molecular biology and biochemistry of genes, DNA replication and mutation, recombinant DNA, Mendelian inheritance, and inheritance of linked genes. There is a strong emphasis on human genetics in tutorials.
Cross-listed with Biology 2230.
PREREQUISITE: Biology 1310
RESTRICTION: Must be a student in the Paramedicine program.
Three hours lecture, one hour tutorial a week
**NOTES:** Students will not get credit for both BIO 2230 and BIO 2240.

2250 HUMAN BIOCHEMISTRY
This course is an introduction to the major classes of biomolecules and their main metabolic pathways. Special attention is paid to biochemistry in the context of human metabolism, nutrition and disease.
PREREQUISITE: Biology 1310 and Chemistry 1110
Three hours lecture a week
**NOTE:** Students will not get credit for both BIO-2250 and CHEM-3530.

2260 HUMAN ANATOMY AND HISTOLOGY
This course covers the structure of the human body at both the macroscopic and microscopic levels and gives the student a thorough overview of human cells, tissues, organs and organ systems. While both anatomy and histology will be integrated throughout the course, lectures focus on gross anatomy while laboratories emphasize the structure of tissues (histology)in the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, respiratory, lymphatic, digestive, urinary, and reproductive systems.
Cross-listed with Biology 1210.
PREREQUISITE: Biology 1320
Three hours lecture, three hours laboratory a week
**NOTE:** Students will not get credit for both Biology 1210 and Biology 2260.

2310 BIOLOGICAL PHYSICS OF MOLECULES
An introduction to molecular biology from a physics perspective. Topics covered include diffusion and random walks; fluid mechanics, especially low Reynolds number; single molecule mechanics of biopolymers; statistical physics in a form suitable for single-molecule experiments; co-operativity and self-assembly; molecular machines; and neural signaling. Techniques and methodologies, both experimental and computational, are included in the presentation of each topic.
Cross-listed with Physics 2310
PREREQUISITE: Physics 1120 or Physics 1220, and Mathematics 1120 or Mathematics 1910, or permission of the instructor.
Three hours lecture per week

2430 PHYSICS OF THE HUMAN BODY
This course provides students with an introduction to the physics of the human body. Physics concepts such as mechanics, energy, work, fluid statics and dynamics, sound, optics, electricity, and magnetism will be applied to better understand the functioning of the human body
Cross-listed with Physics 2430

PREREQUISITE: Physics 1120 or Physics 1220. Otherwise, permission of the instructor is required. It is highly recommended that at least six semester hours of credit in Biology be completed prior to taking this course
Three hours of lecture per week

2630 Climate PHYSICS

The course is an introduction to the physics of climate change. Topics include understanding, evaluating and interpreting climate observations and associated physical data; atomic and molecular physics to describe atmospheric processes; basic fluid dynamics to describe atmospheric and oceanic circulation, thermodynamics, and solar radiation to describe the global energy balance; instrumentation and measurement physics with a focus on atmospheric temperature, humidity, and pressure; computational physics and modeling of climate systems and processes. Field trips may be offered
PREREQUISITE: Chemistry 1110, and Math 1120 or Math 1910

3020 AQUACULTURE AND THE ENVIRONMENT

This field course will examine interactions between aquaculture and the environment by providing an overview of the global field of aquaculture with an emphasis on the aquaculture industry on Prince Edward Island. Topics covered included policy and regulation, water quality, production systems, disease and pest management, and the effect of aquaculture on the environment and human communities.
PREREQUISITE: A declared Major in Biology or permission of the instructor.
Three hours lecture, three hours field

3040 VERTEBRATE ZOOLOGY

This course focuses on the taxonomy and evolution of vertebrates. Coverage of taxonomic orders and families may include discussion of systematics, taxonomy, evolution, palaeontology, zoogeography, and unique morphological, physiological, ecological, and behavioural characteristics. The laboratory component is dedicated to learning basic vertebrate morphology and taxonomic relationships among and within vertebrate groups using preserved specimens and dissections.
PREREQUISITE: Biology 1310, 1320 and 2040. Students registered in the Bachelor of Wildlife Conservation Program may take this course after completion of Biology 1310 and Biology 2220.
Three hours lecture, three hours laboratory a week

3090 SPECIAL TOPICS

Creation of a course code for special topics offered by Biology at the 3000 level.

3110 PLANTS AND PEOPLE

This course surveys in detail the major current uses of plants, their history, morphology, and chemistry. Laboratory periods consist of demonstrations of plant structures and products derived from plant sources, practical exercises, and field trips.
PREREQUISITE: Biology 1310, 1320 and 2020
Three hours lecture, three hours laboratory a week

3120 HISTORY OF BIOLOGY

This course surveys the major advances in the biological sciences from prehistory to modern times. Emphasis is placed on the effect which past ideas have had on the evolution of Biology.
PREREQUISITE: Biology 1310, 1320 and at least 2 Biology courses at the 2000 level or above. Students registered in Bachelor of Wildlife Conservation Program may take this course after completion of Biology 1310.
Three hours lecture and one hour discussion group a week

3140 PLANT COMMUNITY ECOLOGY

A study of algae, fungi and major plant groups such as bryophytes, vascular seedless and seed plants. Emphasis will be placed on identification of common species, plant taxonomy and ecology.

PREREQUISITE: Biology 1310, 1320 and 2220
Three hours lecture; three to four hours laboratory a week, some of which consist of field trips

3220 INTRODUCTION TO BIOINFORMATICS
(See Computer Science 3220)

3230 GENETICS II
The principles of genetics at a more advanced level are considered in the context of practical laboratory investigation, on-line genetic data resources, and examination of current scholarly literature. Laboratory work will be conducted with fruit flies (Drosophila) and yeast (Saccharomyces), and will include molecular biological techniques.
PREREQUISITE: Biology 1310, 1320 and 2230
Three hours lecture, three hours laboratory a week

3240 COMPARATIVE VERTEBRATE ANATOMY
This course builds upon some of the material presented in Biology 2040, providing students with a much more detailed look at the structure and function of various organs and organ systems of the vertebrate body. Dissections and display material are used during laboratories to allow students to compare and contrast these systems in representative vertebrates.
PREREQUISITE: Biology 1310, 1320, and 2040 or 2220. Students registered in the Bachelor of Wildlife Conservation Program may take this course after completion of Biology 1310 and Biology 2220.
Three hours lecture, three hours laboratory a week

3260 PHYSIOLOGY OF CELLS AND ORGANISMS
This course introduces students to basic themes and concepts in physiology. Students explore mechanisms underlying regulatory processes in cells, and the ways organisms function. Topics include feedback systems, signalling, membrane potentials, muscle and nerve function, endocrine, cardiopulmonary and osmoregulatory form and function in animals, carbohydrate synthesis and transport in plants, and plant responses to stress.
PREREQUISITES: Biology 1310, 1320 and 2210 and 2 core Biology courses at the 2000 level
Three hours lecture, three hours laboratory a week

3270 FIELD COASTAL ECOLOGY
Field coastal ecology is an intensive field-oriented course designed to provide 3rd-4th year students of the Biology program with knowledge and experience surveying and monitoring the organisms and habitats best represented in coastal Prince Edward Island. Using a hands-on approach, students are expected to learn and apply the sampling protocols that are most useful to each type of habitat. Although the course will have a broad theoretical component (early daily lectures on community types and sampling design), its main focus will be on activities to be developed in the field and subsequently in the laboratory. These activities include sampling, processing, and identification or organisms collected in the most typical benthic habitats of the island.
PREREQUISITES: Biology 1310, 1320, 2020, 2040 and 2220. Students registered in Bachelor of Wildlife Conservation Program may take this course after completion of Bio 1310 and Bio 2220.
Four hours lecture, four hours laboratory/field trips per day for two weeks (summer intensive course)

3310 RESEARCH METHODS AND COMMUNICATIONS IN BIOLOGY
This course is an introduction to research methods and the basic principles of scientific communication, as expressed in the Biological Sciences. Lectures, exercises and assignments focus on science writing, critical reading, the principles of study design, and the analysis, interpretation, and presentation of biological data.
PREREQUISITES: Biology 1310, 1320 and 3 Biology courses at the 2000 level or above
Three hours lecture, One hour Tutorial per week

3350 ANIMAL BEHAVIOUR
This course explores various aspects of animal behaviour, primarily from an evolutionary perspective. Topics covered

include the development and expression of behaviour, animal communication, predator-prey interactions, reproductive and parental strategies of males and females, and the application of an evolutionary approach to the study of human behaviour. Laboratories focus on how behavioural data are collected and interpreted.
PREREQUISITES: Biology 1310, 1320, 2040 and 2220. Students registered in the Bachelor of Wildlife Conservation Program may take this course after completion of Biology 1310 and Biology 2220.
Three hours lecture, three hours laboratory a week

3420 INTRODUCTION TO MEDICAL PHYSICS

This course provides students with an introduction to physics methods and methodology in medicine. Topics include: radiation sources and transport in tissues, radiation dosimetry and therapy, and applications of lasers and ultrasound in medicine
Cross-listed with Physics 3420
PREREQUISITE: Biology 1310, and Physics 1120 or Physics 1220. Otherwise, permission of the instructor is required
Three hours lecture per week

3440 BIOMEDICAL IMAGING

This course is an introduction to the physics of medical imaging for the four main modalities: x-ray, ultrasound, radionuclide, and magnetic resonance imaging. Basic concepts of light microscopy and image formation will also be included. The primary focus is on physical principles, instrumentation, image interpretation and application
Cross-listed with Physics 3520
PREREQUISITE: Biology 1310, and Physics 1120 or Physics 1220, or permission of the instructor
Three hours lecture per week

3520 MOLECULAR BIOLOGY RESEARCH TECHNIQUES

This course introduces students to basic techniques in molecular biology and genomic science. Lectures will cover theoretical aspects of research in the biologic sciences, such as cloning, PCR, DNA sequence analysis, genomics, and proteomics. In laboratories, students will work on projects to learn current methodologies in molecular biology such as keeping laboratory notebooks, basic cloning, PCR, gel electrophoresis, use of sequence databases, and analysis of transcriptomics/proteomics datasets.
PREREQUISITES: Biology 1310, 1320 and Biology 2210, 2230 or 2240
Two hours lecture, four hours lab per week

3610 BIOLOGY OF FISHES

An introductory course on the Biology of fishes outlining classification, comparative structure and function of the systems of major fish groups. Emphasis will be placed on the diversity, distribution, ecology and evolution of freshwater and marine fishes of the Atlantic region. Laboratory periods will involve field and laboratory studies.
PREREQUISITE: Biology 1310, 1320 and 2220. Students registered in the Bachelor of Wildlife Conservation Program may take this course after completion of Biology 1310 and Biology 2220.
Three hours lecture, three hours laboratory a week

3620 COMPUTATIONAL BIOLOGY

This course is an introduction to using computational tools to understand biological systems. A practical introduction to programming in R and the use of web-based tools to analyze large biological datasets is provided. No prior programming experience is required.
PREREQUISITE: Biology 1310 and Biology 2210, 2230 OR 2240 – Must be completed prior to taking this course.
Three hours lecture a week

3710 LIFE OF MAMMALS

This course is an introduction to the study of the animals that constitute the class Mammalia. Topics include taxonomic classification, zoogeography, reproductive strategies, ecology, behaviour, and economic considerations. Laboratory exercises include several projects involving field work with the mammalian fauna of Prince Edward Island.
PREREQUISITES: Biology 1310, 1320, 2040 and 2220. Students registered in the Bachelor of Wildlife Conservation

program may take this course after completion of Biology 1310 and Biology 2220.
Three hours lecture, three hours laboratory a week

3720 VIROLOGY

This course introduces fundamental concepts in molecular virology, focusing on virus-host interactions. Principles in cell & molecular biology, genetics, and biochemistry are used to explain details of the viral life cycle. Topics include viral attachment and entry, gene expression, replication, packaging/transmission, antiviral immunity & immune evasion, and special topics in biomedical virology.
PREREQUISITE: BIO-2210, BIO-2230 or BIO-2240, BIO-2250 or CHEM-3530
Three hours lecture a week

3750 MEDICAL MICROBIOLOGY

The basic principles of microbiology, biochemistry, molecular biology/genetics are used to discuss aspects of microbial diseases with a particular focus on the specific mechanisms whereby disease occurs. Topics include drug-resistance development, resistance mechanisms, issues in infection prevention and control, and emerging pathogens.
PREREQUISITE: Biology 1310, 1320 and 2060
Three hours lecture a week

3820 EVOLUTIONARY BIOLOGY

This course is designed to provide students with a better understanding of evolution and how it applies to other biology courses and to their lives in general. We first trace the rise of evolutionary thought, examining the evidence for different evolutionary processes. We then more closely examine the mechanisms that result in evolutionary change. Subsequently, we look at the history of life and examine topics such as speciation, great moments in evolution, human evolution and extinction. Lastly, we deal with the diverse areas of study that benefit from an understanding of evolution.
PREREQUISITE: Biology 1310, 1320 and Biology 2220 or Biology 2230. Students registered in the Bachelor of Wildlife Conservation Program may take this course after completion of Biology 1310 and Biology 2220.
Three hours lecture, three hours laboratory a week

3900 WORK INTEGRATED LEARNING IN THE BIOLOGICAL SCIENCES*

This course provides students with a volunteer work experience (work-integrated learning) in a biological discipline of their choice. Students will first complete a set of goal-oriented learning modules ('UPEI Digital Badges') through the Experiential Education Department, followed by a minimum of 20 hours of volunteer experience or job shadowing with an organization approved by the Biology Department. A final requirement will be the submission of a substantive e-portfolio.
PREREQUISITE: At least 6 Biology courses successfully completed AND permission of the instructor
Note: Students will choose (at their discretion) and complete a minimum of 12 workshops (18 hours) in the digital badge program; the job experience placement will consist of a minimum of 20 hours; pre and post-placement meetings with coordinators will also take place as required.
*Prior to being registered in the course, students must submit an application to the Department.

3910 MARINE BIOLOGY

An introduction to the principles of Marine Biology emphasizing marine environments and organisms of PEI and the Eastern Atlantic region. Laboratory periods will involve field and laboratory studies.
PREREQUISITES: Biology 1310, 1320, 2020 and 2040. Students registered in the Bachelor of Wildlife Conservation Program may take this course after completion of Biology 1310 and Biology 2220.
Three hours lecture, three hours laboratory a week

4010 HUMAN PHYSIOLOGY & PATHOPHYSIOLOGY

This course is an in-depth overview of the function of human organ systems emphasizing the effects of disease states. It is designed for students interested in human health professions, such as Nurse Practitioners. The course covers nervous & endocrine systems and disorders; cardio- pulmonary, blood, immune & exercise physiology and related diseases; fluid

and metabolic balance and related disorders; and pregnancy. Laboratories focus on physiological principles, diseases and application of knowledge in case studies.
Cross-level listed with Nursing 6010.
PREREQUISITES: Biology 1310, 1320, 3260 or entry to the Master of Nursing, Nurse Practitioner stream
Three hours lecture, three hour laboratory a week

4020 COMPARATIVE & ENVIRONMENTAL VERTEBRATE PHYSIOLOGY
A study of animal function emphasizing complex regulatory and metabolic mechanisms, the relationships between organ systems, and interactions between animals and their environment. Weekly laboratory exercises and a mini-research project will demonstrate experimental physiologic principles.
PREREQUISITES: Biology 1310, 1320, 2040 and 3260
Three hours lecture, three hours laboratory a week

4030 DEVELOPMENTAL AND STEM CELL BIOLOGY
This course provides a comprehensive overview of the role of stem cells in mammalian development. The primary focus of the course is the shared genetic and epigenetic events that underlie embryonic and postnatal development. Mouse models and human systems are studied to highlight general principles of ontogeny. The course involves reading research articles, writing assignments, student presentations, and discussions.
Note: BIO 3310 and 3520 are recommended, but not required.
PREREQUISITES: Biology 1310, 1320, and 2210
Three hours lecture a week

4040 ENDOCRINOLOGY
This course is an in depth study of animal hormones, with a focus on modern-day endocrinology issues of interest to students. Topics include anatomy and physiology of hormones and glands, hormone actions from molecular to whole organism levels, biorhythms, reproduction and development, comparison of endocrine systems among animal classes, hormones in disease and medicine, eco-toxicological effects of hormones, and methods used to study endocrinology.
PREREQUISITES: Biology 3260. Students in the BSc Paramedicine program may take Biology 4040 after Biology 1310.
Three hours lecture

4050 MEDICAL BIOLOGY
This course extends principles of biochemistry, physiology and molecular biology in the context of human diseases and treatment. Using a case-study and discussion format, the course explores advanced studies in biochemical pathways in humans, molecular regulation of biochemistry, human diseases related to altered biochemical pathways, and pharmacology.
PREREQUISITES: Biology 1310, 1320, and 1220 or 3260; Biology 2230 or 2240; and Biology 2250 or Chemistry 3530. Students in the BSc Paramedicine program may take Biology 4050 after Biology 1310.
Three hours lectures per week

4090 (formerly 4420) SPECIAL TOPICS IN BIOLOGY
An upper year course typically designed to reflect an issue of current interest in Biology. Available to third and fourth year Biology Majors, preferably those who have completed their second year core Biology courses. The conditions under which the course may be offered will be subject to the approval of the Chair of the Department and the Dean of Science.
Three semester hours of credit

4110 PRINCIPLES OF WILDLIFE BIOLOGY
This course focuses on the basic principles of wildlife biology, wildlife management, and contemporary wildlife issues. The laboratory/field component includes an introduction to techniques used in wildlife research, habitat assessments and debates on local wildlife issues.
PREREQUISITE: Biology 1310, 1320, 2020 and 2040. Students registered in the Bachelor of Wildlife Conservation Program may take this course after completion of Biology 1310.
Two hours lecture, four hours laboratory a week

4130 CONSERVATION GENETICS

An introduction to the guiding principles of conservation biology and genetics, and their application to the preservation of biodiversity. Students will explore current research topics, such as ecological and landscape genetics, invasion biology, and genomics for endangered species through lectures, extensive discussion and a major paper. Laboratories may involve field trips and molecular techniques.

Note: Biology 3820 is a recommended co-requisite, but is not required.

PREREQUISITES: Biology 1310, 1320, 2220 and 2230 or 2240. Students registered in the Bachelor of Wildlife Conservation Program may take this course after completion of Biology 1310 and Biology 2220.

Three hours lecture, three hours laboratory a week

4150 WILDLIFE HEALTH

This course examines the relationship between the health of free-living wild animals and their environment. The laboratory component of the course familiarizes the student with techniques of necropsy of a wide variety of mammalian and avian species, emphasizing comparative anatomy, recognition of basic macroscopic abnormalities, and harvesting techniques and basic identification of macroparasites.

PREREQUISITE: Registration in the Bachelor of Wildlife Conservation Program and completion of Biology 1310 and Biology 2220. Note: students must be vaccinated for rabies. If space permits, and with permission of the Department, this course is also available for Biology majors who have completed Biology 1310 and Biology 2220 and meet the rabies vaccination requirements. Contact the Biology Department for details on availability and eligibility

Four hours lecture, four hours laboratory per day for 2 weeks (summer intensive course)

4210 DESIGN AND ANALYSIS OF BIOLOGICAL STUDIES

This course provides students who have a previous statistics course and research methods course with experience in the practical application of analytical techniques for the ecological and life sciences. Topics include design of field and laboratory studies and examination of biological data using advanced parametric, non-parametric, and multivariate methods.

PREREQUISITE: Statistics 1210 and Biology 3310 or permission of the instructor

Three hours lecture and three hours lab per week

4320 BIOLOGICAL PHYSICS OF CELLS

This course will develop physics models of cellular structures and functions, and use these models to discuss experiments in cellular biology. Examples of questions that will be explored are: “How do viruses assemble?”, “How does a cell move?”, “How are circuits constructed from genes and proteins?”, and “How does a leopard get its spots?”. Students will learn a quantitative, physics-based approach to problems involving statistical mechanics, chemical kinetics, elasticity theory, fluid dynamics, and diffusion, as they apply to cell biology

Cross-listed with Physics 4320

PREREQUISITE: Physics 1120 or Physics 1220, Mathematics 1120 or Mathematics 1910, and Biology 2210, or permission of the instructor

Three hours of lecture per week

4350 THE BIOLOGY OF SEX

This course explores the various aspects of sexual reproduction, focussing on evolutionary questions. The course compares various modes of reproduction (asexual and sexual) and examines the important questions of why sex evolved and why it is so common among plants and animals today. Topics include sexual selection, mating strategies of males and females, sperm competition, sex ratios, and various potentially controversial aspects of human sexuality from a biological perspective. The course involves extensive discussion (including student-led discussions), reading, writing, and a major paper.

PREREQUISITE: Biology 1310, 1320, and 3350 or 3820

Three hours lecture, one hour discussion weekly

4400 SENIOR UNDERGRADUATE RESEARCH PROJECT

This course allows senior students majoring in Biology to carry out a full-year research project. The project may be lab or field

based, or some combination of the two. Students work under the supervision of a faculty member and write a report describing the work.
PREREQUISITE: Students should be at least third year Biology Majors and have completed their second year core Biology courses. Entry to this course is contingent upon the student finding a departmental faculty member willing to supervise the research and permission of the department, no later than March 31 of their third year.
Six semester hours of credit (Credit in this course will be given only when both semesters have been completed successfully.)

4410 DIRECTED STUDIES IN BIOLOGY
Available to third year Biology Majors, preferably those who have completed their second year Biology courses. Entry to the course, and the conditions under which the course may be offered will be subject to the approval of the Chair of the Department and the Dean of Science. (See Academic Regulation 9 for Regulations Governing Directed Studies)
Three semester hours of credit

4520 BIOGEOGRAPHY AND MACROECOLOGY
This course examines the patterns of distribution, species richness, and abundance of organisms in space and time with emphasis on animal communities, as well as ecology of insular biotas. Historical, ecological, geographical, and anthropological factors affecting these patterns are examined.
PREREQUISITES: Biology 1310, 1320 and 2220. Students registered in the Bachelor of Wildlife Conservation Program may take this course after completion of Biology 1310 and Biology 2220.
Three hours lecture, three hours laboratory a week

4540 BIODIVERSITY AND CONSERVATION BIOLOGY
This course examines fundamental concepts, ideas, and approaches used in conservation biology. Different philosophies and perspectives on setting priorities for preserving and man- aging biodiversity are also discussed.
PREREQUISITE: Biology 1310, 1320 and 2220. Students registered in the Bachelor of Wildlife Conservation Program may take this course after completion of Biology 1310 and Biology 2220.
Three hours lecture, three hours laboratory a week

4620 WATERSHED ECOLOGY
The focus of this course is the study of watersheds, with emphasis on those found on Prince Edward Island. Lectures focus on the physical, chemical, and biological characteristics of streams and their surrounding riparian zones, and labs will include practical application of stream sampling methods.
PREREQUISITES: Biology 1310, 1320 and 2220 or permission of the instructor.
Three hours lecture, three hours laboratory a week

4650 MARINE COMMUNITY ECOLOGY
This course constitutes a critical review of the dynamics and the rules of assembly that are distinctive to marine biological communities. Its main goal is the exploration of the organizing mechanisms behind spatial and temporal patterns exhibited by planktonic and benthic communities. Although the focus is on general principles and broad ideas, specific problems and practical work relate primarily to communities and habitats from Atlantic Canada.
PREREQUISITES: Biology 1310, 1320, 2220 and 3910. Students registered in the Bachelor of Wildlife Conservation Program may take this course after completion of Biology 1310 and Biology 2220.
Three hours lecture, three hours laboratory a week

4660 PLANT-ANIMAL INTERACTIONS
This course examines evolutionary and ecological themes in plant-animal interactions by presenting some of the complex interactions that have arisen between plants and animals. The course will consist of lectures on various topics such as plant communities as animal habitats, pollination and seed dispersal by animal, ant and plant interactions, insect herbivore and host-plant interactions, seed predation, and carnivorous plants and insects, and the pivotal role of plant-animal interactions in conservation biology. The course requires presentations and discussions of the primary literature, and includes some laboratory and field projects.

PREREQUISITES: Biology 1310, 1320 and at least 4 Biology courses at the 2000 level. Students registered in the Bachelor of Wildlife Conservation Program may take this course after completion of Biology 1310 and Biology 2220.
Three hours lecture a week, three hours laboratory every other week

4710 MOLECULAR BIOTECHNOLOGY
This course examines principles of gene manipulation, and the application of molecular biology in biotechnology. Recent developments in medicine, agriculture, industry and basic research are considered. Emphasis is placed on reviewing current literature in the field.
PREREQUISITE: Biology 1310, 1320, and 2230 or 2240
Three hours lecture a week

4720 BIOLOGY OF CANCER AND OTHER DISEASES
This course presents the basic principles of pathobiology with emphasis on specific candidate human diseases. The focus of the course is on aspects of the basic biochemistry and cell biology associated with certain disease paradigms. The majority of this course will focus on the biology of cancer. The biology of heart disease, Alzheimer's disease, diabetes, and AIDS, as well as, other current topical disease paradigms will be presented.
Cross-level listed with Human Biology 8720.
PREREQUISITE: Biology 1310, 1320, 2060 and 2210
Three hours lecture a week

4750 BASIC AND CLINICAL IMMUNOLOGY
This course presents the basic principles of immunology, its role and impact on specific mechanisms pertaining to human health. Topics include the immune system, antigen-antibody reactions, T & B cell biology and chemistry, cytokines, complement system, hypersensitivity, immune-physiology, cell mediated immunity, vaccines, AIDS and other immunodeficiencies, autoimmunity, transplant immunology and cancer.
PREREQUISITE: Biology 1310, 1320, and 2060
Three hours lecture a week

4850 ENVIRONMENTAL TOXICOLOGY
This course introduces the basic toxicological principles with respect to environmental toxicology, including a survey of major environmental pollutants and the statutes governing chemical release. Environmental effects on biota and methods of detection of environmental pollutants will be examined using endpoints at multiple levels of biological organization from biochemical to community.
PREREQUISITE: Biology 1310 and 1320, Chemistry 1110-1120. Students registered in the Bachelor of Wildlife Conservation Program may take this course after completion of Biology 1310 and Chemistry 1110-1120.
Three hours lecture, three hours laboratory a week

4900 ADVANCED RESEARCH AND THESIS
This is a 12 semester-hour course required of all Honours students. It is intended to provide the student with an opportunity to design, carry out, evaluate and write up a research project in an approved scientific fashion, while working under the direction of a chief advisor assisted by an advisory committee. Normally the research will be done during the summer session preceding the student's graduating year, and the thesis written during the final academic year. The objective of this course is to provide research experience for the student who intends to take up further studies at a post-graduate level or for the student who is planning on entering a career where research experience in Biology or related areas would be an asset.
PREREQUISITE: Acceptance to the Honours Program in Biology

4910 WILDLIFE CONSERVATION AND ENVIRONMENTAL MANAGEMENT PRACTICUM
This course provides practical experience and leadership in an area of wildlife conservation or environmental management. Students work in teams with an environmental organization on a specific project or task for 6 weeks, compile research, and present their findings in a written report and oral presentation.

PREREQUISITES: Biology 3310. Biology majors in the Environmental Biology specialization may take this course with permission of the Coordinator of the BWC program or the Chair of Biology.
Three hours lecture or seminar a week

# 59. Business Administration

http://upei.ca/business

**Business Faculty**

Tarek Mady, Associate Professor, Dean
Melissa James, Associate Professor, Associate Dean, Undergraduate Programs and Student Success
Tina Saksida, Associate Professor, Associate Dean, Graduate Programs and Research
Gary Evans, Professor
Blake Jelley, Professor
Jürgen Krause, Professor
Timothy E. Carroll, Associate Professor
Andrew Carrothers, Associate Professor
Xiao Chen, Associate Professor
Donald M. Wagner, Associate Professor
Reuben Domike, Associate Professor
Susan Graham, Associate Professor
Sam Kolahgar, Associate Professor
Scott Cassidy, Assistant Professor
Henry Dimingu, Assistant Professor
Aniket Naik, Assistant Professor
Lena Jingen Liang, Assistant Professor
Amy MacFarlane, Assistant Professor
Suzanne Rath, Assistant Professor
William Waterman, Assistant Professor
Luifang Yao, Assistant Professor
Iryna Kalynychenko, Lecturer

The McDougall Faculty of Business is committed to providing students with a high quality, integrated business education in a personalized learning environment. It is structured to provide the broad-based, cross-functional business education required for leaders of business, government, and not-for-profit organizations. The Faculty's personalized learning environment provides opportunities for extensive interaction between students, faculty and practitioners.

The McDougall Faculty of Business holds a unique position within the province's education system. It is committed to intellectual leadership, and to excellence in developing new knowledge and conveying that knowledge to its students and to the public. In order to attract, develop and retain students, faculty and staff, the Faculty recognizes that it must sustain an intellectually stimulating environment.

The Faculty views its students not as customers, but rather as partners in the development of a high quality business education. Graduates are expected to have developed competency in integrating the core functional business disciplines; ethical, social, historical and global awareness; critical thinking and problem solving; quantitative analysis; communication skills and leadership; team work as well as personal initiative; technological application in business; and using business research to support evidence-informed practice.

The degree program in the McDougall Faculty of Business is designed to fulfill this mission and to provide the educational breadth and depth needed by business leaders.

**ACCOUNTING AND BUSINESS ADMINISTRATION**

The McDougall Faculty of Business maintains a close liaison with the Chartered Professional Accountants of Prince Edward Island, and students who satisfactorily complete designated university courses are given broad exemptions by this professional organization. Students interested in pursuing a professional accounting designation should contact the Dean's office prior to enrolling in their third year. These students should not enrol in Business electives other than those that are designated as accounting exemptions. Students not pursuing a Bachelor of Business Administration degree may register for the Certificate in Accounting.

## Bachelor of Business Administration

The Bachelor of Business Administration degree (BBA) is a four-year degree consisting of 120 semester hours. **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

**REQUIRED COURSES**

**1000-Level Courses:**
Accounting 1010 (Introduction to Financial Accounting)
Business 1410 (Marketing)
Business 1710 (Organizational Behaviour)
Economics 1010 (Introductory Microeconomics)
Economics 1020 (Introductory Macroeconomics)
Math 1110 (Finite Mathematics)
UPEI 1010 (Writing Studies) (see note 3)
IKE 1040 (Indigenous Teaching)

**2000-Level Courses:**

Accounting 2210 (Managerial Accounting)
Business 2120 (Business Presentations and Communications)
Business 2310 (Corporate Finance)
Business 2410 (Management Information Systems)
Business 2510 (Introduction to Management Science)
Business 2720 (Human Resource Management)
Business 2880 (Research and Evidence-Based Management)

**3000-Level Courses:**

Business 3010 (Business Law – Part I)
Business 3330 (Integrated Cases in Corporate Finance) OR Business 3340 (Personal Finance)
Business 3430 (Integrated Cases in Marketing)
Business 3510 (Operations Management)
Business 3710 (Entrepreneurship and New Ventures)
Business 3910 (Strategic Management)

**4000-Level Courses:**

Business 4850 (Developing Management and Leadership Skills)
Business 4950 (Business Research I)

**ELECTIVE COURSES**

In addition to the 23 required courses, students must take 17 elective courses.

For students pursuing one of the seven specializations, the courses prescribed for the particular specialization will fulfill electives on the degree.

Students must obtain at least 60% in at least 14 of the 18 required business courses in order to qualify for the degree of Bachelor of Business Administration.

**NOTES:**

- Accounting courses are considered to be business courses.
- All courses will not necessarily be offered each year. Students should consult the current timetable before registration.
- The completion of UPEI 1010 is a required course for the BBA, but the course also meets the general UPEI requirement of taking UPEI 1010, 1020 or 1030.

**SPECIALIZATIONS**

The specializations in the BBA Program are designed to provide students with a deeper level of expertise within a discipline, to improve students' competitiveness upon entering the workforce.

## Specialization in Accounting

A specialization in accounting is intended for business students wishing to pursue a Chartered Professional Accountant (CPA) designation after graduation. In addition to the core courses required to fulfill the BBA requirements, the following additional courses will be required to obtain the specialization:

- Accounting 2020 (Introductory Financial Accounting – Part II)
- Accounting 3010 (Intermediate Accounting – Part I)
- Accounting 3020 (Intermediate Accounting – Part II)
- Accounting 3120 (Cost Accounting)
- Accounting 4010 (Advanced Financial Accounting – Part I)
- Accounting 4020 (Advanced Financial Accounting – Part II)
- Accounting 4150 (Auditing)
- Accounting 4160 (Auditing, Accounting and Society)
- Accounting 4310 (Income Taxation)

In addition, students planning to pursue their CPA designation must take Business 3330 (Integrated Cases in Corporate Finance), as it is a required course for entry into the CPA program.

To qualify for a specialization in accounting, students are required to have an overall average of 70% in the required courses above. Students who already hold a certificate in accounting will not receive additional recognition for a specialization in accounting.

## Specialization in Entrepreneurship

The courses and experiences related to specializing in entrepreneurship provide students with the knowledge and the experiential learning to start up a business or manage one in an entrepreneurial manner. Students will study the various types of entrepreneurship including business, social, and innovation within existing organizations. The key learning outcomes for students will be to gain knowledge, confidence, skills, and practice in both entrepreneurial thinking and leading entrepreneurial initiatives. They will think analytically, ask questions, research the market, solve problems, start a new venture, launch new products/services/ideas, and develop other entrepreneurial skills.

In addition to the core BBA program, completion of the specialization in entrepreneurship requires successful completion of the following courses:

**Required:**

- Business 2650 (Introduction to Small Business and Entrepreneurship)
- Business 3650 (Small Business Management: Opportunity Analysis & Development)
- Business 3660 (Entrepreneurial Finance)
- Business 4460 (Personal Selling and Sales)
- Business 4680 (Self-Employment – Behind the Scene)

Any **FOUR** of the following courses:

- Business 2870 (International Business)
- Business 4610 (Communications)
- Business 4650 (Project Management)
- Business 4710 (Organizational Development and Change)
- Business 4750 (E-commerce)
- Business 4760 (Intercultural Management)
- Philosophy 1110 (Critical Thinking)
- Psychology 3310 (Creativity)
- Sociology 2920/Diversity and Social Justice Studies 2920 (Work and Society)
- Sociology 3110 (Small Groups)

Some of the above-listed courses have prerequisites. For example, many non-business courses that are 2000-level and above, require 1000-level introductory courses (such as Sociology 1010 or Psychology 1010 and 1020) and may have additional 2000-level or 3000-level prerequisites. Students are advised to plan ahead accordingly. To qualify for a specialization in entrepreneurship, students are required to have an overall average of 70% in the nine courses of this specialization.

## Specialization in Finance

Management of financial resources is critical to the success and sustainability of both private and public organizations. An understanding of financial concepts, qualitative and quantitative problem-solving skills, and rational decision-making practices are important learning outcomes of the courses in the specialization in finance. The courses in this specialization focus on both corporate finance and personal finance with the intent of preparing the student for a career or further education related to finance. In addition to the core BBA program, completion of the specialization in finance requires successful completion of the following courses:

**Required:**

- Accounting 2020 (Introductory Financial Accounting – Part II)
- Business 3330 (Integrated Cases in Corporate Finance) (see note below)
- Business 3340 (Personal Finance) (see note below)
- Business 3660 (Entrepreneurial Finance)
- Business 4390 (International Finance)

Any **FIVE** of the following courses:

- Business 2870 (International Business)
- Business 3020 (Business Law – Part II)
- Business 4320 (Applied Investment Management)
- Economics 2030 (Intermediate Microeconomics)
- Economics 2040 (Intermediate Macroeconomics)
- Economics 2310 (Mathematical Economics)
- Economics 3710 (Economics of Sports)
- Economics 2910 (Managerial Economics)
- Economics 4050 (Financial Economics)
- Economics 4120 (Public Finance)

**Note** regarding Business 3330 and 3340: The core BBA program requires students to take Business 3330 or 3340, but students taking the specialization in finance must take both courses. To qualify for a specialization in finance, students are required to have an overall average of 70% in the ten courses of this specialization.

## Specialization in International Business

The international opportunities in today's world are vast. Doing business internationally is also challenging. The specialization in international business includes four business courses that provide an overview of those opportunities and challenges, as well as five electives to be chosen from a large multi-disciplinary set of courses that can enrich a student's understanding of the world beyond our borders. The specialization also includes an international exchange term or an international work term. In addition to the core BBA program, completion of the specialization in international business requires the successful completion of the following:

Completion of an approved international academic or international co-op work term. To document that they have completed this requirement of the specialization, students must register in Business 3860 (a zero-credit hour course) for an academic exchange term, or Business 3940 (also a zero-credit hour course) for an international co-op work

term. International students are deemed to have already met this requirement by virtue of having travelled from their home country to study at UPEI, but they too should register for Business 3860 to document that they have met this requirement.

Completion of the following four required courses:

- Business 2870 (Introduction to International Business)
- Business 4760 (Intercultural Management)
- Business 4770 (International Marketing)
- Business 4390 (International Finance)

Completion of any **FIVE** of the following courses:

- any course designated as Business 3870 (International Business Elective)
- any courses offered by the Department of Modern Languages
- any courses offered by Asian Studies
- any History courses listed under the US, British, European, Global or Greek & Roman streams
- any Political Science courses listed in the Comparative Politics field of courses or the International field of courses
- Anthropology 1050 (Introduction to Anthropology I)
- Anthropology 2010 (Cultural Anthropology)
- Anthropology 4040 (Applied and Public Interest Public Policy)
- Economics 3310 (International Trade)
- Economics 3320 (International Monetary Economics)
- Economics 3410 (Economic Development Theory)
- Economics 3420 (Economic Development Policy)
- Psychology 4720/Diversity and Social Justice Studies 4720 (Social Justice in Psychology)
- Religious Studies 1010 (Religions of the World – Western Traditions)
- Religious Studies 1020 (Religions of the World – Eastern Traditions)
- Religious Studies 1050 (World Religions)
- Sociology/Anthropology 2120 (Peoples of South Asia)
- Sociology/Anthropology 2420 (Peoples of Oceania)
- Sociology/Anthropology 2510 (Peoples of Africa)
- Sociology/Anthropology 2610 (Sex, Gender and Society)
- Sociology/Anthropology 2630 /Diversity and Social Justice Studies 2630 (Global Youth Cultures)
- Sociology/Anthropology 3550 /Diversity and Social Justice Studies 3550 (Globalization)

Some of the above-listed courses have prerequisites. For example, many non-business courses that are 2000-level and above, require 1000-level introductory courses (such as Sociology 1010 or Psychology 1010 and 1020) and may have additional 2000-level or 3000-level prerequisites. Students are advised to plan ahead accordingly. Students are advised to plan ahead accordingly. To qualify for a specialization in international business, students are required to have an overall average of 70% in the nine courses of this specialization.

## Specialization in Marketing

The Bachelor of Business Administration degree with a specialization in marketing is designed to introduce students to the core marketing function within the spectrum of business and further develop students' theoretical and practical understanding of a full range of marketing activities. In addition to the core business curriculum, students pursuing

a marketing specialization will take courses dedicated to marketing communications, brand management, market research, consumer behaviour, personal selling and sales, and international marketing. The marketing specialization is intended to help prepare students for entry-level positions in both small and large organizations ranging from account managers to marketing coordinators to brand managers and much more.

In addition to the core BBA program, completion of the specialization in marketing requires the successful completion of the following:

**Required:**

- Business 4810 (Integrated Marketing Communications)
- Business 4430 (Consumer Behaviour)
- Business 4440 (Market Research)
- Business 4450 (Brand Management)
- Business 4460 (Personal Selling and Sales)
- Business 4770 (International Marketing)

Any **THREE** of the following courses:

- Business 4650 (Project Management)
- Psychology 2220 (Psychology of Personal Experience)
- Psychology 2420 (Introduction to Social Psychology)
- Psychology 3030/Diversity and Social Justice Studies 3030 (Psychology of Aging)
- Psychology 3050 (Adolescent Development and Adjustment)
- Psychology 3080 (Child Development)
- Psychology 3090 (Adult Development)
- Psychology 3210 (Learning and Motivation: Basic Processes)
- Psychology 3310 (Creativity)
- Psychology 3510 (Theories of Personality)
- Psychology 3910/Diversity and Social Justice Studies 3910 (Psychology of Women)
- Sociology 2710 (Self and Service)
- Sociology 3920 (Media and Society)
- Anthropology 3100/Diversity and Social Justice Studies 3100/English 3140 (Identity and Popular Culture)
- Family Science 2210 (Family Resource Management)
- Family Science 2410/Kinesiology 2410 (Human Development)
- Theatre Studies 2440 (Introduction to Theatre Study)
- Sociology/Anthropology 2610/Diversity and Social Justice Studies 2610 (Sex, Gender and Society)
- Sociology/Anthropology 2710 (Self and Society)

Many of the above-listed courses have prerequisites. For example, many non-business courses that are 2000-level and above, require 1000-level introductory courses (such as Sociology 1010 or Psychology 1010 and 1020) and may have additional 2000-level or 3000-level prerequisites. Students are advised to plan ahead accordingly. To qualify for a specialization in marketing, students are required to have an overall average of 70% in the nine courses of this specialization.

## Specialization in Organizational Management

The leadership and management of organizations can promote or undermine organizational effectiveness, the well-being of organizations' members, and outcomes for other stakeholders. Management-related courses such as organizational behaviour, human resource management, and leadership and management skills are important components of the core BBA program. The specialization in organizational management allows students to delve deeper into the broad, interdisciplinary domain of management and organizational studies by combining additional management courses with relevant courses in social science and liberal arts. Substantive issues relating to organizations as well as social and behavioural research methods are features designed to help students take an evidence-based approach to management. This specialization promotes development of thoughtful, ethical, and productive members, managers, and leaders of organizations.

In addition to the core BBA program, completion of the specialization in organizational management requires successful completion of the following courses:

**THREE** courses from the following list of business courses ("List A"):

- Business 3720 (Industrial Relations)
- Business 4610 (Communications)
- Business 4650 (Project Management)
- Business 4710 (Organizational Development and Change)
- Business 4760 (Intercultural Management)
- Business 4880 (Management in Perspective)
- Business 4070 (Special topics in Organizational Management)
- University 2030 (Introduction to Leadership Studies)
- University 3030 (Leadership theory and Practice)

**TWO** courses from the following list of non-business research courses ("List B"):

- Anthropology 3210 (Field Methods)
- Anthropology 4040 (Applied and Public Interest Anthropology)
- Information Technology 3710 (Applied Databases)
- Philosophy 1110 (Critical Thinking)
- Philosophy 3710/Diversity and Social Justice Studies 3710 (Community-Based Ethical Inquiry I)
- Psychology 3710 (Advanced Statistics)
- Psychology 3740 (Advanced Qualitative Research)
- Sociology 4010 (Doing Social Research)
- Sociology 4090 (Evaluation)
- Sociology 4620 (Approaches in Applied Sociology)
- Sociology/Anthropology 2080 (Developing the Socio-Cultural Imagination)

**FOUR** courses from of the following list of other non-business courses ("List C"):

- Economics 3240 (Labour Economics)
- Education 3090 (Introduction to Learning in the Workplace)
- History 4260 (A History of the Canadian Working Classes)
- Philosophy 1020 (Introduction to Ethics and Social Philosophy)
- Psychology 2420 (Introduction to Social Psychology)

- Psychology 3310 (Creativity)
- Psychology 3510 (Theories of Personality)
- Psychology 3620 (Ergonomics)
- Psychology 3810 (Human Learning and Memory)
- Psychology 3820 (Cognitive Psychology)
- Sociology 1050 (Civility and Society)
- Sociology 2750/Diversity and Social Justice Studies 2750 (Social Inequality)
- Sociology 2920/Diversity and Social Justice Studies 2920 (Work and Society)
- Sociology 3110 (Small Groups)
- Sociology 3910 (Sociology of Organizations)

Many of the above-listed courses have prerequisites. For example, many non-business courses that are 2000-level and above, require 1000-level introductory courses (such as Sociology 1010 or Psychology 1010 and 1020) and may have additional 2000-level or 3000-level prerequisites. Students are advised to plan ahead accordingly. To qualify for a specialization in organizational management, students are required to have an overall average of 70% in the nine courses of this specialization.

## Specialization in Tourism and Hospitality

The Bachelor of Business Administration degree with a specialization in tourism and hospitality is designed for students who plan to work in the tourism and hospitality industry in a management capacity or as an entrepreneur. The specialization in tourism and hospitality includes four required courses that focus specifically on the tourism and hospitality industry, as well as five electives to be chosen from a large multi-disciplinary set of courses that can enrich a students' understanding of international business and international peoples.

In addition to the core BBA program, completion of the specialization in tourism and hospitality requires successful completion of the following courses:

**Required:**

- Island Studies 2110/Sociology/Anthropology 2110 (Island Tourism: The Search for Paradise)
- Business 4540 (Tourism and Hospitality Management)
- Business 4550 (Sustainable Tourism Development)
- Economics 2420 (The Economics of Tourism)

**TWO** courses from List A, and another **THREE** courses from List A or List B:

**List A:**

- Business 4650 (Project Management)
- Business 4760 (Intercultural Management)
- Business 4770 (International Marketing)
- Sociology/Anthropology 3740/Island Studies 3740 (Tourism)
- Any courses offered by the Department of Modern Languages

**List B:**

- Anthropology 1050 (Introduction to Anthropology I)
- Anthropology 2010 (Cultural Anthropology)
- Religious Studies 1010 (Religions of the World – Western Traditions)
- Religious Studies 1020 (Religions of the World – Eastern Traditions)

•Religious Studies 1050 (World Religious)
•Sociology/Anthropology 2120 (Peoples of South Asia)
•Sociology/Anthropology 2420 (Peoples of Oceania)
•Sociology/Anthropology 2510 (Peoples of Africa)
•Sociology/Anthropology 2630/ Diversity and Social Justice Studies 2630 (Global Youth Cultures)
•Sociology/Anthropology 3550/Diversity and Social Justice Studies 3550 (Globalization)

Many of the above-listed courses have prerequisites. For example, many non-business courses that are 2000-level and above, require 1000-level introductory courses (such as Sociology 1010 or Psychology 1010 and 1020) and may have additional 2000-level or 3000-level prerequisites. Students are advised to plan ahead accordingly. To qualify for a specialization in tourism and hospitality, students are required to have an overall average of 70% in the nine courses of this specialization.

## Honours in Business Administration

An Honours concentration in Business Administration provides an opportunity for BBA students to pursue advanced studies in Business. It is available to students with a strong academic background who intend to continue studies in Business at the postgraduate level, or to students who intend to pursue a career where research experience would be of value.

ADMISSION

For admission to the Honours program, students must have a minimum average of 75% in all previous courses. Permission of the School is required and is contingent on the student finding a faculty supervisor. Students interested in pursuing the Honours program should seek admission as early as possible, not later than the end of the third year.

COURSE REQUIREMENTS

A total of 126 semester hours of credit is required for the BBA Honours. In addition to the requirements of the regular BBA, Honours students must complete Honours Thesis 5100 (six semester hours). This thesis would normally be completed in the semester following Business Research 4950. A committee of three faculty members, including the supervisor, will review the Honours thesis. An oral examination conducted by the committee will also be included in the evaluation process. A minimum average of 75% must be maintained to remain in the Honours program.

# CO-OP EDUCATION IN BUSINESS

The UPEI Co-operative Program is an integrated approach to university education which enables students to alternate academic terms on campus with work terms in suitable employment. The success of such programs is founded on the principle that students are able to apply theoretical knowledge from course studies in the workplace and return to the classroom with practical workplace experience. Students who successfully complete all the requirements of the program will have the notation entered on their transcripts and on the graduation parchment.

Students accepted into the program, complete at least three 14-week paid work terms and three professional development courses. Credits earned through completion of work terms are counted as general electives (i.e. free or non-business electives).

The Co-operative option is available to full-time students in any specialization within the Faculty of Business. Applications to the Co-operative Education Program are normally made after completion of the first year of study.

See the Co-operative Education Program section of the UPEI Academic Calendar for more information.

## Accelerated Bachelor of Business Administration Program

Graduates of two year college diploma programs can gain access to the Bachelor of Business Administration degree (BBA) by way of the Accelerated Bachelor of Business Administration Program.

The Accelerated Bachelor of Business Administration program is available to students who have a two-year diploma from Holland College (or a similar college). They must satisfy general UPEI and McDougall Faculty of Business entrance requirements. Applicants must demonstrate a minimum average of 70% in their college program. **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

**REQUIRED COURSES:**

**Required courses** recommended to be taken in a student's **FIRST year** at UPEI:

Business 1410 – Marketing
Business 1710 – Organizational Behaviour
Business 2410 – Management Information Systems
Business 2880 – Research and Evidence-Based Management
Economics 1010 – Introductory Microeconomics
Economics 1020 – Introductory Macroeconomics
Math 1110 – Finite Mathematics
UPEI 1010 – Writing Studies (see note 3)
IKE 1040 – Indigenous Teachings
Accounting 1010 – Introduction to Financial Accounting (except students whose college diploma was in Accounting; see note 1)

**Required courses** recommended to be taken in a student's **SECOND year** at UPEI:

Business 2120 – Business Presentations and Communications
Business 2310 – Corporate Finance
Business 2510 – Introduction to Management Science
Business 2720 – Human Resource Management
Business 3010 – Business Law – Part I
Business 3430 – Integrated Cases in Marketing
Accounting 2210 – Managerial Accounting (except students whose college diploma was in Accounting; see note 1)

**Required courses** recommended to be taken in a student's **THIRD year** at UPEI:

Business 3330 – Integrated Cases in Corporate Finance OR Business 3340 – Personal Finance
Business 3510 – Operations Management
Business 3710 – Entrepreneurship and New Ventures
Business 3910 – Strategic Management
Business 4850 – Developing Management and Leadership Skills
Business 4950 – Business Research I

**ELECTIVE COURSES:**

For students whose **college diploma was in Accounting**:

In addition to the 21 required courses, students must take nine elective courses.

For students whose **college diploma was not in Accounting:**

In addition to the 23 required courses, students must take seven elective courses.

Students must obtain at least 60% in at least 14 of the 18 required business courses in order to qualify for the Bachelor of Business Administration degree.

**NOTES:**

1. Students whose college diploma was in Accounting will substitute two business electives for ACCT 1010 and ACCT 2210.
2. Students in this program are eligible for the Business Co–op option.
3. The completion of UPEI 1010 is a required course for the Accelerated BBA, but the course also meets the general UPEI requirement of taking UPEI 1010, 1020 or 1030.

## Bachelor of Business in Tourism and Hospitality

The Bachelor of Business in Tourism and Hospitality (BBTH) is a two-year post-diploma degree available only to graduates of diploma programs at the Atlantic Tourism and Hospitality Institute (ATHI) or of similar programs at similar post-secondary institutions. This post-diploma degree provides the opportunity for students to continue their education through a concentration in Business Administration.

Students must meet the UPEI admission requirements for this degree by completing the ATHI diploma, including economics, or equivalent course work at a university or college, with a minimum overall average of 70%. In the BBTH program, students must obtain grades of at least 60% in at least 12 of the 16 required business courses in order to qualify for the degree. Students are subject to all of the Academic Regulations of the University. **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

**REQUIRED COURSES**

Required courses recommended to be taken in a student's **FIRST year** at UPEI:

| |
|---|
| Accounting 1010 – Introduction to Financial Accounting |
| Accounting 2210 – Managerial Accounting |
| Business 1410 – Marketing |
| Business 1710 – Organizational Behaviour |
| Business 2120 – Business Presentations and Communications |
| Business 2310 – Corporate Finance |
| Business 2510 – Introduction to Management Science |
| Business 2720 – Human Resource Management |
| UPEI 1010 – Writing Studies (see note 3) |
| IKE 1040 – Indigenous Teachings |

Required courses recommended to be taken in a student's **SECOND year** at UPEI:

| |
|---|
| Business 2880 – Research and Evidence-Based Management |
| Business 3010 – Business Law – Part I |
| Business 3330 – Integrated Cases in Corporate Finance OR Business 3340 – Personal Finance |
| Business 3430 – Integrated Cases in Marketing |
| Business 3510 – Operations Management |
| Business 3710 – Entrepreneurship and New Ventures |
| Business 3910 – Strategic Management |
| Business 4850 – Developing Management and Leadership Skills |

**ELECTIVE COURSES**

In addition to the 18 required courses, students must take 2 elective courses. One of these electives must be at the 2000 level or higher. Island Studies 2110 (Island Tourism) is highly recommended.

**NOTES:**

1. Due to student enrolments and faculty availability, some courses may not necessarily be offered each year. Students should consult the current timetable before registration.
2. Business 3730 (Tourism Management) or Business 4540 (Tourism and Hospitality management) is recommended for the free elective.
3. The completion of UPEI 1010 is a required course for the BBTH, but the course also meets the general UPEI requirement of taking UPEI 1010, 1020 or 1030.
4. Students are eligible to apply to the Cooperative Education program upon entrance to the University.
5. The following courses are not eligible as electives for the BBTH program: Math 1110/1120, and Economics 1010/1020.

## Bachelor of Business Studies

The Bachelor of Business Studies (BBST) program is a post-diploma degree. It will require a minimum of two years of academic study at UPEI, the curriculum of which will consist primarily of core courses and a few electives.

To be eligible for program admission, students must have already completed a two-year business diploma in specified programs at a recognized college and have achieved an overall average of 70%. Students must meet the UPEI admission requirements for this degree. In the BBST, students must obtain grades of at least 60% in at least 12 of the 16 required business courses in order to qualify for the degree. Students are subject to all of the Academic Regulations of the University. **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

**REQUIRED COURSES**

Required courses recommended to be taken in a student's **FIRST year** at UPEI:

| |
|---|
| Business 1410 – Marketing |
| Business 1710 – Organizational Behaviour |
| Business 2120 – Business Presentations and Communications |
| Business 2310 – Corporate Finance |
| Business 2510 – Introduction to Management Science |
| Business 2720 – Human Resource Management |
| Accounting 1010 – Introduction to Financial Accounting (except students whose college diploma was in Accounting; see note 1) |
| Accounting 2210 – Managerial Accounting (except students whose college diploma was in Accounting; see note 1) |
| UPEI 1010 – Writing Studies (see note 6) |
| IKE 1040 – Indigenous Teachings |

Required courses recommended to be taken in a student's **SECOND year** at UPEI:

| |
|---|
| Business 2880 – Research and Evidence-Based |
| Business 3010 – Business Law – Part I |
| Business 3330 – Integrated Cases in Corporate Finance OR Business 3340 – Personal Finance |
| Business 3430 – Integrated Cases in Marketing |
| Business 3510 – Operations Management |
| Business 3710 – Entrepreneurship and New Ventures |
| Business 3910 – Strategic Management |
| Business 4850 – Developing Management and Leadership skills |

**ELECTIVE COURSES**

For students whose **college diploma was in Accounting**:

In addition to the 16 required courses, students must take 4 elective courses.

For students whose **college diploma was in Business or Retail Management:**

In addition to the 18 required courses, students must take 2 elective courses.

**NOTES:**

1. Students who have completed a diploma in Accounting Technology must take two business electives in place of Accounting 1010 and Accounting 2210.

2. Accounting courses are considered to be Business electives. Due to student enrolments and faculty availability, some courses may not necessarily be offered each year. Students should consult the current timetable before registration.
3. Recommended Business electives include Business 2650 (Introduction to Small Business and Entrepreneurship), Business 4650 (Project Management), Business 4710 (Org. Development), and Business 4760 (Intercultural Management).
4. Students are eligible to apply to the Co-operative Education program upon entrance to the university.
5. Unless specified, the following courses are not eligible as electives for the BBST program: Math 1110/1120, Economics 1010/1020, and Business 1010.
6. The completion of UPEI 1010 is a required course for the BBST, but the course also meets the general UPEI requirement of taking UPEI 1010, 1020 or 1030.

## Minor in Business Administration

The Minor in Business Administration is designed for students in faculties other than Business Administration. The Minor consists of at least twenty-one semester hours. Completion of the Minor in Business Administration requires successful completion of the following courses:

**Required:**

Accounting 1010 – Introduction to Financial Accounting
Business 1410 – Marketing
Business 1710 – Organizational Behavior

**FOUR** 2000-level or above Business and/or Accounting courses.

## Certificate in Business

The Business Certificate is intended for students who satisfy the entrance requirements of the Business Program but are not pursuing a Business degree. Generally, students must have successfully completed Grade 12 in a University Preparatory program with an overall average of at least 70% in English, Mathematics, any two Social Studies, Languages, or Sciences, and one other academic course.

Applicants with the appropriate work experience may also be accepted into the program.

The objective of this certificate program is to provide students with a sampling of courses in the areas of business. For those students interested, the certificate program also provides many of the foundation courses required to enter the BBA degree program.

The Business Certificate is a credit program comprised of ten three-semester hour courses: three required courses and seven elective courses. The courses are generally offered during the normal academic year, but some may be offered during summer school.

Please note: students enrolled in the Bachelor degree in Business Administration, the Bachelor of Business in Tourism and Hospitality and the Bachelor of Business Studies do not qualify for the certificate.

**Required courses:**

Accounting 1010 – Introduction to Financial Accounting
Business 1410 – Marketing
Business 1710 – Organizational Behaviour

**SEVEN** of the following courses:

Accounting 2210 – Managerial Accounting
Business 2510 – Introduction to Management Science
Business 2650 – Introduction to Entrepreneurship and Small Business Management
Business 2880 – Research and Evidence-Based Management
Business 2310 – Corporate Finance
Business 2720 – Human Resource Management
Business 3010 – Business Law – Part I
Business 3330 – Integrated Cases in Corporate Finance
Business 3340 – Personal Finance
Business 3350- Canadian Public Administration
Business 3430 – Integrated Cases in Marketing
Business 3510 – Operations Management
Business 3710 – Entrepreneurship and New Ventures
Business 4650 – Project Management
Business 4850 – Developing Management Skills

Students must obtain grades of at least 60% in at least 7 of the 10 business courses in order to qualify for the Certificate of Business.

## Certificate in Accounting

The Accounting Certificate is intended for non-business students who satisfy the entrance requirements of the Business program. Generally, students must have successfully completed Grade 12 in a University Preparatory program with an overall average of at least 70% in English, Mathematics, any two Social Studies, Languages, or Sciences, and one other academic course. Applicants with the appropriate work experience may also be accepted into the program.

Students who graduated with a BBA, BBST or BBTH, without the Accounting Specialization, are also eligible to return to complete the Accounting Certificate.

The Certificate provides some of the foundation courses for the Chartered Professional Accountant designation. To be eligible to receive the Certificate, students must obtain a minimum average of 60% in each of the courses taken.

**REQUIRED COURSES**

Accounting 1010 – Introduction to Financial Accounting
Accounting 2020 – Introductory Financial Accounting – Part II
Business 2310 – Corporate Finance
Business 2410 – Management Information Systems
Accounting 3010 – Intermediate Accounting – Part I
Accounting 3020 – Intermediate Accounting – Part II

**FOUR** of the following courses:

Accounting 2210 – Managerial Accounting

Accounting 3120 – Cost Accounting
Accounting 4010 – Advanced Financial Accounting – Part I
Accounting 4020 – Advanced Financial Accounting – Part II
Accounting 4150 – Auditing
Accounting 4160 – Auditing, Accounting, and Society
Business 3330 – Integrated Cases in Corporate Finance

Students who have earned a specialization in accounting in the Bachelor of Business Administration program are not eligible for the Certificate in Accounting.

# ACCOUNTING COURSES

1010 INTRODUCTORY ACCOUNTING—Part I
This course introduces the accounting model and basic accounting concepts and principles needed to read, analyze and interpret financial statements. An understanding of the role of accounting in society will be explored. Sound ethical judgment for financial decision-making will be stressed. Emphasis is on accounting from a "user's" perspective.
Three hours a week

2020 INTRODUCTORY ACCOUNTING—Part II
This course focuses on understanding and applying the accounting equation, recording transactions and preparing financial statements in accordance with generally accepted accounting principles. Differences between International Financial Reporting Standards and Accounting Standards for Private Enterprises will be highlighted. Sound ethical judgment for financial statement preparation will be stressed. Emphasis is on accounting from a "preparer's" perspective.
PREREQUISITE: Accounting 1010 and a minimum of second year standing in an undergraduate program in the Faculty of Business or permission of the instructor
Three hours a week

2210 MANAGERIAL ACCOUNTING
The emphasis throughout this course is on the uses of accounting and other financial tools in the management of a business. Topics include inventory costing methods, cost allocation, cost behaviour, the contribution approach, pricing, and budgeting.
PREREQUISITE: Accounting 1010
Three hours a week

3010 INTERMEDIATE ACCOUNTING—Part I
This course provides in-depth coverage of the accounting standards required for corporate financial reporting for both public and private enterprises. It introduces students to the Canadian accounting environment and the concepts and principles from which Generally Accepted Accounting Principles (GAAP) have grown. Specific emphasis is given to the major asset categories found on corporate balance sheets through extensive coverage of cash, accounts receivable, inventories, capital assets and investments. Other topics covered in detail include current liabilities, revenue and expense recognition, and the statement of cash flows.
PREREQUISITE: Accounting 2020 and a minimum of third year standing in an undergraduate program in the Faculty of Business or permission of the instructor
Three hours a week

3020 INTERMEDIATE ACCOUNTING—Part II
This course continues the examination of balance sheet items with extensive coverage of the accounting and reporting issues related to liabilities and shareholders' equity, including complex debt and equity instruments, corporate income

taxes, leases, pensions and other post-employment benefits, earnings per share, and restatements.
PREREQUISITE: A minimum grade of 60% in Accounting 3010 or permission of the instructor
Three hours a week

3120 COST ACCOUNTING
Topics include standard costing, budgets, flexible budgets, variance analysis, pricing, relevance and decentralization, and transfer pricing. This course will also incorporate case studies to highlight the application of methodology.
PREREQUISITE: A minimum of 60% in Accounting 2210 and a minimum of third year standing in an undergraduate program or permission of the instructor

4010 ADVANCED FINANCIAL ACCOUNTING—Part I
This course covers the study of mergers and acquisitions using the purchase method, and accounting for intercompany transactions and their elimination to arrive at consolidated financial statements.
PREREQUISITE: A minimum grade of 60% in Accounting 3020 or permission of the instructor
Three hours a week

4020 ADVANCED FINANCIAL ACCOUNTING— Part II
This course covers the accounting for partnerships, municipal governments, not-for-profit organizations, trusts and estates, and foreign exchange transactions.
PREREQUISITE: A minimum grade of 60% in Accounting 4010 or permission of the instructor
Three hours a week

4150 AUDITING
This course provides an introduction to the auditing profession and specifically the external audit of financial statements. This course focuses on the three phases of the audit process – risk assessment, risk response and reporting. The role of ethics and independence within the auditing profession will be emphasized.
PREREQUISITE: A minimum grade of 60% in Accounting 3020 or permission of the instructor
Three hours a week

4160 AUDITING, ACCOUNTING AND SOCIETY
The main focus of this course will be the application and extension of auditing and accounting concepts to realistic scenarios through the use of case analysis. This advanced course will also focus on the role of auditors and accountants in society. Topics include the financial reporting environment, the standard-setting process, regulatory influences on the profession, corporate governance, ethics and professionalism, and emerging issues in the profession.
PREREQUISITE: A minimum grade of 60% in Accounting 4150 or permission of the instructor
Three hours a week

4310 INCOME TAXATION
This course introduces students to income tax law for both individuals and corporations. The course is designed for students pursuing a professional accounting designation or a career requiring an advanced knowledge of tax.
PREREQUISITES: A minimum grade of 60% in Accounting 3020 or permission of the instructor
Three hours a week

# BUSINESS COURSES

1010 INTRODUCTION TO BUSINESS
An introduction to the functional areas of business. Topics to be covered include business organizations, marketing, finance, accounting, production, and personnel. Much emphasis will be placed on the development of both written and oral communication skills in a business context. Case studies will be used to reinforce theoretical concepts discussed.
PREREQUISITE: Successful completion (a passing grade) of the English Academic Program (EAP) for those students enrolled in the EAP

program.
Three hours a week

1410 MARKETING
This course presents the basic concepts of marketing. It introduces the marketing function, marketing systems and the marketing concept and then focuses on the development of marketing strategies, target markets, and the marketing mix in a decision–making context.
PREREQUISITE: Successful completion (a passing grade) of the English Academic Program (EAP) for those students enrolled in the EAP Program.
Three hours a week

1710 ORGANIZATIONAL BEHAVIOUR
This course introduces students to the theory of organizational behaviour (the study of people at work in organizations). It examines the behaviours of individuals working alone or in teams, and how organizational characteristics, management practices and other factors influence this behaviour, and ultimately organizational effectiveness.
PREREQUISITE: Successful completion (a passing grade) of the English Academic Program (EAP) for those students enrolled in the EAP Program.
Three hours a week

2110 BUSINESS COMMUNICATIONS
This course focuses on developing students' writing and presentation skills in a business environment. Students will learn techniques to help them communicate with professionalism, clarity and persuasiveness in a variety of business contexts.
PREREQUISITES: English 1010 or UPEI 1020, or UPEI 1030, and must be registered in Business with a 2nd year standing
Three hours a week

2120 BUSINESS PRESENTATIONS AND COMMUNICATIONS
This course develops students' presentations skills in a business context. The course emphasizes professionalism and the use of evidence and analysis to support recommendations in order to make a compelling case.
PREREQUISITES: English 1010 or UPEI 1010. Successful completion (a passing grade) of the English Academic Program (EAP) for those students enrolled in the EAP Program.
Three hours a week

2130 BUSINESS ETHICS
(See Philosophy 2050)

2310 CORPORATE FINANCE
Finance is concerned with the planning for, acquisition, and utilization of funds. The major topics discussed in this course include the time value of money, analysis of financial projections, of financial markets, sources of corporate financing, cost of capital, capital budgeting, and working capital management.
PREREQUISITE: Accounting 1010, or admitted to ABBA from Accounting Tech diploma, or admitted to BBST from Accounting Tech diploma.
Three hours a week

2410 MANAGEMENT INFORMATION SYSTEMS
This course provides an introduction and understanding of the value and uses of information systems for business operation and management decision-making. It concentrates on providing an understanding of the tools and basic terminology needed to understand information systems and their role in the business environment. Topics include information systems concepts, a review of information technology concepts, the fundamentals of e-business, planning and development of information systems, and the management of these systems.

PREREQUISITE: Successful completion (a passing grade) of the English Academic Program (EAP) for those students enrolled in the EAP Program.
Three hours a week

2510 INTRODUCTION TO MANAGEMENT SCIENCE
This course is designed to provide business students with an introductory survey of the many business applications of descriptive and inferential statistics. Topics include frequency distributions, measures of location and dispersion, basic probability theory, discrete and continuous probability distributions, sampling methods and sampling distributions, sample size, confidence intervals, hypothesis testing, linear regression, and forecasting.
PREREQUISITE: Math 1110 or permission of the instructor
Three hours a week
**NOTE:** This is a required course for Business students and credit for Statistics 1210, Education 4810, Psychology 2710, 2780 or 2790, Sociology 3310, and Sociology 3320 will not be allowed.

2530 LE FRANÇAIS DES AFFAIRES
(See French 2520)

2540 CANADIAN BUSINESS CULTURE
Students will be exposed to Canadian business culture through readings, individual and group assignments, conversations with guests, and class presentations. Students are required to complete all readings, attend all classes, and complete all oral and written assignments during this intensive classroom experience. This course is intended for 1st and 2nd year undergraduate Business students who wish to gain further understanding of the Canadian business context.
PREREQUISITE: Successful completion (a passing grade) of the English Academic Program (EAP) for those students enrolled in the EAP program.
3 hours credit

2650 INTRODUCTION TO ENTREPRENEURSHIP AND SMALL BUSINESS MANAGEMENT
This course provides an overview of setting up and managing a small business. Topics include an overview of entrepreneurship, starting a new firm, uncovering business opportunities, challenges faced by entrepreneurs, and exploring entrepreneurship business models. The course benefits from guest speakers from the local community of small-business owners and culminates in the building of a formal business plan.
PREREQUISITE: Successful completion (a passing grade) of the English Academic Program (EAP) for those students enrolled in the EAP Program.
Three hours a week

2720 HUMAN RESOURCE MANAGEMENT
Human Resource Management (HRM) has become a strategic function for both private and public organizations. This course provides an introduction to the conceptual and practical aspects of HRM. It focuses on the personnel processes involved in the procurement, development and maintenance of human resources, such as staffing, training and compensation. The course also includes a critical examination of current personnel issues and trends.
PREREQUISITE: Business 1710
Three hours a week

2750 INTRODUCTION TO BIOTECHNOLOGY
This course is an overview of the biotechnology and life sciences industry, including discovery and development, regulatory and marketing requirements, management, intellectual property requirements, types and sources of innovation, and key issues in technology strategy. No advanced scientific knowledge is presumed or required; a scientific "primer" provides deeper understanding of some of the reading materials and discussions. The class consists of lectures, discussion, and examination of several current topics in the biotechnology and biopharmaceutical industry.

PREREQUISITES: 2nd year standing as a Business or Science student, or permission of the instructor
Three hours a week

2850 SPECIAL TOPICS
This is an introductory course in Business Administration on various topics for students who are interested in pursuing a Business degree. Lectures, readings and/or research will be undertaken in a variety of specialized areas. Topics will be approved by the faculty of Business Administration.
Three hours a week

2870 INTRODUCTION TO INTERNATIONAL BUSINESS
This course examines the basic issues involved in the internationalization of business, which includes the impact of international focus on business and how firms establish and conduct transactions with organizations from other countries. More specifically, the course examines the basic models of involvement in international business and the conditions appropriate for each. Class sessions will combine seminars and case discussions requiring active participation by all students.
PREREQUISITE: Business 1410 and 1710
Three hours a week

2880 RESEARCH AND EVIDENCE-BASED MANAGEMENT
Evidence-based management considers ethics and stakeholder concerns, practitioner judgment and expertise, local data and experimentation, and principles derived through formal research to inform decision-making. This course introduces students to qualitative and quantitative perspectives and methods for conducting and evaluating business research. Students develop information literacy as they learn to question assumptions and think critically about the nature of evidence and claims made about organizational phenomena. Problems in and prospects for improved managerial decision-making are included.
PREREQUISITE: Minimum of second year standing in an undergraduate program or permission of the instructor or admitted to BBST, BBTH or ABBA
Three hours a week

3010 BUSINESS LAW—Part I
This course offers students a basic introduction to the legal system and, in particular, the areas of tort, property, and contract law. A major portion of the course is devoted to the study of the legal implications of contractual issues in business endeavours. Legal cases are used, when applicable, to illustrate principles of law.
Three hours a week

3020 BUSINESS LAW—Part II
This course expands on the concepts introduced in Business 3010, and addresses some additional areas of law. Topics include securities legislation, landlord and tenant law, real estate law, environmental law, wills and estates, family law, and other business-related areas of law.
PREREQUISITE: Business 3010
Three hours a week

3100 Entrepreneurship Venture Development
Entrepreneurship Venture Development immerses students in the principles essential for entrepreneurial success, with a focus on shaping business opportunities within a customer-focused framework. Through dynamic and collaborative approaches, participants will delve into the strategic planning of ventures across various sectors, including the unique dynamics of non-profit ventures. This program encourages ideation, prototyping/modeling, and the development of innovative solutions to authentic business challenges. Working in interdisciplinary teams, students will tackle challenges posed by external partners or propose their own, all while developing entrepreneurial acumen within a business-centric framework. This project-based course explores the strategic dimensions of entrepreneurship, embracing business opportunities, and shaping the future of innovative solutions across diverse sectors.

3200 Entrepreneurship Venture Implementation
Entrepreneurship Venture Implementation is a standalone but companion course with UNIV-3100. It provides students

with a diverse set of skills and strategies for further developing and refining their startup ventures. The course offers interactive sessions, mentorship, and industry insights to serve the varied needs of startup ventures, including scaling, market entry, and other aspects of entrepreneurial development.

3330 INTEGRATED CASES IN CORPORATE FINANCE

The main focus of the course is the application of financial concepts to realistic business situations through the use of business cases. The principal areas covered will be financial analysis, financial forecasting, valuation, leasing, mergers and acquisitions, and derivative securities.

PREREQUISITE: Business 2310

Three hours a week

3340 PERSONAL FINANCE

This course provides students with theoretical and practical information regarding personal financial planning including budgeting, personal taxation principles, the use and cost of credit, the importance of saving, investment strategies, retirement planning, estate planning, real estate and mortgages, and the use of property and life insurance.

PREREQUISITE: Business 2310 or permission of the instructor

Three hours a week

3430 INTEGRATED CASES IN MARKETING

This course shows how basic marketing concepts are applied and integrated with other business functions in contemporary business situations. The main focus of the course is on marketing management, planning, executing, and controlling marketing programs. Other topics include international marketing, marketing research, and the social responsibility of marketing managers. The course considers the relationships between these topics and the other business functions. There is extensive use of case method teaching and students are expected to develop the written and oral communication skills necessary for problem solving in marketing.

PREREQUISITE: Business 1410 or permission of the instructor

Three hours a week

3510 OPERATIONS MANAGEMENT

This course covers an analysis of the nature and problems of production and operations management. Emphasis is given to a number of topics including quality management and SPC, product and service design, processes and technology, capacity and facilities, supply chain management, scheduling and distribution, inventory management and sales and operations planning. The intent is to take a broad view of the subject material as opposed to developing significant in-depth expertise in one or more areas.

PREREQUISITE: Business 2510

Three hours a week

3650 SMALL BUSINESS MANAGEMENT: OPPORTUNITY ANALYSIS AND DEVELOPMENT

This course will cover a range of topics to address various aspects of entrepreneurship, intrapreneurship and how to identify and analyze compelling opportunities. The first part of the course will consider innovation strategy and management, including culture, motivation and commercialization. The course will be an active learning experience that helps to map what it takes to grow a business to its full potential. Topics will include assessing opportunities; managing different forms of start-ups; evaluating founding team expertise; considering resource needs; venture financing; marketing and strategic considerations. The course will include a combination of seminars, cases, speakers, and hands-on project work.

PREREQUISITES: Business 1410, 1710, 2650, Accounting 1010

Three hours a week

3660 ENTREPRENEURIAL FINANCE

This course explores the dynamic challenges faced by entrepreneurial firms in securing financial backing to support start-up, development, and growth. The course is organized around the evolution of entrepreneurial companies emphasizing the dynamic nature of the issues confronting these firms. The financial factors that affect entrepreneurial firms at various stages

through to the exit decision are considered. Specific topics include the viability of proposed start-up ventures, the potential sources of financing for entrepreneurial firms, financial distress, and the harvesting decision. The key decisions of firms at various phases of their life cycle are examined. A mix of interactive lectures and case discussions is used.
PREREQUISITE: Business 2310 or permission of the instructor
Three hours a week

3710 ENTREPRENEURSHIP AND NEW VENTURES
This course is a study of the nature and background of entrepreneurship and the process involved from idea to opportunity to new business venture. Students are expected to study the environment in which entrepreneurship flourishes from both the perspective of the entrepreneur and of the economic system. The generation of ideas and opportunities is discussed, as well as the subsequent transformation of an opportunity into a formal business plan. The course concludes with an examination of the process of implementation of the business plan and the management of the new business which results. Extensive case analysis is required.
PREREQUISITE: Accounting 1010, Business 1410 and 2310
Three hours a week

3720 INDUSTRIAL RELATIONS
In this course students study the relationship between the labour force and management in the modern organization. Particular attention is given to the nature and role of trade unionism and collective bargaining. A basic objective of the course is to explore the conditions for effective industrial relations in the process of management.
PREREQUISITE: Business 2720 or permission of the instructor
Three hours a week

3730 TOURISM MANAGEMENT
This course provides students with a comprehensive understanding of the management of the world's largest industry—tourism. The course examines key elements of the industry including its scope, the role of transportation, accommodations and attractions, culture and other travel motivators, tourism research and marketing, and the development and distribution of tourism products. The course assesses Prince Edward Island's experience with tourism and its impact on the local economy.
PREREQUISITE: Business 1410 recommended or permission of the instructor
Three hours a week

3850 SPECIAL TOPICS
An intermediate course in Business Administration on a variety of topics for students who have qualified for advanced Business Administration study. Lectures, readings and/or research will be undertaken in a variety of specialized areas. Topics will be approved by the faculty of Business Administration.
Three hours a week

3852 MODERN BUSINESS COMMUNICATIONS
This course introduces students to concepts and ideas that will make them more effective producers and consumers of modern business communication in English. Students will develop broad editorial skills that can be used to gauge the value of sources, engage ethically across platforms, and demonstrate intercultural sensitivity.
PREREQUISITE: English 1010 or permission from the instructor
Three hours of credit
Note: Credit will not be given for both ENG 3810 and BUS 3852.

3860 INTERNATIONAL EXCHANGE TERM
Students who go on an international exchange term and who wish to count that experience towards a Specialization in International Business must register under this course number to document that they have fulfilled that requirement of the specialization. This is not a course that counts towards a student's requirement of 120 credit hours for a degree.

PREREQUISITE: Approval from the Faculty of Business' Director of International Programs.
0 semester hours

3870 INTERNATIONAL BUSINESS ELECTIVE
This course number is reserved for courses transferred in from other universities that qualify as electives for the Specialization in International Business.
Three hours a week

3910 STRATEGIC MANAGEMENT
This course provides students with an opportunity to explore the concepts of strategic thinking, analysis, and planning. It integrates the functional and process areas studied in the degree program and utilizes cases to give students experience in crafting business strategy.
PREREQUISITE: Business 1410, 2310 and 2720
Three hours a week

3940 INTERNATIONAL CO-OP PLACEMENT
Students who go on an international work term and who wish to count that experience towards a Specialization in International Business must register under this course number to document that they have fulfilled that requirement of the specialization. This is not a course that counts towards a student's requirement of 120 credit hours for a degree.
PREREQUISITE: Approval by the Faculty of Business' Director of International Programs.
0 semester hours

3970 INTRODUCTION TO CASE COMPETITIONS
The Case Analysis course trains students in problem-solving techniques that are focused on cases of actual business challenges. Students work both individually and in teams to understand, resolve, document, and present their analyses. This course enables students to construct logical, evidence-based solutions while practicing presentation and business writing. The course covers the practical analysis of many areas of business: strategy, project planning, marketing, ethics, accounting, human resource management, operations management and finance.
Three credit hours

4070 SPECIAL TOPICS IN ORGANIZATIONAL MANAGEMENT
An advanced course in organizational management on a variety of topics for students who have qualified for advanced Business Administration study. Lectures, readings and/or research will be undertaken in a variety of specialized areas. Topics will be approved by the faculty of Business.
Three hours a week

4320 APPLIED INVESTMENT MANAGEMENT
This course examines the various investment assets available to the individual, with a focus on the practical aspects of investing, and also considers important theoretical concepts necessary for a full appreciation of investment management. Major topics include the financial markets, financial intermediaries, types of investments, the purpose of a stock exchange, and market theories. Students undertake a fundamental analysis of a public company's common shares and present an investment recommendation.
PREREQUISITE: Business 2310 or permission of the instructor
Three hours a week

4390 INTERNATIONAL FINANCE
This course examines international finance and applications from a business perspective. Some of the key topics include foreign exchange markets, world capital markets (including banking), the use of derivatives, risk management, globalization, and foreign direct investment.
PREREQUISITE: Business 3330 or permission of instructor
Three hours a week

4430 CONSUMER BEHAVIOUR

This course explores the consumer buying process and the ways in which marketers can influence and shape the attitudes and actions of consumers through strategic marketing initiatives to cultivate consumer and organization satisfaction.

PREREQUISITE: Business 3430 or permission of the instructor

Three hours a week

4440 MARKET RESEARCH

This course will introduce students to the practice of market research. Specifically, students will understand the role and importance of market research in evidence-based decision making, will practice evidence-based market research, and will develop the skills to develop and report on evidence-based market research plans.

PREREQUISITE: Business 2880 and 3430, or permission of the instructor

Three hours a week

4450 BRAND MANAGEMENT

This course will provide students with an overview of strategic brand development and management as a means of connecting with consumers and establishing a market differentiation.

PREREQUISITE: Business 3430 or permission of the instructor

Three hours a week

4460 PERSONAL SELLING AND SALES

This course will examine the principles and practices of personal selling as a strategic part of an overall marketing plan. Specifically, the course will look at customer relationship management, developing sales pitches, and business-to-business sales strategies.

PREREQUISITE: Business 3430 or permission of the instructor

Three hours a week

4540 TOURISM AND HOSPITALITY MANAGEMENT

This course introduces the elements of tourism and hospitality: facility and accommodation, food and beverage, travel, tourism activities and the economic impact of tourism. A creative problem-solving approach is applied to the development and design of these elements. The course stresses critical thinking techniques as well as writing and presentation skills. Cross-level listing: IST-6280 Tourism and Hospitality Management on Islands.

PREREQUISITE: Accounting 1010, Business 3430, and Business 2720, or permission of the instructor

Three hours a week

4550 SUSTAINABLE TOURISM DEVELOPMENT

This course critically examines sustainable and responsible tourism development practices at both the micro and macro levels of the industry. Case study analysis is an integral component of the course. A major focus will be on benefits and impacts associated with tourism development, as well as the strategies for maximizing benefits and minimizing adverse effects.

Cross-level listed with IST 6240. Objectives, assessment and outcomes will be commensurate with the undergraduate level.

PREREQUISITE: Business 1410 or permission of the instructor

Three hours a week

4610 COMMUNICATIONS

This course examines behavioural concepts associated with the communication process. Each section of the course is designed to help students acquire a sensitivity to the communication process. Students are expected to acquire an awareness of techniques of effective communication through readings, cases and simulations.

PREREQUISITE: Business 1710 or permission of the instructor

Three hours a week

4650 PROJECT MANAGEMENT

Project Management is the application of knowledge, skills, tools, and techniques to project activities to meet project requirements. The course emphasizes the design, scheduling, budgeting, and management of projects from a variety of fields.
PREREQUISITE: Business 3510
Three hours a week

4680 SELF EMPLOYMENT – BEHIND THE SCENE
This is a very practical course looking inside the world of small to medium size businesses. Witness self employment and management first hand through guest speakers, field trips and class discussion. Gain valuable insight into strategizing and executing a business idea.
PREREQUISITES: Business 3710, or permission of the instructor
Three hours a week

4710 ORGANIZATIONAL DEVELOPMENT AND CHANGE
For organizations to survive and thrive they must adapt to changes in their environments as well as engage proactively to improve. Change can be planned or reactive and include major paradigm shifts as well as smaller adjustments. This course considers the nature of organizational change and strategies for managing change and improving organizations.
PREREQUISITE: Business 2720 or permission of the instructor
Three hours a week

4750 E-COMMERCE
This course surveys a variety of e-business models through the use of case studies. Students are introduced to strategic, legal, and technology issues that businesses face when changing business processes in an electronic commerce environment.
PREREQUISITE: Business 3330 and 3430, or permission of the instructor
Three hours a week

4760 INTERCULTURAL MANAGEMENT
This course examines the complex challenges that culture poses in international business. Topics covered include cultural influences on conducting business, values and communications, managing multicultural teams, international negotiations, and conflict resolution. The course aims to develop intercultural management knowledge and skills for working globally.
PREREQUISITE: Business 1710 or permission of the instructor
Three hours a week

4770 INTERNATIONAL MARKETING
This course addresses global issues that confront today's international marketer and presents concepts relevant to all international marketers. The focus is to develop a managerial understanding of international marketing and the competitiveness of Canadian and Island businesses in the global market. It provides a view of world markets, their respective consumers and environments, and the marketing management required to meet the demands of dynamic international settings.
PREREQUISITE: Business 3430 or permission of the instructor
Three hours a week

4790 SELECTED TOPICS IN MARKETING
This course deals with selected topics in marketing such as advertising, sales management, retailing, business marketing, tourism, and contemporary marketing issues. The course includes a range of active learning approaches, such as case discussions, computer simulations, and projects.
PREREQUISITE: Business 3430
Three hours a week

4810 INTEGRATED MARKETING COMMUNICATIONS
This course examines how consumer decision-making processes form the basis for promotions. In this context, the course deals with principles for developing advertising campaigns, trade and consumer promotion techniques, and methods for relating

optimal advertising and a consistent message across all audiences while maximizing budgets.
PREREQUISITE: Business 3430 or permission of the instructor
Three hours a week

4820 SPECIAL TOPICS
An advanced course in Business Administration on a variety of topics for students who have qualified for advanced Business Administration study. Readings and/or research will be under-taken in a variety of specialized areas. Topics will be approved by the faculty of Business Administration.
Three hours a week

4840 DIRECTED STUDIES
This is an upper level course that does not have a prescribed curriculum. In consultation with the course professor, the student chooses a specific topic and then undertakes an in-depth study of this topic. The course professor must approve all directed-study activities before registration can occur.
Three hours a week

4850 DEVELOPING MANAGEMENT AND LEADERSHIP SKILLS
In this course, learners are provided with tools and exercises that are used to develop self-awareness, creativity, conflict resolution, and empowerment skills. Learners begin a process of self-assessment which can continue to serve their development as managers after the course is completed.
PREREQUISITE: Business 2720, & Business 3910 or permission of the instructor
Three hours a week

4860 CURRENT ISSUES IN BUSINESS
This course offers students a program of study on a number of topics judged by faculty to be current, and likely to have a long-term impact on business management. Such topics may include, but are not limited to, changing employment structures, information technology uses in business, re-engineering, evolving regulatory environments, comparative business environments, and sustainable development.
PREREQUISITE: Business 1710, 3330 or 3430
Three hours a week

4880 MANAGEMENT IN PERSPECTIVE
This course examines the emergence and evolution of management and management education. Class sessions follow a seminar format and students are required to complete an independent research paper. Students critically examine historical or contemporary topics about management, management education, and related fields.
PREREQUISITE: Business 1710, or permission of the instructor
Three hours a week

4890 INTERNATIONAL STRATEGY AND FINANCE
This course examines issues important to international business management. Some of the key topics include international trade, foreign investment, foreign exchange markets and international strategy. The course includes seminars and case studies, and requires active participation by all students.
PREREQUISITES: Business 1410, 2310, 3510, or permission of instructor
Three hours a week

4950 BUSINESS RESEARCH I
This required course examines the general methodology of conducting business research. The student will use the principles acquired in class to prepare and present a substantial paper on a research topic chosen in consultation with a faculty supervisor.
PREREQUISITE: Business 2880 and Business 3910 or permission of the instructor
Three hours a week

4960 BUSINESS RESEARCH II

This course allows students to pursue a research project in further depth.

PREREQUISITE: Business 4950 and permission of the instructor

Three hours a week

4970 BUSINESS CASE COMPETITION

The UPEI Case Competition class is an intensive case-based, experiential learning course that trains students to compete in national and international case competitions. Students work in teams and work with a coach to engage in self-motivated, self-directed studies. They build upon their business skills and knowledge by sourcing and learning current, relevant business theory and implementing it into their case solutions. Students focus on constructing logical, evidence-based, clear solutions for business cases while practicing public speaking, presenting and business writing. Cases cover many areas of business: strategy, marketing, ethics, accounting, human resource management, and finance, across many industries and topics. The course includes weekly mock case competitions as well as regional, national, and international case competitions.

PREREQUISITE: Permission of the instructor only

Three hours a week

Note: Can substitute for Business 4950

5100 HONOURS THESIS

This course is aimed at students interested in pursuing an extensive research project. It is a required course in the BBA Honours Program.

PREREQUISITE: Business 4950 and permission of the instructor

Six hours a week

# 60. Canadian Studies

http://upei.ca/canadianstudies

Canadian Studies is an interdisciplinary program drawing on the resources of eight departments at UPEI. The goal of the program is to provide students with an in-depth understanding of Canadian society and culture. A student may major in Canadian Studies, may double major in Canadian Studies and another discipline, or may minor in Canadian Studies.

**REQUIREMENTS FOR A MAJOR IN CANADIAN STUDIES**

1. Students pursuing a Major in Canadian Studies must complete 42 semester hours (14 courses) in the Canadian Studies Program. These semester hours must be composed of the two required core courses in Canadian Studies (CST 1020 and CST 4110); one course in research methods (one of English 2040, History 2110, or Sociology 3310); eleven courses from Option Lists A, B, C, and D, with at least two courses from each option list and at least three 3000 level courses and three 4000 level courses.

2. Students are required to maintain an average of 65% in the Canadian-area courses.

3. There is a French Language co-requisite of three semester hours in French. Students must achieve a level of comprehension, writing and speaking at the level of French VI (FR 2120). To take the French Placement Test, please contact the First-Year Advisement Centre in Student Services, in the W. A. Murphy Student Centre. During the summer months, the French Placement Test is available through the Department of Modern Languages' website. Shortly after completion of the Placement Test, the student will be contacted by the Department of Modern Languages and notified of the appropriate course in which to enrol. Students are strongly urged to consider additional work in French.

4. Students should consult with the coordinator of the program when registering, in order to better plan an individual program suitable to their needs and interests.

**NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

**NOTE:** Not all courses listed are available in any given year. Also, some courses vary in their coverage of Canada from year to year. With the permission of the program coordinator, courses with a major focus on Canada that are not on the option lists may be substituted for those listed. Even if Canadian Studies 4110 is offered during the winter semester, students are strongly urged to make arrangements in order to find an advisor and a topic of research during the fall term of their fourth year.

**CANADIAN STUDIES CORE COURSES**

Canadian Studies 1020—Imagining Canada
Canadian Studies 4110—Research and Tutorial

**RESEARCH METHODS**

One of the following: English 2040, History 2110, or Sociology 3310

FRENCH LANGUAGE CO-REQUISITE

3 semester hours (French 2120 or above)

**OPTION A—CANADIAN INSTITUTIONS**

Economics 2120—Regional Economics
Economics 3040—Canadian Economic Problems
French 2610 (or Education 2130)—Introduction à l'éducation en français au Canada

Political Science 2010—Canadian Politics I: Government
Political Science 2020—Politics & Government of PEI
Political Science 2090—Special Topics (only if it's Canadian)
Political Science 2110—Law, Politics and the Judicial Process I
Political Science 2120—Law, Politics and the Judicial Process II
Political Science 2620—Canadian Politics II: Environment and Processes
Political Science 3020—Canadian Federalism
Political Science 3110—Canadian Public Administration
Political Science 3140—Canadian Public Policy
Political Science 3150—Canadian Foreign Policy
Political Science 3530—The Politics of Canadian-American Relations
Political Science 4010—Law, the Courts and the Constitution I
Political Science 4110—Political Parties and Elections in Canada

**OPTION B – ARTS, LANGUAGE AND LITERATURE**

English 3150—English-Canada Drama
English 3210—English-Canada Prose
English 3220—English-Canada Poetry
English 3230—Littérature canadienne-française I
English 3240—Littérature canadienne-française II
English 3310—Literature of Atlantic Canada
English 3330—L.M. Montgomery
English 4250—Advanced Studies in Canadian Literature
Fine Arts 3210—Canadian Art
French 2210—Langue et lectures I
French 2220—Langue et lectures II
French 2410—French Composition and Analysis I
French 2420—French Composition and Analysis II
French 2520—Le français des affaires
French 3390—Théâtre canadien-français
French 4410—Littérature canadienne-française I
French 4420—Littérature canadienne-française II
French 4430—Culture et littérature acadiennes I
French 4440—Culture et littérature acadiennes II
French 4460—Traduction: anglais-français
French 4510—Directed Studies in French (where Canadian-area related)
Music 4230— Canadian Music I
Music 4240— Canadian Music II

**OPTION C—HISTORICAL CONTEXTS**

Economics 2210—Canadian Economic History
History 1010—Canadian History—Pre-Confederation
History 1020—Canadian History—Post-Confederation
History 2310—The Atlantic Region
History 2320—The Atlantic Region
History 3250—Canadian Social History to WW I
History 3260—Canadian Social History since WWI

History 3270—Migration to Canada I
History 3280—Migration to Canada II
History 3310—History of PEI—Pre-Confederation
History 3320—History of PEI—Post Confederation
History 3520— The History of Quebec and French Canada
History 3850—Women in 19th Century Canada
History 3860—Women in 20th Century Canada
History 4240—History of Canadian Nationalism and the Canadian Identity
History 4250—Childhood in Modern Canada
History 4260—History of the Canadian Working Classes
History 4890—20th Century PEI

**OPTION D—HUMAN IDENTITIES**

Acadian Studies 2010—Introduction to Acadian Studies (in French)
Acadian Studies 4910—Special Topics in Acadian Studies (in French)
Canadian Studies 3020—The Canadian Experience
French 3380—Introduction à la société québécoise
Sociology/Anthropology 2520—Aging and Society
Sociology/Anthropology 2590—Special Topics (when Canadian-area related)
Sociology/Anthropology 3120—Rural Society in Canada
Sociology/Anthropology 4310—Minority/Ethnic Groups and Canadian Multiculturalism
Sociology 2110—Marriage and the Family
Sociology 3620—Urban Sociology
Sociology 3710—Canadian Society

The following courses can be included in the above options (check with the Coordinator of the program concerning which option group the course belongs to in a given year).

Canadian Studies 1090—Special Topics in Canadian Studies
Canadian Studies 2090—Special Topics in Canadian Studies
Canadian Studies 3090—Special Topics in Canadian Studies
Canadian Studies 4090—Special Topics in Canadian Studies
Canadian Studies 4510—Directed Studies in Canadian Studies
Canadian Studies 4520—Directed Studies in Canadian Studies
Canadian Studies 1090—Special Topics in Canadian Studies

**REQUIREMENTS FOR A MINOR IN CANADIAN STUDIES**

A minor in Canadian Studies is recognized when a student has successfully completed 21 semester hours of courses in Canadian Studies, including CST 1020 and six other Canadian Studies elective courses from at least three different options, at least one of which is at the 4000 level.

Note: Not all courses listed are available in any given year. Some courses vary in their coverage or Canada from year to year. With the permission of the program coordinator, courses with a major focus on Canada which are not on the option lists may be substituted for those listed.

# CANADIAN STUDIES CORE COURSES

1020 IMAGINING CANADA

This introductory course examines the creation and renegotiation of Canada's national identity. Included are the myths, symbols, and stories that have led Canada to be imagined in specific ways. The course is interdisciplinary, drawing on institutional, political, economic, historical, sociological, artistic, linguistic, literary, and cultural perspectives.
Three hours a week

1090 SPECIAL TOPICS
Creation of a course code for special topics offered by Canadian Studies at the 1000 level.

2090 SPECIAL TOPICS
Creation of a course code for special topics offered by Canadian Studies at the 2000 level.

3010 THE CANADIAN EXPERIENCE
This course is designed to provide an opportunity to examine the development of Canadian culture from the perspectives of a number of distinct disciplines. The themes of colonialism, regionalism, metropolitanism and cultural diversity will provide the basis for this examination. The object of the course is to develop an awareness of the complex patterns of development in Canadian culture from the French period to the present. The course will consist of seminars and lectures by a variety of instructors.
Three hours a week

3020 THE CANADIAN EXPERIENCE
A continuation of Canadian Studies 3010.
Three hours a week

3090 SPECIAL TOPICS
Creation of a course code for special topics offered by Canadian Studies at the 3000 level.

4090 SPECIAL TOPICS
Creation of a course code for special topics offered by Canadian Studies at the 4000 level.

4110 RESEARCH TUTORIAL AND SEMINAR
This course is required for all senior students majoring in Canadian Studies. The purpose of this course is to provide an opportunity for interdisciplinary research in an area to be determined by the student and a participating faculty member. Readings and research on the course will be supervised by a faculty member. The student is expected to present the results of the research in the form of an essay or a public presentation. This is a tutorial and seminar course.
Three hours a week

4510-4520 DIRECTED STUDIES
These courses are designed to provide an opportunity to examine special topics in Canadian Studies. The content and instructors will vary from year to year; open to both majors and non-majors. (See Academic Regulation 9 for Regulations Governing Directed Studies).

# 61. Chemistry

http://upei.ca/chemistry

**Chemistry Faculty**

Russ Kerr, Professor Emeritus
Michael T.H. Liu, Professor Emeritus
Barry Linkletter, Associate Professor, Chair
Amani Abdelghani, Associate Professor
Rabin Bissessur, Professor
Marissa Clapson, Assistant Professor
Trevor Clark, Assistant Professor
Nola Etkin, Professor
Brian D. Wagner, Professor
Marya Ahmed, Adjunct Professor
Jason Pearson, Professor
J. Regis Duffy, Adjunct Professor
Christopher Kirby, Adjunct Professor
Douglas Marchbank, Adjunct Professor
Jason Robinson Adjunct Professor
Marianne Rodgers, Adjunct Professor
Rheal Towner, Adjunct Professor

Accreditation received by the Canadian Society for Chemistry National Board for the Chemistry Major and Honours Program.

**GENERAL REQUIREMENTS**

For all courses with both laboratory and lecture components, credit will be granted only if satisfactory standing in both of these components has been obtained.

**REQUIREMENTS FOR A MAJOR IN CHEMISTRY**

Students pursuing a Bachelor of Science degree with a major in Chemistry must take at least 48 semester hours of chemistry in total and must at the same time complete certain courses as specified by the major requirements.

The required Chemistry courses are: Chemistry 1110-1120, Chemistry 2210, Chemistry 2410-2420, Chemistry 2310, Chemistry 2720, Chemistry 3220, Chemistry 3310, Chemistry 3420, Chemistry 3530, Chemistry 3610, Chemistry 3740, Chemistry 4820 OR 4830 and two Chemistry electives, at least one of which is at the 4th year level.

Additional course requirements for the Chemistry major include the following courses from other disciplines: Biology 1310-1320, Mathematics 1910, Mathematics 1920 and Mathematics 2910; Physics 1110-1120 (highly recommended) or Physics 1210-1220. As well, students majoring in Chemistry are advised to take Physics 2120 (Electricity, Magnetism, and Circuits).

**(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

All programs of study of students declared as Chemistry majors must be approved by the Chair of the Department. An outline of the Chemistry major requirements in the suggested sequence for their completion is given below, but deviations from it are permitted provided that the pertinent prerequisites are fulfilled.

**First Year**

Chemistry 1110-1120 General Chemistry I and II
Biology 1310-1320 General Biology I and II
Physics 1110-1120 (highly recommended) or 1210-1220 General Physics
Mathematics 1910-1920 Single Variable Calculus I and II
Electives (6 semester hours)

**Second Year**

Chemistry 2210 Analytical Chemistry
Chemistry 2410-2420 Organic Chemistry I & II
Chemistry 2310 Physical Chemistry I
Chemistry 2720 Inorganic Chemistry I
Mathematics 2910 Multivariable and Vector Calculus
Electives (9 semester hours)

**Third Year**

Chemistry 3220 Analytical Instrumentation
Chemistry 3310 Physical Chemistry II
Chemistry 3420 Advanced Organic Chemistry
Chemistry 3610 Organic Spectroscopy
Chemistry 3740 Inorganic Chemistry II
Electives (15 semester hours)

**Fourth Year**

Chemistry 3530 Biochemistry
Chemistry 4820 Advanced Research Project OR 4830 Advanced Chemistry Laboratory
Chemistry Electives
Electives 15 or 18

*The total number of electives depends on whether Chemistry 4820 (6 credits) or Chemistry 4830 (3 credits) is taken to fulfill the fourth year laboratory requirement. The Chemistry electives may be chosen from the Chemistry courses numbered: 2020, 2820, or any 4th year Chemistry course. At least one of the electives must be a 4th year course.

**REQUIREMENTS FOR A MINOR IN CHEMISTRY**

Students may obtain a degree with a minor in Chemistry by successfully completing the following courses:

Chemistry 1110 and 1120
Chemistry 2210
Chemistry 2310
Chemistry 2720
**AND**
Chemistry 2020 and 2430
**OR**
Chemistry 2410 and 2420

With permission of the chair, one of the above courses may be replaced with one of Chemistry 3220, 3310, 3420, 3610 or 3740.

**REQUIREMENTS FOR HONOURS IN CHEMISTRY**

The Honours Program in Chemistry is designed to provide research experience at the undergraduate level within the BSc program. It is available to students with a strong academic background who intend to continue studies at the post-graduate level in Chemistry or some related field, or to students who intend to pursue a career where research experience would be an asset.

The Honours Program differs from the major in requiring a two-semester research course with thesis report, in the requirement of 126 semester hours for the degree and in the requirement of an additional five advanced Chemistry courses. **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

The following are the course requirements for the Honours Program in Chemistry:

**First Year**

Chemistry 1110-1120 General Chemistry I and II
Biology 1310-1320 General Biology I and II
Physics 1110-1120 (highly recommended) or 1210-1220 General Physics
Mathematics 1910-1920 Introductory Calculus I and II
Electives (6 semester hours)
Total 32 semester hours

**Second Year**

Chemistry 2210 Analytical Chemistry
Chemistry 2410-2420 Organic Chemistry I & II
Chemistry 2310 Physical Chemistry I
Chemistry 2720 Inorganic Chemistry I
Mathematics 2910 Multivariable and Vector Calculus
Electives (9 semester hours)
Total 28 semester hours

**Third Year**

Chemistry 3220 Analytical Instrumentation
Chemistry 3310 Physical Chemistry II
Chemistry 3420 Advanced Organic Chemistry
Chemistry 3530 Biochemistry
Chemistry 3610 Organic Spectroscopy
Chemistry 3740 Inorganic Chemistry II
Chemistry elective (3 semester hours)
Mathematics elective (3 semester hours)
Electives (6 semester hours)
Total 30 semester hours

**Fourth Year**

Chemistry 4320 Methods in Computational Chemistry
Chemistry 4410 Physical Organic Chemistry
Chemistry 4670 Inorganic Reaction Mechanisms and Catalysis OR Chemistry 4680 Advanced Inorganic Chemistry
Chemistry 4900 Honours Thesis
Chemistry electives (6 semester hours)
Electives (9 semester hours)
Total 36 semester hours

The Chemistry electives may be chosen from among Chemistry courses numbered: 2020, 2820, or any 4th year Chemistry course. The Mathematics elective may be chosen from Mathematics 2610, 3010, Statistics 1210 or Statistics 2910 in consultation with the Chair. As well, students in the Honours Program in Chemistry are strongly advised to take Physics 2120 (Electricity, Magnets, Circuits) and/or Physics 3120 (Electromagnetism I).

Honours students should note that Chemistry 4900 is a two- semester course and carries twelve semester hours of credit. No credit for the first semester will be granted without successful completion of the second semester of the course.

For admission to the Honours Program, students must have a minimum average of 70% in all previous courses; normally the Department expects high second-class standing or first-class standing in previous Chemistry courses. Permission of the Department is also required and is contingent on the student finding an Honours Advisor, on being assigned an advisory committee, on acceptance of the research project by the Chemistry Department, and on general acceptability. Students interested in doing Honours should consult with the Department Chair as early as possible and not later than March 31 of the student's third year.

To graduate with a BSc Honours in Chemistry, students must complete 126 semester hours of credit which meet the required courses outlined above. As well, students must attain a 75% average in all Chemistry courses combined and must achieve a minimum overall average of 70% in all courses submitted for the degree. Students failing to meet the Honours requirements may apply for a transfer to the BSc Chemistry Major Program or to other degree programs.

## CO-OP EDUCATION IN CHEMISTRY

The UPEI Co-operative Program is an integrated approach to university education which enables students to alternate academic terms on campus with work terms in suitable employment. The success of such programs is founded on the principle that students are able to apply theoretical knowledge from course studies in the workplace and return to the classroom with practical workplace experience. Students who successfully complete all the requirements of the program will have the notation entered on their transcripts and on the graduation parchment.

Students accepted into the program, complete at least three paid work terms of normally 14 weeks duration, and three professional development courses. Credits earned through completion of work terms are counted as general electives.

The Co-operative option is available to full-time students in the Chemistry Major or Honours program. Applications to the Co-operative Education Program are normally made after completion of the first year of study.

See the Co-operative Education Program section of the UPEI Academic Calendar for more information.

## Bachelor of Science in Biotechnology

This program combines practical and applied courses provided by the Bioscience Technology diploma program at Holland College with strong theoretical science courses at the University of Prince Edward Island. It is designed for students interested in obtaining a rigorous and broad training in biotechnology, such as gaining experience in research, laboratory procedures and safety, scientific ethics, and regulatory affairs, while increasing access to post-graduate opportunities (e.g. Master's degree programs). Students are provided with foundational science courses as well as senior specialized courses in the life sciences at the university level to complement the strong hands-on technical training acquired during the college diploma program. On-the-job training is provided for all students.

There are two paths into this program, so students can either start at Holland College or UPEI, and end up with the same articulated degree. The technical lab-based content is covered at Holland College in the Bioscience Technology diploma program, either during the first two years of the degree (for students who start at Holland College; Path 1) or in year 3 (for students who start at UPEI; Path 2).

**(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

**Path 1, starting at Holland College ('2+2'):**

If students have received a Bioscience Technology diploma and achieved a minimum 70% average at Holland College, they are eligible to apply to UPEI for formal entry into the BBT degree program. Once accepted to UPEI, students will

undertake a rigorous program of 20 courses, 13 of which will be required, 3 will be upper level science electives, and 4 will be general electives. Once accepted, students are subject to all of the Academic Regulations of the University.

**Path 2, starting at UPEI ('2+1+1'):**

Students apply to start at UPEI in the Faculty of Science directly out of high school, following standard application procedures at UPEI. Once accepted, students undertake one year of science courses similar to a first year biology or chemistry student (9 required courses, 1 elective) and a second year of science at UPEI (8 required courses, 2 electives). During this second year students apply to Holland College for the Bioscience Technology diploma program by the deadline of May 1st. Once accepted, they complete their second year by attending an intersession program at Holland College in May and June. Then students attend one full year at Holland College in the Bioscience Technology diploma program (including an additional on-the-job training intercession course in May). Students then finish back at UPEI in their final year (4 required courses, 3 upper level science electives, 3 general electives).

For students who already have received a Bioscience Technology diploma, the recommended sequence of courses for the 2 years of Path 1 at UPEI is:

**Year 1 at UPEI:**

Chemistry 2210 – Analytical Chemistry
Chemistry 2430 – Organic Chemistry for Life Sciences
Chemistry 3530 – Biochemistry
Mathematics 1120 – Calculus for the Managerial, Social, and Life Sciences
Physics 1210 – Physics for the Life Sciences I
Physics 1220 – Physics for the Life Sciences II
Biology 2210 – Cell Biology
One General Elective
One of UPEI 1010 or 1020 or 1030;
IKE 1040

**Year 2 at UPEI:**

Chemistry 3220 – Analytical instrumentation
Biology 3220 – Introduction to Bioinformatics OR Biology 3620 – Computational Biology
Biology 3260 – Introduction to Physiology of Cells and Organisms
Biology 4710 – Molecular Biotechnology
Statistics 1210 – Introductory Statistics
One Science Elective at the 3000 level
One Science Elective at the 4000 level
One Science Elective at the 3000 or 4000 level
Two General Electives

**For students who have not received a Bioscience Technology diploma, the recommended sequence of courses for the 4 years of Path 2 is:**

**Year 1 at UPEI:**

Chemistry 1110 – General Chemistry I
Chemistry 1120 – General Chemistry II
Mathematics 1120 – Calculus for the Managerial, Social, and Life Sciences
Physics 1210 – Physics for the Life Sciences I
Physics 1220 – Physics for the Life Sciences II
Biology 1310 – Introduction to Cell and Molecular Biology
Biology 1320 – Introduction to Organisms
One of UPEI 1010 or 1020 or 1030;
IKE 1040
One General Elective

**Year 2 at UPEI:**

Chemistry 2210 – Analytical Chemistry
Chemistry 2310 – Physical Chemistry I
Chemistry 2430 – Organic Chemistry for Life Sciences
Chemistry 3530 – Biochemistry
Biology 2210 – Cell Biology
Biology 2060 – Microbiology
Biology 2230 – Genetics
Statistics 1210 – Introductory Statistics
Two General Electives

**Transfer to Holland College:**

Students who have completed the required courses listed above are eligible to transfer to Holland College. Priority is given to students entering the third year of the BSc Biotechnology program. Students begin in May with an intersession program at Holland College and complete this intersession program in June. Students then return to Holland College in September and participate in the second year of the Bioscience Technology program. This program includes a period of on-the-job training that occurs in the intersession period of the following year in May and June. After successful completion of the Holland College Bioscience program students will receive a block credit transfer of 30 credit hours and then return to UPEI for the final year of the program.

**Year 4 at UPEI:**

Chemistry 3220 – Analytical instrumentation
Biology 3220 – Introduction to Bioinformatics OR Biology 3620 – Computational Biology
Biology 3260 – Introduction to Physiology of Cells and Organisms
Biology 4710 – Molecular Biotechnology
One Science Elective at the 3000 level
One Science Elective at the 4000 level
One Science Elective at the 3000 or 4000 level
Three General Electives

**NOTES REGARDING 1000-LEVEL CHEMISTRY COURSES**

Chemistry 1110-1120 are introductory courses required for, but not restricted to, Chemistry Majors and Honours. A combined average of at least 60% is a prerequisite for all Chemistry courses above the 1000 level. However, this course prerequisite may also be met by the successful completion of a qualifying examination to be offered each year on the first Tuesday after Labour Day. This examination, which shall cover material from both is open to those who have passing grades for both Chemistry 1110 and 1120, but who do not have a combined average of at least 60%. To be admitted to Chemistry courses above the 1000 level, students must achieve a score of 65% on the qualifying examination. The score on the qualifying exam will not replace those attained in Chemistry 1110 and 1120, nor shall it be factored into any calculation of grades for graduation, scholarships or other purposes. This course prerequisite may also be waived with the permission of the Chair for individual courses. This 60% combined average regulation does not apply to students who have received credit for Chemistry 1110-1120 prior to the 2007-2008 academic year.

# MINOR IN BIOTECHNOLOGY

A student will obtain a minor in Biotechnology by successfully completing 21 semester hours of courses drawn from required BIOT courses and approved electives. *NOTE: This Minor is not an option for students in the Bachelor of Science in Biotechnology program.

1. **Required Courses**:
   BIOT 1020 Field Studies in Biotechnology on PEI
   BIOT 2020 Case Studies in Biotechnology
2. **One of:**
   BIOT 4820 Experiential Learning Project in Biotechnology, or
   BIOT 4830 Advanced Biotechnology Laboratory OR an approved Biotechnology-related Research course or honours project, or a UPEI Co-op Program work placement also Biotechnology-related and approved by the biotechnology program).
3. **Twelve (12)** semester hours (4 courses) chosen from the list below, with no more than six semester hours of these within one discipline.

**Approved electives that may be used towards the Biotechnology Minor:**

Biology 2230 Genetics I
Biology 2210 Cell and Molecular Biology
Biology 2060 Microbiology
Biology 2250 Human Biochemistry
Biology 3230 Genetics II
Biology 3520 Molecular Biology Research Techniques
Biology 4040 Endocrinology
Biology 4710 Molecular Biotechnology
Biotechnology 4610: Special Topics in Biotechnology
Chemistry 2210 Analytical Chemistry
Chemistry 2420 Organic Chemistry II
Chemistry 2430 Organic Chemistry for the Life Sciences
Chemistry 2310 Physical Chemistry I
Chemistry 3530 Biochemistry
Chemistry 4810-1 Special Topics — Medicines from the Sea
Chemistry 3220 Analytical Instrumentation
Chemistry 4090 Biomaterials
Computer Science 3220/Biology 3220 Introduction to Bioinformatics
Foods and Nutrition 3020 Advanced Foods
Foods and Nutrition 4120 Human Metabolism
Physics 2210 Modern Physics
Physics 2010 Waves and Oscillations
Physics 3420 Introduction to Medical Physics
Physics 3520 Biomedical Imaging
Physics 3610 Solid State Physics
Physics 3910 Radiation Detection and Measurement
Physics 4140 Optics and Photonics
Science 3010 Innovation and Entrepreneurship in Science

**Approved Holland College Offerings (Letter of Permission required)**

BIOS-1200 Laboratory Techniques
BIOL-1315 Theoretical and Applied Immunology

Many of the above-listed courses have prerequisites. For example, many of these courses that are 2000-level and above, require 1000-level introductory courses in Biology, Chemistry, or Physics, and may have additional 2000-level or 3000-level prerequisites. Students are advised to plan ahead accordingly.

# BIOTECHNOLOGY COURSES

BIOT 1020 FIELD STUDIES IN BIOTECHNOLOGY ON PEI

This course employs Prince Edward Island's unique concentration of companies engaged in the research, development, and commercialization of biotechnologies as an "operating laboratory" for developing an awareness and understanding of the techniques and processes, challenges, and solutions involved in Biotechnology of the 21st century. Through a series of field trips, students will examine first-hand how bioscience industries on the Island employ common biotechnology processes and how they apply them to solve different problems. There will be required writing exercises associated with each field trip. Students taking this course will attain a foundational layer of transferrable skills via competency-building written exercises, comprehensive experiential learning of biotechnologies across different working environments, and engagement with a pool of industry leaders.

Three lecture hours plus three field trip hours per week

BIOT 2020 CASE STUDIES IN BIOTECHNOLOGY

This course develops critical thinking around research problems in Biotechnology through a series of case studies. Students will examine and solve research problems in biotechnology. Material for the case studies will be drawn from biotechnology industries generically and from local industries, increasing in complexity as the semester progresses. Students will build competencies in Biotechnology methods and techniques, develop the ability to see alternative approaches, and develop problem solving and critical thinking skills.

Three lecture hours per week

BIOT 4610 SPECIAL TOPICS IN BIOTECHNOLOGY

A course in which topics or issues in biotechnology are explored outside the core area.

Three lecture hours per week

BIOT 4820 EXPERIENTIAL LEARNING PROJECT IN BIOTECHNOLOGY

This practical course offers students the opportunity to apply their knowledge and skills to working on and researching a problem in biotechnology. Students will work under the supervision of an industry mentor or/and a faculty member with a connection to local industry. Students are required to write a report describing the work and give an oral presentation on the work where academic and industry experts will be present. Support of an industry mentor and/or a faculty member must be obtained prior to registering for this course. Students are advised to contact the Chair at least two months in advance.

PREREQUISITE: BIOT 2020 and permission of the instructor.

Note: Minimum six hours per week

BIOT 4830 ADVANCED BIOTECHNOLOGY LABORATORY

A capstone laboratory course designed to enhance relevant skills of students who are interested in continuing their career in industry, e.g. a pharmaceutical company or a biotech start-up, or are taking the Biotechnology Minor. Students will select and carry out a number of short projects which are developed by faculty members in the various areas of Biotechnology. Students will be evaluated on their development of experimental procedures based on the biotechnology literature, scientific record-keeping, and preparation of reports.

PREREQUISITE: BIOT 2020 – must be taken prior to this course

Six hours laboratory and one hour seminar per week

# CHEMISTRY COURSES

1000 INTRODUCTION TO THE WORLD OF CHEMISTRY

This course is designed for students needing an introduction to chemical principles, in preparation for first year chemistry and for non-science students seeking an introduction to chemistry and its role in our world. Basic chemical principles are introduced in relation to everyday applications, including industry and the environment. Topics include:

matter and energy; elements and atoms; nomenclature and chemical reactions; electron arrangements in atoms; chemical quantities and calculations; acids and bases; and gases. Classes will be augmented by laboratory demonstrations. This course is required for those students planning to take Chemistry 1110 and who do not have Grade 12 Academic Chemistry.
NOTE: Credit for this course cannot be given to students who have previously completed Chemistry 1110

1110 GENERAL CHEMISTRY I
This course emphasizes the fundamentals of chemistry. Topics include: atoms, molecules and ions; stoichiometry; mass relations; gases and their behaviour; electronic structure and the periodic table; covalent bonding and molecular geometry; and thermochemistry. The laboratory associated with this course stresses stoichiometry, qualitative analysis, atomic spectroscopy and thermochemistry.
PREREQUISITE: Grade XII Chemistry, Chemistry 1000, or the permission of the Chair in special cases
Three lecture hours a week; one three-hour laboratory period or tutorial a week

1120 GENERAL CHEMISTRY II
This course continues the subject matter of Chemistry 1110. Topics include: chemical equilibrium, acids and bases, intermolecular forces, solutions, chemical kinetics, entropy and Gibbs energy, redox equations and electrochemistry. The laboratory associated with this course stresses volumetric analysis, titration curves and chemical kinetics.
PREREQUISITE: Chemistry 1110
Three lecture hours a week; one three-hour laboratory period or tutorial a week

2020 ENVIRONMENTAL CHEMISTRY
This course deals with the major topics of concern in environmental chemistry. Emphasis is placed on the chemistry involved, as well as assessment of the relative hazards and corrective methods available to provide abatement. Topics covered include: atmospheric free radical chemistry, the green- house effect, stratospheric ozone, tropospheric chemistry and photochemical smog, the chemistry of natural water systems, acid rain, indoor air quality, sewage and waste management, chlorinated organic compounds, and heavy metals in the environment.
PREREQUISITE: Chemistry 1110
Three lecture hours a week & three laboratories during the term (scheduled during the first class)

2210 ANALYTICAL CHEMISTRY
The treatment of analytical data and the estimation of experimental error are considered in detail. Chemical equilibrium, rate and equilibrium constants, abundance and titration curves, complexometric and redox reactions are discussed. The Beer-Lambert law and colorimetry are also examined. The laboratory work includes a selection of gravimetric, volumetric and colorimetric techniques relevant to the theory discussed.
PREREQUISITE: Chemistry 1120
Three lecture hours and four laboratory hours a week

2310 PHYSICAL CHEMISTRY I
This is an introductory course that deals with the topics of kinetic theory, introductory thermodynamics and thermochemistry, phase diagrams, conductivity, electrochemistry and introductory reaction kinetics. The latter includes first- and second-order reactions, as well as methods for dealing with the kinetics of complex reaction mechanisms.
PREREQUISITE: Chemistry 1120, Mathematics 1910-1920, or Mathematics 1120 with permission of the Chair
Three lecture hours and three hours laboratory a week

2410 ORGANIC CHEMISTRY I
This course introduces students to the structure and reactivity of hydrocarbons and functional groups, stereochemistry, aromaticity, nucleophilicity and electrophilicity, basic types of organic reactions and the application of spectroscopy to structure elucidation.
PREREQUISITE: Chemistry 1120

Three lecture hours and three hours laboratory a week
NOTE: Credit cannot be obtained for both Chemistry 2410 and Chemistry 2430.

2420 ORGANIC CHEMISTRY II
This course provides a detailed examination of reactivity and mechanisms of organic reactions, including nucleophilic substitution, elimination, addition, electrophilic aromatic substitution, reactions of carbonyl compounds, and rearrangements. Some multistep synthesis and polymers (including biopolymers) are also discussed.
PREREQUISITE: Chemistry 2410
Three lecture hours and three laboratory hours a week
NOTE: Credit cannot be obtained for both Chemistry 2420 and Chemistry 2430.

2430 ORGANIC CHEMISTRY FOR THE LIFE SCIENCES
This course is an introduction to organic chemistry for students in the life sciences (and others who do not intend to pursue a major in chemistry). Topics covered include the structure and reactivity of hydrocarbons and functional groups, stereochemistry, aromaticity, nucleophilicity and electrophilicity. Basic types of reactions discussed include nucleophilic substitution, elimination, addition, oxidation/reduction and reactions of carbonyl compounds.
PREREQUISITE: Chemistry 1120
Three lecture hours and three hours laboratory a week
NOTE: Credit cannot be obtained for both Chemistry 2430 and Chemistry 2410 or 2420.

2720 INORGANIC CHEMISTRY I
This course introduces transition metals and their coordination compounds. Topics include: naming and electron counting, coordination isomers, stereochemistry, approaches to ligand design, hard-soft acid base (HSAB) theory, crystal field theory, ligand field theory, and molecular symmetry. The course also examines substitution reactions, green chemistry, IR spectroscopy, and UV-Vis spectroscopy.
PREREQUISITE: Chemistry 1120.
Three lecture hours and four laboratory hours a week

2820 INTRODUCTION TO SCIENTIFIC RESEARCH
This course introduces students to some of the basic skills required in planning and reporting scientific research. It includes electronic searching of the literature, planning and design of experiments, analysis of experimental data, assessment of experimental error, scientific proof, ethics in research, scientific publications, social media, and scientific presentations.
PREREQUISITE: Chemistry 1120
Three lecture hours a week

3220 ANALYTICAL INSTRUMENTATION
This course introduces a variety of instrumentation techniques, and examines the theory, advantages and limitations associated with each. Topics include UV-visible absorption spectroscopy, atomic absorption and emission spectroscopy, operational components of spectrophotometers; electro- analytical methods, potentiometric methods, ion-specific electrodes, voltammetry, liquid chromatography, gas chromatography, spreadsheet methods and statistical software.
PREREQUISITE: Chemistry 2210 and Chemistry 3610 or permission of the Chair
Three lecture hours and four laboratory hours a week

3310 PHYSICAL CHEMISTRY II
This course is an introduction to quantum mechanics and spectroscopy for chemists. Topics covered include blackbody radiation, the photoelectric effect, diffraction, particle in a box, rigid rotor, harmonic oscillator and hydrogen atom in detail. The course will also explore the interaction of light with matter and applications to rotational, vibrational and electronic spectroscopy.

PREREQUISITE: Chemistry 2310 with a minimum of 60% and Mathematics 2910, or permission of the Chair
Three lecture hours and three hours laboratory a week

3420 ADVANCED ORGANIC CHEMISTRY
This course addresses the application of structure elucidation and synthetic methods to organic chemistry. Topics covered include: enolates, enamines, functional group interconversion, polycyclic and heterocyclic aromatic compounds, cycloadditions, rearrangements, multistep syntheses, and natural product synthesis.
PREREQUISITE: Chemistry 2410/2420 with a combined minimum average of 60% and Chemistry 3610
Three lecture hours and four laboratory hours a week

3530 BIOCHEMISTRY
This course is an introduction to biochemistry. Topics covered include the structure and function of biomolecules and their building blocks; protein structure; enzyme mechanism and kinetics; cell membrane structure and transmembrane signalling; thermodynamics of metabolism and an overview of the major metabolic pathways; DNA replication, transcription and translation of RNA for protein synthesis. The tutorial portion of the course focuses on the physical and chemical properties of proteins and enzymes. Students learn modern biochemistry techniques including ion-exchange and affinity chromatography, spectroscopy and enzyme assays.
PREREQUISITE: Chemistry 2420 or Chemistry 2430
Three lecture hours and two hours tutorial a week
NOTE: Students will not get credit for both Biology-2250 and Chemistry-3530

3610 SPECTROSCOPIC METHODS IN STRUCTURAL ANALYSIS
This course examines ultraviolet, visible, infrared and n.m.r. spectroscopy and mass spectrometry in terms of the physical processes responsible for the energy absorption and ion generation. Problems associated with the recording and interpretation of spectra are addressed and the application of spectral analysis to structural identification is stressed.
PREREQUISITE: Chemistry 2410/2420 with a combined minimum average of 60%
Three lecture hours and three hours laboratory a week

3740 INORGANIC CHEMISTRY II
This course examines the descriptive inorganic and organometallic chemistry of the main group elements and their compounds. Topics include: green chemistry, molecular symmetry vibrational spectroscopy, multinuclear NMR spectroscopy, main group elements and their reactivity (Lewis acids, frustrated Lewis pairs, boron-based polymers, clusters, carbenes and silylenes, main group multiple bonds, N-oxides, phosphorous redox reactivity, haloacids), cross coupling catalysis, metal hydrides, and catalytic hydrogenation.
PREREQUISITE: Chemistry 2720 with a minimum of 60% and Chemistry 3610 must be completed or taken concurrently.
Three lecture hours and three hours laboratory a week

4050 ADVANCED STUDIES IN NMR SPECTROSCOPY
This course covers the use of Nuclear Magnetic Resonance (NMR) spectrometry used in the determination of structures in Organic and Inorganic Chemistry. Major topics include the theory and use of NMR spectroscopy, in particular the use of 2D experiments and multi-nuclear NMR spectroscopy. Particular emphasis is placed on developing the students' ability to interpret spectra and elucidate the structure of a molecule based on this evidence beyond the undergraduate level, as well as the role NMR has played as a structural tool in the pharmaceutical industry and academia.
Cross-level listed with MMS 8050.
PREREQUISITE: Chemistry 3610 with a minimum of 60%
3 hours credit

4090 BIOMATERIALS
This course covers the fundamentals of the synthesis, properties, and biocompatibility of metallic, ceramic, polymeric,

and biological materials that come in contact with tissue and biological fluids. Emphasis is placed on using biomaterials for both hard and soft tissue replacement, organ replacement, coatings and adhesives, dental implants, and drug delivery systems. New trends in biomaterials and the recent merging of cell biology and biochemistry with materials is examined.
Cross-level listed with MMS 8090.
PREREQUISITE: Chemistry 3420
3 hours credit

4140 MARINE NATURAL PRODUCTS CHEMISTRY
The overall goal of the course is to provide a description of the structures and biosynthetic origins of natural products of marine origin. The main classes of natural products will be reviewed with an emphasis on their biological origin as a tool to understanding structures. The biomedical relevance of marine natural products will be discussed along with special topics lectures on such themes as “From lead compound to FDA approval” and “Development of a natural product drug lead”. Additional lectures on biological screening and metabolomics as modern tools in drug discovery, and chromatographic purification of natural products will round out the discussions.
Cross-level listed with MMS 8140.
PREREQUISITE: Chemistry 2410 or Chemistry 2430
3 hours credit

4320 METHODS IN COMPUTATIONAL CHEMISTRY
In this class we will review the theoretical foundations of quantum mechanics as well as undergo practical investigations of real-world chemical problems using modern quantum chemical software. Topics include methods in first principles simulations such as Hartree-Fock, perturbation theory, configuration interaction, coupled cluster and density functional theories in addition to more approximate methods such as semi-empirical approaches and molecular mechanics force fields.
PREREQUISITE: Chemistry 3310 with a minimum of 60%
Three lecture hours a week

4410 PHYSICAL ORGANIC CHEMISTRY
This course examines the qualitative and quantitative relationships between the rates and mechanisms of organic reactions, and the electronic and physical structures of reactants. Among the topics considered are: theory and applications of inductive and resonance effects, linear free energy relationships, kinetic isotope effects, solvent effects, steric effects in substitution and elimination reactions, acids and bases and pericyclic reactions, applications of semi-empirical and ab initio molecular orbital calculations.
PREREQUISITE: Chemistry 3420 with a minimum of 60%
Three lecture hours a week

4610-4620 DIRECTED STUDIES IN CHEMISTRY
These courses may be offered at the discretion of the Department to advanced students. Conditions under which they are offered and entry will be subject to the approval of the Chair of the Department and the Dean of Science.
(See Academic Regulation 9 for Regulations Governing Directed Studies.)

4640 POLYMER CHEMISTRY
This course examines the synthesis, properties, and applications of organic polymers. Topics include: ionic, radical and condensation polymerizations, as well as the newer catalytic methods.
PREREQUISITE: Chemistry 2410/2420 with a combined minimum average of 60%
Three lecture hours and a one-hour laboratory a week

4670 INORGANIC REACTION MECHANISMS AND CATALYSIS
Inorganic reaction mechanisms are discussed, with an emphasis on catalytic cycles and the application of

organometallic compounds to synthesis. Topics include: basic inorganic reaction mechanisms, catalytic cycles and catalysis, application of organometallic chemistry to modern industrial synthesis and polymerization reactions, and chirality and enantioselectivity in catalysis. Fundamental concepts will be supplemented with material from the current literature to explore the broad range of interdisciplinary applications of inorganic and organometallic catalysts.
PREREQUISITE: Chemistry 3740 with a minimum of 60%
Three lecture hours a week

4680 ADVANCED INORGANIC CHEMISTRY
This course deals with advanced topics in Inorganic Chemistry. Topics include: bioinorganic chemistry, green chemistry, solid state inorganic chemistry and advanced coverage of molecular orbital theory and bonding in transition metal and main group complexes. This course will also introduce advance spectroscopic techniques, including X-ray diffraction, Mossbauer spectroscopy and multi-nuclear NMR spectroscopy. The current literature is explored to illustrate the broad range and interdisciplinary nature of inorganic chemistry.
PREREQUISITE: Chemistry 3740 with a minimum of 60%
Three lecture hours a week

4690 MATERIALS CHEMISTRY
This course discusses current topics in materials chemistry. Topics include the synthesis and characterization of intercalation compounds, conductive polymers and their applications, semiconductors and their applications, defects in inorganic solids, and transport measurements.
Cross-level listed with MMS 8690.
PREREQUISITE: Chemistry 2410/2420 with a combined minimum average of 60%, 3310, 3740 with a minimum of 60% in these courses
Three lecture hours a week

4810 SPECIAL TOPICS
A course in which topics or issues are explored outside the core area.

4820 ADVANCED RESEARCH PROJECT
A laboratory research course designed to review, unify, and augment the content of previous chemistry courses and to provide an introduction to chemical research. Students will abstract and adapt procedures from the chemical literature and apply them in a one-semester research project carried out under the supervision of a Faculty Member. Components in the evaluation include a written thesis and its oral presentation.
PREREQUISITES: All Chemistry courses of a 3000 level or lower which are required for the Chemistry Major program must be completed or taken concurrently. Entry to this course is contingent upon the student finding a departmental faculty member willing to supervise the research and permission of the department.
Twelve hours laboratory a week (minimum)
Six semester hours of credit

4830 ADVANCED CHEMISTRY LABORATORY
A capstone laboratory course designed to integrate and augment the content of previous chemistry courses in organic, in- organic, physical and analytical chemistry. Students will select and carry out a number of short projects which are developed by faculty members in the various areas of Chemistry. Students will be evaluated on their development of experimental procedures based on the chemical literature, scientific record-keeping, and preparation of reports.
PREREQUISITES: All Chemistry courses of a 3000 level or lower which are required for the Chemistry Major program must be completed or taken concurrently.
Six hours laboratory and one hour seminar a week

4900 HONOURS RESEARCH AND THESIS
This course is a laboratory course focused on a project of original research. The course carries twelve semester hours

of credit and is required of every Honours student in their final year of undergraduate study. The project is designed during the second semester of the prior year and intensive experimental work is conducted during the final year, for a minimum average of twelve hours per week, under the direction of an advisor and an advisory committee. The research results are reported in thesis format and are presented orally to the Department faculty and students.
PREREQUISITE: Acceptance to the Honours Program
Twelve semester hours of credit

# 62. Classics

http://upei.ca/classics

The Greeks and the Romans laid foundations upon which Western Civilization rests. We owe to the Greeks the roots of much of our literature, science, philosophy and art, while the Romans gave the still living legacy of their language, literature and law to an empire that stretched from the North Sea to the Persian Gulf. To allow the student to share in this rich heritage, the Department of Classics offers courses in the languages, literature, history, philosophy and civilization of Greece and Rome.

Our courses in Greek and Roman Civilization are for students who wish to gain a general understanding of classical antiquity and are the usual basis for further work in Classics. The 2000 and 3000 level courses treat particular subjects and periods, but none of the Classics courses requires a knowledge of Greek or Latin.

There are, however, courses in the Greek and Latin languages for both beginning and advanced students. Those who wish to learn Greek and Latin are urged to begin their studies as early as possible in their university careers.

Students who pass in Classics 1010, 1020, 3120, 3420, 4310 and 4320 may claim credit for these courses in the Department of History.

**REQUIREMENTS FOR A MINOR IN CLASSICS**

1. A Minor in Classics consists of 21 semester hours.
2. The 21 semester hours must be distributed as follows:

(a) 6 hours in Greek or 6 hours in Latin.

(b) 6 hours in civilization courses; i.e. non-language courses offered by the Classics Department or cross-listed courses recommended by the Department.

(c) 9 hours of electives at the 2000 level or above; at least 3 of these 9 hours must be at the 3000 level or above.

## CLASSICS COURSES

1020 ROMAN CIVILIZATION
This course surveys Roman Civilization from its beginnings to the fall of Rome. It examines important political, literary and material creations, such as the Empire, the Aeneid, and the Colosseum, within their historical contexts. The aim is to provide both a general understanding of Ancient Rome, including its contribution to Western Civilization, and a basis for further work in Classics.
Cross-listed with History 2520.
PREREQUISITE: None
Three hours a week

2210 CLASSICAL MYTHOLOGY
This course surveys the Greek and Roman myths as they are found in the religion, pre-scientific thought, literature, philosophy and art of the Ancient World. These myths helped to make the universe, society and the individual intelligible to the Ancients and have contributed significantly to the art and literature of Western Civilization. The aim of the course is to provide both a general understanding of Greek and Roman culture and a basis for further work in Classics.
Cross-listed with Religious Studies 1210.
PREREQUISITE: None
Three hours a week

2310 EGYPTIAN AND MESOPOTAMIAN ART
(See Fine Arts History 2010)

2320 GREEK ART
(See Fine Arts History 2020)

2410 ROMAN ART
(See Fine Arts History 2110)

2620 PLATO AND ARISTOTLE
(See Philosophy 2620)

2880 SPECIAL TOPICS
Creation of a course code for special topics offered by Classics at the 2000 level.

3420 THE LATER ROMAN EMPIRE (A.D. 284-410)
This course gives detailed consideration to the political, military, social, economic and religious history of the Roman Empire from the reign of Diocletian to the sack of Rome by Alaric the Visigoth. Attention is directed to the reasons why the Romans failed to halt the decline of their Empire.
Cross-listed with History 2720.
PREREQUISITE: Classics 1020, or 3120, or permission of the instructor
Three hours a week

3880 SPECIAL TOPICS
Creation of a course code for special topics offered by Classics at the 3000 level.

4880 SPECIAL TOPICS
Creation of a course code for special topics offered by Classics at the 4000 level.

LANGUAGE COURSES

GREEK
1010
This course provides an introduction to the grammar and syntax of Classical Greek.
PREREQUISITE: None
Three hours a week

1020
This course provides a continuation of the study of the grammar and syntax of Classical Greek.
PREREQUISITE: Greek 1010
Three hours a week

LATIN

1010
This course provides an introduction to the grammar and syntax of the Latin language.
Three hours a week

1020
This course provides a continuation of the study of the grammar and syntax of the Latin language.
PREREQUISITE: Latin 1010
Three hours a week

4310-4320 DIRECTED STUDIES

Student and teacher jointly investigate problems or authors or do advanced language studies in consultation with the Chair. May be used as a History credit with approval of the History Chair.

PREREQUISITE: Four courses in Classics (See Academic Regulation 9 for Regulations Governing Directed Studies.)

# 63. Co-operative Education Program

http://upei.ca/co-op

The UPEI Co-operative Program is an integrated approach to university education which enables students to alternate academic terms on campus with work terms in suitable employment. The success of such programs is founded on the principle that students are able to apply theoretical knowledge from course studies in the workplace and return to the classroom with practical workplace experience. Students who successfully complete all the requirements of the program will have the notation entered on their transcripts and on the graduation parchment.

**ACADEMIC COURSE REQUIREMENTS**

Academic course requirements for the Co-operative Education designation are as follows: COOP 2210, COOP 3210, COOP 4210 are required, three semester hour credit granting work terms (these replace three general electives); and COOP 5210 is an optional work term with no semester hours of credit awarded. Each of the first three work terms are preceded by a required, non-credit career skills course (COOP 2110/COOP 2120, COOP 3110, and COOP 4110), which prepares students for their job search and readies them for the workplace.

**ADMISSION REQUIREMENTS**

Applications to the Co-operative Education Program are normally made after the first year of study. Special application cases may be considered. The applicant must be a full time student in either the Arts, Business or Science faculty, and have a cumulative grade point average of at least 2.7 in the required program courses and have completed all first year required courses. Students will be admitted to the program based on their interest, aptitude and assessed ability, to combine successfully the academic requirements with the work term requirements of the given program. Students not admitted may reapply at the next opportunity.

CONTINUANCE REQUIREMENTS

Once admitted to the program, students must continue in full-time enrolment between work terms and maintain a cumulative grade point average of 2.7. An academic review of students' performance will take place at the end of each semester. It is also required that students achieve satisfactory performance on previous work terms, as outlined below in Program Requirements. Students who fail to meet these standards or who fail a course(s) will be placed "on notice" for the next academic semester. Students who do not meet these standards for two consecutive academic semesters may be dismissed from the program.

PROGRAM REQUIREMENTS

The University will make every effort to locate work term positions for co-op students in suitable areas of employment, but cannot guarantee work terms. Satisfactory fulfillment of the program includes:

1. The completion of a minimum of three work terms, in approved, academically-related, paid employment situations of 14 to 16 weeks duration;
2. The completion of three professional development course sections (Career Skills 1, 2 & 3);
3. A satisfactory employer evaluation for each co-op work term;
4. The satisfactory completion of all work term assignments during work terms;

WITHDRAWAL CONDITIONS

Students may be required to withdraw from the UPEI Co-operative Program if:

1. They are dismissed from, discontinue, or fail an approved co-operative work term position due to a fault on their part;

2. They fail to complete the necessary professional development courses;

3. They fail to submit or successfully complete the work term assignments;

4. They do not satisfy the continuance requirements including the required cumulative grade point average necessary for continuance in the UPEI Co-operative Program;

5. In the judgement of the Co-operative Education Coordinator and/or applicable Academic Director, they are no longer suited for the particular requirements of the Co-operative Education Program.

WORK TERM REGISTRATION

Students are required to register for all professional development courses and work terms by following typical registration processes. The professional development courses and work terms will officially be designated on students' transcripts as pass or fail.

## CO-OPERATIVE EDUCATION COURSES

2110 CAREER SKILLS I – PART I
This course offers introductory career skills training to prepare Co-operative students for their first work term. This course will be graded on a pass/fail basis.
PREREQUISITE: Acceptance into the co-op program
0 credit hours

2120 CAREER SKILLS I – PART 2
This course offers introductory career skills training to prepare Co-operative students for their first work term. This course will be graded on a pass/fail basis.
PREREQUISITE: Acceptance into the co-op program
0 credit hours

2210 WORK TERM I
This course is Co-operative students' first work term. This course will be graded on a pass/fail basis.
PREREQUISITE: COOP 2110 and COOP 2120
3 credit hours

3110 CAREER SKILLS II
This course offers career skills training to strengthen Co-operative students' readiness for their second work term. This course will be graded on a pass/fail basis.
PREREQUISITE: COOP 2210 or permission of the applicable Academic Director of Co-operative Education.
0 credit hours

3210 WORK TERM II
This course is Co-operative students' second work term. This course will be graded on a pass/fail basis.
PREREQUISITE: COOP 3110 or permission of the applicable Academic Director of Co-operative Education.
3 credit hours

4110 CAREER SKILLS III
This course offers career skills training to strengthen Co-operative students' readiness for their third work term. This course will be graded on a pass/fail basis.

PREREQUISITE: COOP 3210 or permission of the applicable Academic Director of Co-operative Education.
0 credit hours

4210 WORK TERM III
This course is Co-operative students' third work term. This course will be graded on a pass/fail basis.
PREREQUISITE: COOP 4110 or permission of the applicable Academic Director of Co-operative Education.
3 credit hours

5210 WORK TERM IV
This optional course is available to students who elect to complete a fourth work term.
PREREQUISITE: COOP 4210
0 credit hours

# 64. Diversity and Social Justice Studies (DSJS)

http://www.upei.ca/arts/diversity-and-social-justice-studies

**Co-ordinator**

Ann Braithwaite, Professor

Diversity and Social Justice Studies responds to the 21st century need for critical engaged citizens who can, through a variety of theoretical languages and methodologies: a) analyze the social construction of identity categories (gender, sexuality, race, class, age, national status, able-bodiedness, species, etc.) and recognize the difference these make to what we know and how we act in the world; b) recognize, address, and challenge global inequities around these intersecting identity categories and analyze how social structures and policies, systems of representation, and everyday practices perpetuate these inequities; c) see the world from multiple points of view at the same time, recognize the complexity of contexts in shaping those views, and understand that both knowledge and visions of social change are always situated and partial. Diversity and Social Justice encourages interdisciplinary approaches and the development of intercultural knowledge through a variety of courses and other learning opportunities. Courses are divided into three clusters: 1) Gender and Sexuality; 2) Identities and Social Structures; 3) Cultural Representation and Analysis.

**REQUIREMENTS FOR A MAJOR IN DIVERSITY AND SOCIAL JUSTICE STUDIES**

Students pursuing a Major in Diversity and Social Justice must complete 42 credit hours (14 courses) in the DSJS Program. These credit hours must be composed of both of the following required courses: either 1120, 1130, or 1140, AND either 4040 or 4070, in addition to 12 other courses from the list of DSJS courses, with at least four courses (12 semester hours) at the 3000-4000-level. Students must take a minimum of 2 courses from each of the 3 thematic clusters.

**(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

1. **Core Courses**:

One of:

DSJS 1120 – Identities and Place

DSJS 1130 – Bodies and Power

OR

DSJS 1140 – Love and Labour

AND one of

DSJS 4040 – Theorizing Social Justice

DSJS 4070 – Social Change, Social Justice

2. **DSJS and cross-listed courses**:

**THEMATIC CLUSTERS**

**Gender and Sexuality**

DSJS 2050 – Sex and Culture

DSJS 2420 – Philosophies of Love and Sexuality (Philosophy 2420)

DSJS 2610 – Sex, Gender and Society (Sociology/Anthropology 2610)

DSJS 3140 – Masculinities

DSJS 3850 – Women in 19th Century Canada (History 3850)

DSJS 3860 – Women, the Law, and Civil Rights in 20th-Century Canada (History 3860)

DSJS 3910 – Psychology of Women and Gender (Psychology 3910)

DSJS 4730 – Gender and Violence (Psychology 3950)

DSJS 4060 – Queer Theory

DSJS 4350 – Gender and Sexuality (Psychology 4350)
DSJS 4660 – Advanced Topics in Gender and Sexuality (English 4660)

**Identities and Social Structures**

DSJS 2630 – Global Youth Cultures (Sociology/Anthropology 2630)
DSJS 2750 – Social Inequality (Sociology/Anthropology 2750)
DSJS 2920 – Work and Society (Sociology 2920)
DSJS 3120 – Race and Whiteness
DSJS 3130 – Disability Studies
DSJS 3150 – Prison Abolition
DSJS 3520 – Kinship and Family (Anthropology 3520)
DSJS 3550 – Globalization (Sociology/Anthropology 3550)
DSJS 3710 – Community Based Ethical Inquiry (Philosophy 3710)
DSJS 3810 – Women, Economics and the Economy (Economics 3810)
DSJS 3840 – Cultural Psychology (Psychology 3850)
DSJS 4010 – Medical Anthropology (Anthropology 4010)
DSJS 4130 – Psychology of Social Class (Psychology 4130)
DSJS 4310 – Minority/Ethnic Groups and Canadian Multiculturalism (Sociology/Anthropology 4310)

**Cultural Representation and Analysis**

DSJS 2120 – Food and Cultural Studies
DSJS 2130 – Monsters, Freaks, Zombies, and Cyborgs
DSJS 2140 – Bodies, Health, and Disease
DSJS 2160 – Rebel Kids and Wild Futures
DSJS 2170 – Critical Media Studies
DSJS 2210 – Writings by Women (English 2210)
DSJS 3160 – Climate Apocalypse, Climate Justice
DSJS 3320 – Knowledge and Culture (Anthropology 3320)
DSJS 4020 – Cybercultures (Anthropology 4030)
DSJS 4560 – Visual Culture (Sociology/Anthropology 4560)
DSJS 4740 – Britain in the 20th Century (History 4720)

**REQUIREMENTS FOR A MINOR IN DIVERSITY AND SOCIAL JUSTICE STUDIES**

A minor in DSJS will be recognized when a student has successfully completed twenty-one (21) semester hours of courses in DSJS, including at least one of

- 1120
- 1130
- 1140
- 4040
- 4070
- and six additional courses from anywhere on the list of DSJS courses.
- At least six semester hours must be at the 3000 or 4000 level.

# DIVERSITY AND SOCIAL JUSTICE STUDIES CORE COURSES

1090 SPECIAL TOPICS
Creation of a course code for special topics offered by Diversity and Social Justice Studies at the 1000 level.

1120 IDENTITIES AND PLACE

This course explores how identity categories such as gender, race, disability, sexuality, and national identity are reflected in a range of everyday places. Using examples such as housing, schools, workplaces, restaurants, malls, prisons, streets and sidewalks, and nations and borders, it analyzes how place always reflects embedded assumptions about who belongs or is included, and who doesn't belong or is excluded. Place offers a way to further investigate how identity matters in the everyday world as well as to question how those identity categories are constructed and perpetuated.
PREREQUISITE: None
Three hours a week

1130 BODIES AND POWER

This course examines how bodies are assumed to reflect identity categories such as gender, race, sexuality, disability, and national identity. It explores bodies as sites for the definition and regulation of those categories, as well as for resistance to them. Through diverse examples such as exercise and diet culture, hair, public places, sex work, and others, this course considers how and why bodies matter, and challenges the everyday assumptions made about bodies and power relations of all kinds.
PREREQUISITE: None
Three hours a week

1140 LOVE AND LABOUR

This course explores how labour and work, both paid and unpaid, are part of all social relationships, and how they both reflect and are impacted by identity categories such as gender, race, national identity, sexuality, and disability. It asks how and why some kinds of work are paid and validated while others are unpaid and even made invisible, examining issues such as whose work is recognized and whose isn't, and exploring the consequences of this for different groups of people.
PREREQUISITE: None
Three hours a week

2050 SEX AND CULTURE

This course examines theories of sex and sexuality, and investigates how they are central to the construction and function of contemporary North American culture. It explores how boundaries between 'approved of ' and 'disapproved of ' sexual behaviours reflect larger social and cultural concerns, and challenges students to think beyond the more usual either/or ways of identifying sexuality. Topics covered include the social construction of heterosexuality, changing definitions of lesbian/gay/bisexual, challenges posed by intersexed and transgendered people, sex work, sado/masochism, pornography, monogamy, intergenerational sex, internet and 'cybersex,' and the 'feminist sex wars.'
PREREQUISITE: None
Three hours a week

2090 SPECIAL TOPICS

Creation of a course code for special topics offered by Diversity and Social Justice Studies at the 2000 level.

2120 FOOD AND CULTURAL STUDIES

This course introduces students to the study of food and its relationships to identities (i.e., gender, race, class, national status), the body, community, popular culture, and politics. It explores how historical and contemporary food production and consumption practices both construct and reflect these relationships and examines such questions as how food is defined and how it circulates to both perpetuate and challenge power and privilege.
Cross-listed with Foods & Nutrition 2310.

2130 MONSTERS, FREAKS, CYBORGS, AND ZOOMBIES

From the history of freak shows and ethological exhibits, to contemporary body enhancement practices, to pop culture representations of undead or superhuman bodies, this course explores how bodies deemed monstrous or freakish have always been tied to assumptions about race, disability, gender, sexuality, and national identity. It examines how the body's appearance and actions exposes the limits of who and what is considered normal and, even, human, asking how bodies have been sites for the control and regulation of groups of people as well as ways to challenge and affirm identity

categories.
PREREQUISITE: None
Three hours a week

DSJS 2140 Bodies, Health, and Disease

This course examines how concepts of health and disease are socially constructed and investigates the implications of their changing definitions. It explores how terms such as "normal" and "pathological" have been used to define and regulate identities and experiences related to gender, race, disability, and national belonging in particular. It investigates how concepts such as contagion, healthism, risk, fear, and eugenics have been mobilized to reinforce differences and perpetuate inequalities among social groups.
PREREQUISITE: None
CREDITS: 3

DSJS 2160 Rebel Kids and Wild Futures

This course explores how children and youth are challenging conventional norms and envisioning new futures amid turbulent socio-political and environmental shifts. Drawing on insights from child and youth studies as well as scholarship in social and environmental justice, the course revisits the historical notion of the "wild" child to examine how contemporary "rebel kids" are transforming precarious conditions into opportunities for creativity, social change, and a more just world.
PREREQUISITE: None
CREDITS: 3

DSJS 2170 Critical Media Studies

This course examines media power and its influence on democratic societies and communities. It explores diverse media representations—from the superhero phenomenon and Disney princess narratives to TikTok trends and the gamification of social interactions—that mirror and shape our collective values. It analyzes how media practices are designed to connect , influence, and monetize users, swaying political outcomes and shaping public opinion. The course showcases art's ability—from film, television, literature, and visual arts—to spark dialogue, challenge dominant narratives, and transform cultural landscapes. Ultimately, students will learn to decode media messages and apply their insights to help build more knowledgeable and just communities.
PREREQUISITE: None
CREDITS: 3

2210 WRITINGS BY WOMEN
(See English 2210)

2420 PHILOSOPHIES OF LOVE AND SEXUALITY
(See Philosophy 2420)

2610 SEX, GENDER AND SOCIETY
(See Soc/Anth 2610)

2630 GLOBAL YOUTH CULTURES
(See Soc/Anth 2630)

2920 WORK AND SOCIETY
(See Sociology 2920)
PREREQUISITE: Any 1000-level DSJS course or permission of the instructor.

3090 SPECIAL TOPICS
Creation of a course code for special topics offered by Diversity and Social Justice Studies at the 3000 level.

3120 RACE AND WHITENESS

This course explores how "whiteness" as both an identity and a structure has long been overlooked, denied, and

disavowed—and with what consequences. Topics addressed include: the idea of race and definitions of racism; multiple and conflicting ideas about whiteness; everyday whiteness, white normativity, and white privilege; "white fragility" and "white guilt"; and white anti-racism and "good white people."
Cross-listed with SAN 3121. Credit cannot be received for both of these courses.
PREREQUISITE: Second Year standing or above, or permission of the instructor
Three hours a week

3130 DISABILITY STUDIES

This course questions the more usual way of understanding disability as an individual attribute of the body/mind that needs to be either accommodated or fixed. Disability Studies, as both a theoretical approach and a political movement, requires us to think complexly about compulsory able-bodiedness/able-mindedness, challenging and destabilizing how bodies and embodiment, norms and the "normal," and access and inclusion have been understood.
Cross-listed with SAN 3130. Credit cannot be received for both of these courses.
PREREQUISITE: Second Year standing or above, or permission of the instructor
Three hours a week

3140 MASCULINITIES

This course challenges the ways in which masculinity is assumed to be an extension of the male body and a way to describe men's social status, roles, and attributes, exploring these connections and examining their consequences. In maintaining that there is nothing universal or natural about masculinity, this course examines how masculinities are constructed and perpetuated, asking to whom these ideas refer and how that matters for different groups of people.
PREREQUISITE: Second Year standing or above, or permission of the instructor
Three hours a week

DSJS 3150 Prison Abolition

This course examines the prison abolition movement and its challenge to envision a society free from carceral politics, surveillance, and control. By investigating prisons and policing alongside intersecting areas such as education, social work, immigration, and border politics, it explores how these work to reinforce ideas about gender, race, indigeneity, and other identities. The aim of this course is to re-imagine "what kinds of futures we want," and to rethink assumptions about harm and justice that underlie current systems of incarceration and control.
PREREQUISITE: Second year standing or higher, or permission of the instructor
CREDITS: 3

DSJS 3160 Climate Apocalypse, Climate Justice

This course explores key texts from the emerging field of environmental humanities to examine two central questions: How do approaches to environmental problems, including the way they are understood and storied, influence responses to environmental crises? And how are interdisciplinary thinkers—from queer, feminist, anti/post-colonial, critical disability, and critical death studies—crafting alternative pathways, beyond despair and inaction and towards more just, resilient, and joyful communities?
PREREQUISITE: Second year standing or higher, or permission of the instructor
CREDITS: 3

3320 KNOWLEDGE AND CULTURE
(See Anthropology 3320)
PREREQUISITE: DSJS 1090 and one other DSJS course at the 2000 level or higher.

3520 KINSHIP AND FAMILY
(See Anthropology 3520)
PREREQUISITE: Second Year standing or above, or permission of the instructor.

3550 GLOBALIZATION
(See Soc/Anth 3550)
PREREQUISITE: Second Year standing or above, or permission of the instructor.

3710 COMMUNITY BASED ETHICAL INQUIRY
(See Philosophy 3710)

3810 WOMEN, ECONOMICS AND THE ECONOMY
(See Economics 3810)

3840 CULTURAL PSYCHOLOGY
(See Psychology 3850)

3850 WOMEN IN 19TH CENTURY CANADA
(See History 3850)

3860 WOMEN, THE LAW, AND CIVIL RIGHTS IN 20th-CENTURY CANADA
(See History 3860)

3910 PSYCHOLOGY OF WOMEN AND GENDER
(See Psychology 3910)

4010 MEDICAL ANTHROPOLOGY
(See Anthropology 4010)

4020 CYBERCULTURES
(See Anthropology 4030)

4730 GENDER AND VIOLENCE
(See Psychology 3950)

4040 THEORIZING SOCIAL JUSTICE
This capstone course provides the opportunity for students to explore theories and practices of "social justice," broadly defined, across a number of contexts. It examines how social movements and identity groups have defined this concept, investigates, through a variety of theoretical and methodological approaches, processes towards this goal in addition to barriers inhibiting its attainment.
PREREQUISITES: Third Year standing or above and at least 3 other DSJS courses, or permission of the instructor.

4060 QUEER THEORY
This course introduces students to the body of academic thought known as "queer theory" and to the ways it challenges assumptions about sexuality, gender, and other identity categories. It focuses on queer theory's historical foundations, genealogies, and contributions, as well as on contemporary uses of and debates in the field.
PREREQUISITES: Third Year standing or above, or permission of the instructor.

4070 SOCIAL CHANGE, SOCIAL JUSTICE
This course explores some of the major concepts that circulate in movements for social change and social justice. It asks how people negotiate conflict, ambivalence, complicity, and contradiction in working both within and against a number of organizations and institutions. It focuses on questions of representation and asks whose voices, whose stories, and whose knowledges are included and excluded in complex social movements, investigating how that matters and to whom in working towards social justice.
PREREQUISITE: Third Year standing or above and at least 3 other DSJS courses, or permission of the instructor
Three hours a week

4090 SPECIAL TOPICS
Creation of a course code for special topics offered by Diversity and Social Justice Studies at the 4000 level.

4130 PSYCHOLOGY OF SOCIAL CLASS
(See Psychology 4130)

4310 MINORITY/ETHNIC GROUPS AND CANADIAN MULTICULTURALISM
(See Soc/Anth 4310)

4350 GENDER AND SEXUALITY
(See Psychology 4350)

4550 WAR AND REVOLUTION IN THE 20th CENTURY WORLD
(See History 4550)

4560 VISUAL CULTURE
(See Soc/Anth 4560)
PREREQUISITE: Third Year standing or above, or permission of the instructor.

4660 ADVANCED TOPICS IN GENDER AND SEXUALITY
(See English 4660)

4720 SOCIAL JUSTICE IN PSYCHOLOGY
(See Psychology 4720)

4910-4920 DIRECTED STUDIES
These advanced courses for qualified students (see Academic Regulation 9) provide for supervised independent or group study of specialized topics in Diversity and Social Justice Studies. The topics offered must be approved by the Coordinator of Diversity and Social Justice Studies and the Dean of the Faculty.
PREREQUISITE: At least three DSJS courses or approval of the instructor
Three hours a week

# 65. Economics

http://upei.ca/economics

**Economics Faculty**

P. Nagarajan, Professor Emeritus
J. Stevens, Associate Professor, Chair
W. Rankaduwa, Professor
Y. Jia, Associate Professor
J. Sentance, Associate Professor
Justin Kakeu, Assistant Professor
Nazanin Behzadan, Assistant Professor
L. Clark, Adjunct Professor

**REQUIREMENTS FOR A MAJOR IN ECONOMICS**

Students wishing to major in Economics must complete fifty-four semester hours in Economics and Mathematics according to the program described below. **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

1010 – Introductory Microeconomics
1020 – Introductory Macroeconomics
2030 – Intermediate Microeconomics I
2040 – Intermediate Macroeconomics I
2050 – Intermediate Microeconomics II
2060 – Intermediate Macroeconomics II
3030 – Economic Methodology
3080 – Introduction to Econometrics
PLUS: Six (6) additional elective courses in economics, at least three of which must be at the 3000 or 4000 level.

**Mathematics**

1110 – Finite Mathematics
1910 – Single Variable Calculus I

**Statistics**

1910 – Introduction to Probability and Statistics

**Recommendation**

Students planning to follow graduate studies in Economics are advised to plan their courses with the Department. Such students should include the following courses as part of their six electives in Economics: 3070 – Mathematical Economics and 4130 – Econometrics II as well as 4030 – Advanced Microeconomics and 4040 – Macroeconomics. Students should also consider including Mathematics 1920 – Single Variable Calculus II and 2610 – Linear Algebra in their program of studies.

**CO-OP EDUCATION IN ECONOMICS**

The UPEI Co-operative Program is an integrated approach to university education which enables students to alternate academic terms on campus with work terms in suitable employment. The success of such programs is founded on the principle that students are able to apply theoretical knowledge from course studies in the workplace and return to the classroom with practical workplace experience. Students who successfully complete all the requirements of the program will have the notation entered on their transcripts and on the graduation parchment.

Students accepted into the program, complete at least three 14-week paid work terms and three professional development courses. Credits earned through completion of work terms are counted as general electives.

The Co-operative option is available to full-time students in the Economics Major program. Applications to the Co-operative Education Program are normally made after completion of the first year of study.

See the Co-operative Education Program section of the UPEI Academic Calendar for more information.

**REQUIREMENTS FOR A MINOR IN ECONOMICS**

Students wishing to minor in Economics must complete twenty-one semester hours in Economics distributed as follows: Economics 1010 and 1020, and five other courses including at least one of the intermediate theory courses (Economics 2030 or 2040). At least two courses at the 3000 level or above. Students should plan their program in consultation with the Department.

NOTE: The offerings listed below are not necessarily available each year. At best it may be possible to offer certain courses every other year. The courses offered in the current year will be published so that students will have the exact information available.

# ECONOMICS COURSES

1010 INTRODUCTORY MICROECONOMICS

This course provides an introduction to the economic analysis of consumer and producer behaviour. Of particular concern is the role of the market in the allocation of resources and the distribution of income, and how these outcomes are affected by imperfections in the market system and by government policy.

PREREQUISITE: None

Three hours a week

1020 INTRODUCTORY MACROECONOMICS

An introduction to the development, tools and application of macroeconomic analysis in the Canadian economy. Topics discussed will include inflation, unemployment, monetary policy, fiscal policy as well as others.

PREREQUISITE: None

Three hours a week

2030 INTERMEDIATE MICROECONOMICS I

The theories of consumer and producer behaviour developed in Economics 1010 are elaborated upon through the application of classical utility and indifference curve and production isoquant approaches. Choice under uncertainty and competitive market outcomes are also examined.

Cross-listed with AMS-2030.

PREREQUISITE: Economics 1010

Three hours a week

2040 INTERMEDIATE MACROECONOMICS I

This course explores the national economy in terms of the determination of national output, the general price level, the rate of interest, and employment. It then analyzes the effectiveness of monetary and fiscal policy in achieving specific goals and combination of goals.

Cross-listed with AMS-2040.

PREREQUISITE: Economics 1020

Three hours a week

2110 INTRODUCTION TO RESOURCE ECONOMICS

In this course questions concerning the use of natural resources are analyzed using the techniques of microeconomic

theory. Issues relating to scarcity and conservation, market failure, inter-temporal allocation of resources, property rights, common property resources, and the environment are discussed from both a Canadian and international perspectives.
PREREQUISITE: Economics 1010 or permission of the instructor
Three hours a week

2120 REGIONAL ECONOMICS
This course analyzes the problems of regional economic development in terms of factors affecting the location of an economic activity, land use, and migration. Regional disparities and the strategies of the Government of Canada and the provincial governments to reduce them from both historical and contemporary perspectives are also discussed.
PREREQUISITE: Second Year Standing
Three hours a week

2150 ENVIRONMENTAL ECONOMICS
This course is an introduction to the field of environmental economics. Students analyze the types of incentives provided by the economic system that lead to environmental degradation as well as improvement. It presents a critical analysis of traditional economic models and introduces alternative ecological models, along with a discussion of such topics as externalities, valuation of ecological assets, and policy development.
PREREQUISITE: Economics 1010 or permission of the instructor
Three hours per week

2210 CANADIAN ECONOMIC HISTORY
This course surveys the history of Canada's economic development, emphasizing the interplay of Canada's resource base, the international economy, and the trade policies of France, England and the United States. Topics include exploitation of the staples trades, industrialization, expansion to the west, the Depression, and our legacy of foreign investment.
PREREQUISITE: Economics 1010 and 1020 or permission of the instructor
Three hours a week

2220 PUBLIC SECTOR ECONOMICS
This course examines the broad nature and function of the public sector, with emphasis on the rationale for the existence of the public sector in a market economy and its impact on resource allocation, distribution of income and economic performance. Topics include anatomy of market failure, types of government intervention to correct market failure, the public good, externalities, and an overview of the growth of the public sector in Canada.
PREREQUISITE: Economics 1010 and 1020, or permission of the instructor
Three hours a week

2420 THE ECONOMICS OF TOURISM
This course uses economic tools to analyze the role of tourism at the provincial, regional, national and international levels. In-put/output analysis is used to compute local multipliers as they relate to the PEI economy. The role of the hospitality industry is also explored.
PREREQUISITE: Economics 1010 or 1020 or permission of the instructor
Three hours a week

2050 INTERMEDIATE MICROECONOMICS II
An extension of Economics 2030, this course covers price determination in monopoly, monopolistic competition, and oligopoly models. Game theory, factor pricing, capital investment over time, general equilibrium, asymmetric information, externalities, and public goods are discussed. The use of microeconomics as a tool in decision-making is illustrated.
PREREQUISITES: Economics 1010 and Economics 2030
3 semester hours

2060 INTERMEDIATE MACROECONOMICS II

This course addresses the theory of inflation, unemployment, economic growth and fluctuations, the determination of the balance of payments and the exchange rate, and monetary and fiscal policies in closed and open economies.

PREREQUISITES: Economics 1020 and Economics 2040

3 semester hours

2510 MONEY AND FINANCIAL INSTITUTIONS

This course analyzes the nature and role of money in the economy. It examines commercial banking, central banking, money and capital markets, and other financial intermediaries. Elements of business finance are discussed with particular emphasis on the role of public financial institutions. Also included are financing foreign trade, consumer finance, an examination of public finance, and monetary policy.

PREREQUISITE: Economics 1010 and 1020

Three hours a week

2610 ( Previously 3610) INTRODUCTION TO GAME THEORY

The course consists of an introduction to applied game theory with an emphasis on economics and public policy applications. As such, the course will first present an introduction to the basic ideas and concepts underlying Game Theory. It will then introduce the concepts of strategic decisions in a static and dynamic settings through games including dominant strategies, Nash equilibrium and mixed strategies.

PREREQUISITES: Second Year Standing

2710 ECONOMICS OF CRIME AND PUNISHMENT

This course applies the theories and tools of economics to a variety of issues relating to criminal activity, law enforcement, justice and punishment. Topics will include the impact of criminal activity, the sources of crime, evolving crime rates, drugs, addiction and crime, so-called 'victimless' crime, organized crime, gun control, white-collar crime, and a number of issues in enforcement and deterrence including imprisonment and the death penalty.

PREREQUISITE: Economics 1010

Three hours a week

2830 AGRICULTURAL ECONOMICS

This course introduces students to agricultural economics and the role of agriculture in the economy. It reviews the structure of the food and fibre system from the farm and its suppliers to marketing and consumers. The role of agriculture in development, problems in agricultural trade, and alternatives in market structures and management are among the topics covered.

PREREQUISITE: Economics 1010 and 1020 or permission of the instructor

Three hours a week

2850 SPECIAL TOPICS

A lecture course in which contemporary topics or economic issues are explored and analyzed in an introductory/ general manner.

2910 MANAGERIAL ECONOMICS

Managerial economics is the study of those economic principles and techniques needed in the evaluation, planning and management of economic projects in such fields as natural resources, agriculture, international and regional development. Optimization techniques, process programming, demand, cost and price analysis, and the study of alternative management regimes and optimizing goals are among the topics to be studied.

PREREQUISITE: Economics 1010

Three hours a week

3030 ECONOMIC METHODOLOGY

This course provides a critical analysis of various methodologies used by economists. It introduces students to research in economics by focusing attention on competing economic paradigms and the problem of empirical verification of

economic hypotheses.
PREREQUISITE: Economics 2030 and 2040, Statistics 1210 or Statistics 1910
Three hours a week

3040 CANADIAN ECONOMIC PROBLEMS
This course examines selected contemporary problems of the Canadian economy by focusing on the formulation and analysis of economic policies designed to deal with these problems.
PREREQUISITE: Economics 1010 and 1020 or permission of the instructor
Three hours a week

3070 MATHEMATICAL ECONOMICS
This is an introduction to the use of mathematics in theoretical economic analysis. Topics to be considered include utility maximization, efficient production, price and income determination, the adjustment to and stability of equilibrium, inflation, and the impact of government spending and taxation programs.
PREREQUISITE: Economics 1010 and 1020, Mathematics 1110 and 1910. Non-economic majors without Economics 1010-1020 but possessing a strong background in mathematics may be admitted with the instructor's permission
Three hours a week

3080 INTRODUCTION TO ECONOMETRICS
This course concentrates on effective procedures for the statistical estimation and testing of key parameters in economic models. Remedies are developed for problems associated with model specification. Multicollinearity, serial correlation, heteroscedasticity, simultaneous equations, and forecasting.
PREREQUISITE: Economics 2030 and 2040, Statistics 1210 or Statistics 1910, and either Mathematics 1120 or 1910
Three hours a week

3100 The Economics of Immigration
This course examines the causes and economic consequences of Immigration and Mobility. Topics covered include the patterns of international immigration, determinants of immigration, immigrant selection and assimilation, fiscal and labour market effects of immigration, and the effects on the source and destination countries
PREREQUISITE: EC 2030 and 2040

3110 HISTORY OF ECONOMIC THOUGHT (I)
This course traces economics ideas from the Greek philosophers to the end of the classical school in the mid-nineteenth century, in particular the works of Plato, Aristotle, St. Thomas Aquinas, the English Mercantilists, the French physiocrats, Adam Smith, Thomas Malthus, David Ricardo, and J.S. Mill. A continuing theme is the relationship between the development of economic ideas and the structure of the society in which the economist lived.
Cross-listed with History 4610.
PREREQUISITE: Economics 1010 and 1020 or permission of the instructor
Three hours a week

3120 HISTORY OF ECONOMIC THOUGHT (II)
This course traces the evolution of modern economic ideas beginning with Karl Marx. It considers Socialist, Neoclassical, Institutional and Keynesian Schools of Economic thought.
Cross-listed with History 4620.
PREREQUISITE: Economics 1010 and 1020 or permission of the instructor
Three hours a week

3240 LABOUR ECONOMICS
From a theoretical perspective this course examines the workings of the labour market under different supply and demand conditions. Topics discussed include labour force participation, human capital investment, unemployment, discrimination and the effects of government policies such as the minimum wage, unemployment insurance, welfare

and pay equity legislation.
PREREQUISITE: Economics 2030 or instructor's permission
Three hours a week

3310 INTERNATIONAL TRADE
This course examines the causes and economic consequences of international trade. Topics covered include theories of international trade, aggregate national gains from trade, effects of trade on the distribution of income, tariffs and non-tariff trade barriers, the basic theory of international factor movements, and commercial policy.
PREREQUISITE: Economics 2030
Three hours a week

3320 INTERNATIONAL MONETARY ECONOMICS
This course focuses on theories of balance of payments adjustment mechanisms and the efficiency of foreign exchange markets. Topics covered include modeling the open economy; the effects of incomes, prices, interest rates and exchange rates on international trade and capital flows; exchange rate regimes, capital mobility and macroeconomic policy coordination; the role of international institutions; and problems of international liquidity.
PREREQUISITE: Economics 2040
Three hours a week

3410 ECONOMIC DEVELOPMENT THEORY
This course provides a broad theoretical framework for understanding the development problems of developing countries. Topics covered include theories of economic growth and development, sources of economic growth, patterns of economic development, the role of capital and saving in economic development, inward-looking and outward-looking development, and the problem of industrialization in developing countries.
PREREQUISITE: Economics 2040
Three hours a week

3430 GLOBAL ECONOMIC ISSUES
This course is designed to explore some economic dimensions of the contemporary globalized world. The course analyzes several defining characteristics and processes relating to international trade, finance, regionalism and multilateralism, public policy, and economic development with a focus on globalization. It introduces several economic concepts, theories and tools that are essential for analyzing a range of economic issues and policies generated by globalization, and the globalized world economy.
PREREQUISITE: Economics 1010 and 1020 or permission of the instructor
Three hours a week

3710 THE ECONOMICS OF SPORTS
This course uses economic analysis to examine a variety of aspects of the business of sports. Topics include the structure of sports markets, the value of franchises to owners and cities, competitive balance, salaries, collective agreements, and discrimination. In examining these issues, this course uses models and methods from a variety of fields of economics, including labour economics, industrial organization and competition policy, cost-benefit game theory, public finance, and urban economics.
Cross-listed with KINE 3710.
PREREQUISITES: Economics 2030 or permission of the instructor. For Kinesiology students KINE 2320.
3 semester hours

EC 3720 ECONOMICS OF BEER
This course applies the theories and tools of economics to a variety of issues relating to the brewing and consumption of beer in Canada and around the world. Analysis includes the demand for beer, the evolution of production methods and economies of scale, strategy and tactics, advertising, and the growing concentration and globalization of the beer industry. The interaction of the beer industry with competition policy, public finance, and other public policy concerns

is also considered.
PREREQUISITE: Economics 1010 and 1020 or permission of the instructor
Three hours a week

3810 WOMEN, ECONOMICS AND THE ECONOMY
This course examines the treatment of women by the discipline of economics from both mainstream and feminist perspectives. It includes a review of the feminist critique of traditional economics, as well as an examination of the economic literature pertaining to women and women's activities. Topics include women in the workforce and the economic analysis of fertility, marriage and divorce, and household production.
Cross-listed with Diversity and Social Justice Studies 3810
PREREQUISITE: Economics 1010 or 1020 or permission of the instructor. For DSJS students, DSJS 1090, or permission of the instructor.
Three hours a week

3820 ECONOMICS OF AGING IN AN AGING SOCIETY
This course examines the microeconomics of individual choices with respect to aging in the macroeconomic and public fiscal dimensions of an aging society. It deals with these matters in the context of economic conditions and policy in Canada.
PREREQUISITES: Economics 1010 and 1020
3 semester hours

3850 SPECIAL TOPICS
A lecture course in which contemporary topics or economic issues are explored and analyzed in an introductory/ general manner.

EC 3910 ECONOMICS OF ENTREPRENEURSHIP
This course builds on the economic principles developed in the first year by extending students' knowledge of markets and the firm to the role of the entrepreneur and their interaction with the broader economy. Topics include the economic theories and empirical findings regarding the determinate, financing and the economic impact of entrepreneurship. The impact of public policy, taxation, market regulation on entrepreneurship is also explored.
PREREQUISITE: Economics 1010 and 1020
Three hours a week

4030 ADVANCED MICROECONOMICS
This course extends and analyzes topics developed in Economics 2030 at an advanced level. These include demand, production and cost theories, competing theories of the firm, factor pricing, and general equilibrium.
PREREQUISITE: Economics 2030 and 3070
Three hours a week

4040 ADVANCED MACROECONOMICS
This course traces the development of the microeconomic foundations of macroeconomic theory to expand students' analytical skills by constructing and solving macroeconomic models. Topics may include: dynamic choice, uncertainty and rational expectations, business cycles, fiscal and monetary policy.
PREREQUISITE: Economics 2040 and 3070
Three hours a week

4050 FINANCIAL ECONOMICS
This course provides an understanding of the economic analysis of the financial system beyond the introductory level. It places particular emphasis on the structure, operation and the role of financial markets, such as money markets, capital markets and derivative markets, and the characteristics of various financial securities traded in these markets. The main topics covered in the course include economic theories of saving and investment behaviour, asset demand and supply

under uncertainty, decision making by investors in the presence of uncertainty, portfolio analysis, managing risk, and the models of asset pricing.
PREREQUISITES: Economics 2030, 2040, and 2510, or permission of the instructor
Three hours a week

4120 PUBLIC FINANCE
This course deals with the role of the public sector in attaining an efficient allocation of resources and an equitable distribution of income in a market economy. It focuses on theories of public expenditure and taxation, and emphasizes criteria for the evaluation and selection of public expenditure and tax programs. Special attention is given to Canadian fiscal problems and current policy issues in this area.
PREREQUISITE: Economics 2030 and 2040
Three hours a week

4130 ECONOMETRICS II
This course is a continuation of Econometrics I (EC 3080) intended to introduce students to a selection of estimation and hypothesis-testing methods commonly employed in applied economic research. These additional topics include (but are not necessarily limited to) the analysis of time series, panel data, binary choice models, and basic Monte Carlo/ bootstrap methods.
PREREQUISITE: Economics 4110

4210-4220 DIRECTED STUDIES IN ECONOMICS
These are courses in Economics on a variety of topics for students who have qualified for advanced study. Readings and/ or research will be undertaken in a variety of specialized areas. The topics offered must be approved by the Chair of the Department and the Dean of the Faculty. (See Academic Regulation 9 for Regulations Governing Directed Studies.)

4850 SPECIAL TOPICS
A lecture course in which contemporary topics or economic issues are explored and analyzed in an introductory/ general manner.
NOTE: The Department encourages students to select “Economic Papers on Island Topics” which may be eligible for a prize from the Prince Edward Island Department of Industry/ ACOA Awards.

# 66. Education

http://upei.ca/education

**Education Faculty**
Ray Doiron, Professor Emeritus
Martha Gabriel, Professor Emerita
Tim Goddard, Professor Emeritus
Miles Turnbull, Professor, Dean
Tess Miller, Professor
Linyuan Guo, Associate Professor
Ronald MacDonald, Associate Professor
Alexander McAuley, Associate Professor
Lyndsay Moffatt, Associate Professor
Kathy Snow, Associate Professor
Sean Wiebe, Associate Professor
Gabriela Arias de Sanchez, Assistant Professor
Elizabeth Blake, Assistant Professor
Anne Marie Fitzgerald, Assistant Professor
Rachelle Gauthier, Assistant Professor
Carolyn Thorne, Assistant Professor
Aurelia Di Santo, Adjunct Professor
Tim Goddard, Adjunct Professor
Robin Quantick, Adjunct Professor
Carol Rowan, Adjunct Professor
Kate Tilleczek, Adjunct Professor
Charlene Vanleeuwen, Adjunct Professor
Lori Weeks, Adjunct Professor

## Bachelor of Education

### Twelve-Month Post-Degree Bachelor of Education

The Bachelor of Education (BEd) is a 12-month post-degree program consisting of 20 three-hour credit courses in education. This program is designed to provide the variety of courses and extended field experiences through which students can develop the knowledge and skills needed to teach in the modern classroom. It is the opportunity for students to focus their studies in Primary/Elementary (K – 6) or Intermediate/Senior (7-12) and in International, Indigenous, or Adult and Workplace Education.

**DEGREE REQUIREMENTS**

The following regulations govern students' progression through the program:

**PROFESSIONAL CONDUCT**

1. While on practicum, students will adhere to the professional code of conduct for the jurisdiction in which they are on placement (i.e., the PEITF Code of Conduct if placed in a publicly funded school on Prince Edward Island).

2.In the event of a reported transgression of the relevant code of conduct, the student's alleged behaviour will be reviewed by the leadership team for the Bachelor of Education programs and the Dean.Consequences could include a warning, suspension or dismissal from the program, depending on the seriousness of the transgression and whether a repeat offence is at play. A student dismissed from the program is immediately withdrawn from the University and would not be eligible for re-admission to the program.

**ACADEMIC AND PRACTICUM PERFORMANCE**

3. Students must successfully complete all coursework prior to commencing practicum. In extenuating circumstances, an incomplete grade may be provided to the student and permission to begin practicum may be granted by the Dean following consultation with the the leadership team for the Bachelor of Education programs and instructor(s) of the incomplete course(s).

4. Attendance: Students are expected to attend scheduled classes, seminars, workshops, practicum placements, and other academic activities that are offered by the program. This includes in-person and virtual sessions, as well as any scheduled group or individual learning activities. In cases of medical emergencies or other exceptional circumstances, students are required to contact the instructor and program Coordinator as soon as possible to discuss possible accommodations. If a student has two absences (6 hours of class time), the student will meet with the instructor, Coordinator, and Dean to work out an action plan for success. Continued absences from class may lead to course failure.

5. Assignment of an Incomplete grade: If a student is unable to complete all assignments within the normal course timeframe or if a student is unable to meet the required competencies or required number of days in the practicum,and if there are extenuating circumstances, then a student may have the opportunity to make up missed coursework in collaboration with the course instructor. or may negotiate extra time to meet the required practicum elements, including the required number of practicum days. Make-up coursework must be submitted to the instructor within an agreed amount of time, normally before the beginning of the next practicum session.

6. Pass/Fail: Students are required to successfully complete all assessments to achieve a PASS for any course in the B. Ed programs. A PASS in the Bachelor of Education is deemed equivalent to at least 80% in a numerical grading system. A student must pass all courses, including practicum courses, to earn the Bachelor of Education degree. If a student fails a course, then the student will need to take the course again in the following year and pay the course fee.

**ACADEMIC PROGRESSION**

7. Academic Warning: Students who fail one B.Ed course will be placed on an academic warning for the remainder of the program. While no restrictions will be placed on their course load, an action plan aimed at supporting the student's success will be negotiated with the B.Ed leadership team and the Dean.

8. Academic Suspension: Students who fail two or more B.Ed courses will be suspended from the program. Students who have been suspended from the B.Ed program are eligible for re-admission to the program after at least one year. Reapplication must be made to the Registrar's Office. Students who are permitted to return to the B.Ed. program at UPEI return with a supportive action plan. Students placed on Academic Suspension a second time will not normally be considered for re-admission for at least two full years following the second suspension.

9. Appeal: The conditions of academic suspension are subject to appeal to the Senate Academic and Student Discipline Appeals Committee.

**REQUIRED COURSES:**

**PRIMARY/ELEMENTARY CONCENTRATION (K – 6)**
**INTERMEDIATE/SENIOR CONCENTRATION (7 – 12)**

ED 4030 The Arts and Social Transformation
ED 4110 Learners and Learning
ED 4150 The Diverse and Inclusive Classroom
ED 4200 Teaching for Science, Technology, Math, and Engineering (STEM)
ED 4490 Introduction to Indigenous Education
ED 4640 Educating for Global Citizenship

ED 4660 Principles and Practices of Teaching English as Another Language
ED 4820 Assessment and Evaluation
ED 4961 Preparation for the Teaching Profession I
ED 4962 Practicum I
ED 4971 Preparation for the Teaching Profession II
ED 4972 Practicum II

**PRIMARY/ELEMENTARY CONCENTRATION (K – 6)**
ED 4220 Mathematics for Teachers
ED 4230 Primary/Elementary Mathematics I
ED 4245 Inquiry-Based Methods in Science and Social Studies
ED 4280 Primary/Elementary Mathematics II
ED 4320 Primary/Elementary language and Literacies and Multiliteracies I
ED 4330 Literacy and Multiliteracies in the Early Years II
ED 4336 Developing Learning and Play in the Early Years (Ages 0-8)
ED 4480 Social Emotional Learning and Children's Mental Health

**INTERMEDIATE/SENIOR CONCENTRATION (7 – 12)**
ED 4130 Multiliteracies Across the Curriculum
ED 4420 Adolescent Social & Emotional Health
ED 4530 Curriculum and Pedagogy
ED 4630 Perspectives on Culture and Society in Education

**Students take 4 of:**
ED 4260 Intermediate/Senior Mathematics I
ED 4270 Intermediate/Senior Mathematics II
ED 4360 Intermediate/Senior English I
ED 4370 Intermediate/Senior English II
ED 4460 Intermediate/Senior Science I
ED 4470 Intermediate/Senior Science II
ED 4560 Intermediate/Senior Social Studies I
ED 4570 Intermediate/Senior Social Studies II

## STUDY FOCI

Students may complete a study focus in International, Indigenous, or Adult Education by completing a six-week practicum in the specified area and one course beyond the 20 required for the BEd as outlined below:

**INTERNATIONAL EDUCATION**
ED 4620 International Education

**INDIGENOUS EDUCATION**
ED 4510 Integrating Indigenous Themes in the Curriculum K-12

**ADULT EDUCATION**
One of the following:
- ED 3630 The Adult Learner
- ED 3640 Assessment of Adult Learning

• ED 3680 Curriculum Development
• ED 3730 Inclusion and Differentiation in Adult Learning

## Bachelor of Education—français langue seconde

This unique program will provide the variety of courses, French language and cultural experiences and extended field experiences through which students can develop the knowledge and skills needed to teach in modern French Second Language classrooms. This program also provides students an opportunity to focus their studies in the primary/elementary or intermediate/senior cohorts.

Students must pass all courses to graduate with a Bachelor of Education-français langue seconde.

**DEGREE REQUIREMENTS**

The following regulations govern students' progression through the program:

**PROFESSIONAL CONDUCT**

1. While on practicum, students will adhere to the professional code of conduct for the jurisdiction in which they are on placement (i.e., the PEITF Code of Conduct if placed in a publicly funded school on Prince Edward Island).

2.In the event of a reported transgression of the relevant code of conduct, the student's alleged behaviour will be reviewed by the leadership team for the Bachelor of Education programs and the Dean.Consequences could include a warning, suspension or dismissal from the program, depending on the seriousness of the transgression and whether a repeat offence is at play. A student dismissed from the program is immediately withdrawn from the University and would not be eligible for re-admission to the program.

**ACADEMIC AND PRACTICUM PERFORMANCE**

3. Students must successfully complete all coursework prior to commencing practicum. In extenuating circumstances, an incomplete grade may be provided to the student and permission to begin practicum may be granted by the Dean following consultation with the the leadership team for the Bachelor of Education programs and instructor(s) of the incomplete course(s).

4. Attendance: Students are expected to attend scheduled classes, seminars, workshops, practicum placements, and other academic activities that are offered by the program. This includes in-person and virtual sessions, as well as any scheduled group or individual learning activities. In cases of medical emergencies or other exceptional circumstances, students are required to contact the instructor and program Coordinator as soon as possible to discuss possible accommodations. If a student has two absences (6 hours of class time), the student will meet with the instructor, Coordinator, and Dean to work out an action plan for success. Continued absences from class may lead to course failure.

5. Assignment of an Incomplete grade: If a student is unable to complete all assignments within the normal course timeframe or if a student is unable to meet the required competencies or required number of days in the practicum,and if there are extenuating circumstances, then a student may have the opportunity to make up missed coursework in collaboration with the course instructor. or may negotiate extra time to meet the required practicum elements, including the required number of practicum days. Make-up coursework must be submitted to the instructor within an agreed amount of time, normally before the beginning of the next practicum session.

6. Pass/Fail: Students are required to successfully complete all assessments to achieve a PASS for any course in the B. Ed programs. A PASS in the Bachelor of Education is deemed equivalent to at least 80% in a numerical grading system. A student must pass all courses, including practicum courses, to earn the Bachelor of Education degree. If a student fails a course, then the student will need to take the course again in the following year and pay the course fee.

**ACADEMIC PROGRESSION**

7. Academic Warning: Students who fail one B.Ed course will be placed on an academic warning for the remainder of the program. While no restrictions will be placed on their course load, an action plan aimed at supporting the student's success will be negotiated with the B.Ed leadership team and the Dean.

8. Academic Suspension: Students who fail two or more B.Ed courses will be suspended from the program. Students who have been suspended from the B.Ed program are eligible for re-admission to the program after at least one year.

Reapplication must be made to the Registrar's Office. Students who are permitted to return to the B.Ed. program at UPEI return with a supportive action plan. Students placed on Academic Suspension a second time will not normally be considered for re-admission for at least two full years following the second suspension.

9. Appeal: The conditions of academic suspension are subject to appeal to the Senate Academic and Student Discipline Appeals Committee.

**REQUIRED COURSES:**

**PRIMARY/ELEMENTARY CONCENTRATION**

ED 4030 Intégration des arts
ED 4060 Comprendre la santé sociale et émotionnelle chez les élèves
ED 4110 Learners and Learning
ED 4150 Inclusion en salle de classe
ED 4200 Teaching for Science, Technology, Engineering and Math (STEM)
ED 4220 Mathematics for Teachers
ED 4230 Primary/Elementary Mathematics I
ED 4245 Inquiry-Based Methods in Science and Social Studies
ED 4280 Primary/Elementary Mathematics II
ED 4336 Developing Learning and Play in the Early Years (Ages 0-8)
ED 4490 Introduction to Indigenous Education
ED 4630 Culture et société
ED 4820 Évaluation en salle de classe
ED 4800 Enseignement du français (langue première et langue seconde) dans les contextes minoritaires.
ED 4880 Littératie I
ED 4890 Littératie II (primaire-élémentaire)
ED 4961 Préparation pour le professionnel de l'enseignement I
ED 4962 Stage I
ED 4971 Préparation pour le professionnel de l'enseignement II
ED 4972 Stage II

**INTERMEDIATE/SENIOR CONCENTRATION (7-12)**

ED 4030 Intégration des arts
ED 4060 Comprendre la santé sociale et émotionnelle chez les élèves
ED 4110 Learners and Learning
ED 4150 Inclusion en salle de classe
ED 4200 Teaching for Science, Technology, Engineering and Math (STEM)
ED 4490 Introduction to Indigenous Education
ED 4630 Culture et société
ED 4640 Educating for Global Citizenship
ED 4800 Enseignement du français (langue première et langue seconde) dans les contextes minoritaires.
ED 4820 Évaluation en salle de classe
ED 4880 Littératie I
ED 4900 Intégration de la langue au contenu
ED 4961 Préparation pour le profession d'enseignement I
ED 4962 Stage I
ED 4971 Préparation pour le profession d'enseignement II
ED 4972 Stage II

I**NTERMEDIATE/SENIOR CONCENTRATION (7-12) will take 4 of the following:**

ED 4560 Sciences Humaines 1
ED 4570 Sciences Humaines 2

ED 4260 Intermediate/Senior Mathematics I
ED 4270 Mathes 2
ED 4360 Intermediate/Senior English I
ED 4370 Intermediate/Senior English II
ED 4460 Sciences 1
ED 4470 Sciences 2
ED 4760 French Methods
ED 4888 Littératie-Éducation en Francais (Intermédiaire/Secondaire

**STUDY FOCI:**
Students may complete a study focus in International, Indigenous, or Adult Education by completing a six-week practicum in the specified area and one course beyond the 20 required for the BEd as outlined below:

**INTERNATIONAL EDUCATION**
ED 4620 International Education

**INDIGENOUS EDUCATION**
ED 4510 Integrating Indigenous Themes in the Curriculum K-12

**ADULT EDUCATION**
One of the following:
- ED 3630 The Adult Learner
- ED 3640 Assessment of Adult Learning
- ED 3680 Curriculum Development
- ED 3730 Inclusion and Differentiation in Adult Learning

**POST-DEGREE CERTIFICATES**

## Certificate in Adult Education (CAE)

The Certificate in Adult Education focuses on: understanding adult education learning theory and philosophies; becoming aware of the diverse needs of adult learners; and, learning and applying the methodologies and strategies needed to teach adults. The CAE consists of 12 courses (36 semester hours). Three (six semester hour) courses are offered by Holland College, and six (three semester hour) courses are offered by UPEI. Holland College and UPEI offer the required courses on a yearly basis and the electives over a two-year period. All courses are offered in the late afternoon, early evening or weekend hours at Holland College. The UPEI courses are taught by instructors approved by the Dean of Education, UPEI. Courses are offered in each of the four academic terms.

The required courses are:
ED. 3110 Methods and Strategies in Adult Education I (6 semester hours) Holland College
ED. 4220 Methods and Strategies: Instructional Design for Online Learning (6 semester hours) Holland College
ED. 3010 Practicum in Adult Education (6 semester hours) Holland College
ED 3080 Integrating Activity Based Larning in Adult Education (3 semester hours) UPEI
ED 3760 Facilitating Adult Learning in Diverse Classrooms (3 semester hours) UPEI
ED. 3620 Communication Practices (3 semester hours) UPEI
ED. 3640 Assessment of Adult Learning (3 semester hours) UPEI
ED 3660 Educational Technology and the Adult Learner (3 semester hours) UPEI
ED 3680 Course Development: Designing Learning Experiences (3 semester hours) UPEI

## Certificate in Educational Leadership in Nunavut

The Certificate in Educational Leadership in Nunavut is designed to provide qualified teachers and educational leaders in Nunavut with the background, history, knowledge, skills and attitudes to provide culturally based, effective, and responsive, leadership in the school system. Courses range from the introductory level through to specialized courses that focus on parental engagement, action research and approaches to school improvement that support the implementation of educational legislation and policy in Nunavut. The program includes three required courses and two electives.

The required courses are as follows:

ED 5090 – Foundations of Transformational Leadership in Nunavut Education
ED 5110 – Proactive Instructional Leadership in Nunavut Communities
ED 5141 – Action Research and Reflective Practice in Nunavut Education (Design)
ED 5142 – Action Research and Reflective Practice in Nunavut Education (Implementation)
ED 5143 – Action Research and Reflective Practice in Nunavut Education (Communication)

And two electives from the following:

ED 5120 – Educational Leadership – Engaging Nunavut Parents, Elders and Community
ED 5130 – Leadership of the School Improvement Process in Nunavut Communities
ED 5850 – Improving Language and Literacy Achievement
ED 5810 – The Inclusive Classroom

**NOTE:** Post-degree certificates must be completed within four years of the first registration in a required course.

# EDUCATION COURSES

**Please note: Education courses (at the 2000, 4000 and 5000 level) are graded as Pass or Fail. Students must pass all 20 three-hour-credit courses of the program to graduate with a BEd.**

2110 INTRODUCTION TO EDUCATION
This course provides students with an introduction to education in Canada. Students examine: the purpose of schools, the characteristics of classrooms, the role of teachers, the relationship between schools and society, current issues in education, and teaching as a career and profession. A minimum of 25 hours of school-related experience is a requirement of this course. Three lecture hours, plus one full morning or afternoon a week for school visits

2130 INTRODUCTION A L'EDUCATION EN FRANÇAIS AU CANADA
This course provides students with an introduction to French first and second language education in Canada with a particular emphasis on the educational system on Prince Edward Island. Students analyze a variety of French programs in Canadian schools, the goals of these programs, and the roles of teachers within them. Students also examine current issues in education and their impact on French language education. A minimum of 25 hours of school-related experience is a course requirement. Cross-listed with French 2610.

3070 ETHICS FOR ADULT PRACTITIONERS
This course examines professional ethics in the practice of adult education by: exploring the meanings of "professional" and "ethics" in the context of adult education; discussing the ideas and skills that assist adult educators in applying professional ethics to their practice; examining current codes of ethics for adult educators; and, creating individual statements of ethical practice.

3080 INTEGRATING ACTIVITY BASED LEARNING IN ADULT EDUCATION
In this course, learners explore theoretical aspects supporting activity based learning, reflect on personal teaching frameworks,

examine and customize a variety of strategies designed to make learning and training active. Using these foundations, participants expand their teaching repertoires by integrating activity based learning with active training, team learning, peer teaching and independent learning, and develop lesson plans and units to be used in adult learning environments.

3090 AN INTRODUCTION TO LEARNING IN THE WORKPLACE
Fostering a learning culture at work is a complex process with many competing demands on both workers and those who train and manage them. This course will introduce participants to current issues and trends affecting workplace learning; key theories of learning, learning styles and motivation for learning in relation to the workplace; core competencies associated with workplace learning; the role of informal training programs and informal learning (communities of practice, mentoring etc.); and process models for workplace learning. Participants will apply their learning and design a workplace learning program that addresses a key issue and concern in their organization.

3110 INTRODUCTION TO DISTANCE LEARNING
This course provides an orientation to the methodologies and varieties of distance education approaches currently available. Students explore learning technologies related to distance education in the form of e-learning, video conferencing, audio conferencing, etc., and apply them to adult learning contexts.

3120 APPLIED RESEARCH IN POST-SECONDARY INSTITUTIONS
In this course, students review the fundamental requirements for a successful applied research program at a post secondary educational institution. Topics covered include: national setting, institutional context, funding, grant writing, communication, research methods, project management, staffing, student involvement, industry partners, and community economic development. As applied research complements teaching activities and enriches the learning experience at post-secondary institutions, in this course, each student develops and presents an applied research proposal suitable for submission to a funding agency.

3130 ADMINISTRATION OF PROGRAMS IN ADULT EDUCATION
This interactive course explores the current state of adult education in Canada and the statutory framework that largely determines the direction and capacity of the discipline and practice of adult education. Students examine the mandates and variety of provider agencies (adult learning associations, literacy networks, community-based and public education agencies, adult high schools, community colleges). The funding of adult education and the constitutional requirements of governments in Canada are considered. As well, the nature of regional differences and needs (e.g. economic and social development) and how the geography and demography of the Canadian landscape challenges the framework and delivery of adult education are discussed.

3140 SOCIOLOGY OF ADULT EDUCATION
This course examines the social and political structures that have an impact on adult education. Students explore the influence of these structures in shaping public policy on adult education, and discuss their significance for program development and implementation.
Three hours a week

3150 CRITICAL THINKING AND WRITING FOR THE ADULT EDUCATOR
In this course, students in the adult education context further refine their communication skills. Students will develop greater proficiency and effectiveness in oral communication. The assignments emphasize the writing process; the clear and correct use of the English language in developing reflective and critical thought; and writing in various genres, including research, professional documents, and correspondence.

3190 CAREER AND LEARNING PORTFOLIO DEVELOPMENT
(See Integrated Studies 1930 and University 1930)

3610 CHILDREN'S LITERATURE
(See English 2450)

3620 COMMUNICATION PRACTICES

This course covers both interpersonal and group communication skills necessary for adult learning. It teaches students to express thoughts and ideas in clear, well-defined terms in oral, print, and digital contexts. Emphasis is placed on developing skills in active listening, public speaking, and small group facilitation, as well as in understanding the variables that affect human communication. Participants are encouraged to identify their own communication challenges through study, research, presentation, and self-reflection.

Three hours a week

3640 ASSESSMENT OF ADULT LEARNING

This course introduces students to essential assessment principles and practices to enhance their teaching effectiveness Participants will explore key topics such as formative and summative assessment, high-yield assessment techniques, effective feedback strategies, and the use of data to inform and improve instructional practices.

3650 COUNSELLING THE ADULT LEARNER

This course introduces students to the social and emotional development of adult learners, and explores the theoretical principles underlying vocational and personal counselling. It focuses on the development of practical application of counselling methods.

3660 EDUCATIONAL TECHNOLOGY AND THE ADULT LEARNER

This course explores the implications, both theoretical and practical, of the new abundance of tools, information, knowledge and connections that are possible to support learning in the internet age. Critical classroom topics such as openness in online education, student assessment, academic integrity and collaboration are combined with theory and significant hands on experience. No prior technical knowledge is expected and students will leave the class with strategies customized to their own contexts.

Three hours a week

3670 ENTREPRENEURIAL EDUCATION

This course introduces adult learners to the principles of entrepreneurial education. Students identify enterprising opportunities, and gain experience in planning and facilitating learning by using specialized software to create enterprising educational ventures.

Three hours a week

3680 COURSE DEVELOPMENT: DESIGNING LEARNING EXPERIENCES

This course introduces students to the principles and practices of effective course development and design. The course focuses on a systematic approach to course planning and development by implementing an instructional design process. Emphasis is placed on aligning outcomes, assessment, and instructional practices for engaging students. Students will broaden their knowledge of course design and develop skills for course change and renewal.

3690 ISSUES IN ADULT EDUCATION

This course introduces students to contemporary trends (e.g., societal, economic, political, and social trends), and diversity in the workplace. Also explored is the role of adult educators as change agents in shaping the fields of training, development, and adult education.

Three hours a week

3710 INTRODUCTION TO ADULT EDUCATION

This course surveys the theories and historical practice of the adult education movement. It examines the characteristics of adult education in a variety of contexts, with particular emphasis on Canadian and provincial initiatives and challenges. Changing needs across a wide range of institutional settings within the field of adult education are identified and discussed.

Three hours a week

3720 FACILITATING LITERACY IN ADULT LEARNERS

In this course, students learn to apply the principles of adult learning and current theory and research to adult literacy settings. The course examines various instructional strategies and techniques that develop language and literacy skills in large or small groups, or in the context of coaching. There is recognition that barriers to literacy learning exist and that educators must understand not only the theory and practice of literacy but also the needs and goals of the individuals in a social learning environment.
Three hours a week

3740 TRANSFORMATIVE LEARNING
This course presents the theoretical foundation of transformative learning and transformational education, with an emphasis on practical application. It encompasses principles of adult learning coupled with teaching practices that establish leader empowerment. The role of a transformative educator is explored as a paradigm and establishes critical self-reflection as an essential component of teaching practice. Students should be prepared to examine their educational beliefs, values, and assumptions, and the impact of those beliefs on teaching practice.
Three hours a week

3750 MENTORING THE ADULT LEARNER
This course examines effective methods of mentoring adult students in various contexts. The qualities, techniques, and necessary formal structures in facilitated mentoring relationships are studied using readings, case studies, discussion, presentations, and modelling. Students understand the depth of mentoring adults to the extent that individuals perform the role of mentor or assist others in a structured mentoring program.
Three hours a week

3760 Facilitating Adult Learning in Diverse Classrooms
This course provides a hands-on exploration of the fundamental principles of adult learning, focusing on practical applications for diverse adult learners. Students will examine key theories of adult education, including andragogy, self-directed learning, and transformational learning, with a strong emphasis on applying these theories to create inclusive learning environments
Three credit hours

3910 FOUNDATIONS OF COACHING
A course which examines the variety of sciences which are the foundations of coaching, such as: anatomy, physiology, philosophy, psychology, and sociology, as well as introduces coaching concerns in a number of popular sports (NCCP Level 1 Theory included).
Three hours a week

3920 ADMINISTRATION OF PHYSICAL EDUCATION
A course concerned with the organizational and administrative principles in physical education. Major areas to be examined include: intramurals and recreation, interschool sports, equipment, facilities, and public relations.
Three hours a week

3950 SPECIAL TOPICS IN ADULT EDUCATION
Students investigate special topics that have particular reference to the fields of adult education, technological training and development, trades education, and other related areas. Students are expected to explore and research an approved topic of their choice.
Hours of Credit: 1, 2 or 3 credit hours

4010 DIRECTED STUDIES
This course is available to advanced students at the discretion of the faculty. Entry to the course, course content, and the conditions under which the course may be offered are subject to the approval of the Dean of Education.
(See Academic Regulation 9 for Regulations Governing Directed Studies)

4020 MEETING THE NEEDS OF THE YOUNG LEARNER
This course examines topics in education psychology relevant to the early years classroom. Topics include physical, cognitive, social/emotional and moral/spiritual development; individual differences; learning theories and motivation; behaviour; and the legal, ethical, and counselling responsibilities of teachers for supporting students in need.
Three hours a week

4030 ARTS AND SOCIAL TRANSFORMATION (Integration des arts)
This course is an introduction to the Arts and Education. Emphasis is on fostering creativity and critical inquiry through a variety of multi-modal experiences in the arts, the reading of current literature on arts methods and theories, the study of new curricular programs (including the integration of arts with other disciplines), and the role of arts in social transformation.

4040 COURSE CURRICULUM AND PLANNING FOR INSTRUCTION (Planification et programmes d'etudes)
In this course, students will develop the conceptual understanding and practical skills of lesson and unit planning as they pertain to curriculum. Foci include curriculum integration; project based learning; social action curriculum; understanding by design; experiential learning; outcomes and competencies assessment; coupling assessment with instruction; and various theoretical conceptions of curriculum, such as the hidden, null, void, and lived curriculum.
1 credit course

4050 CREATING A CLIMATE FOR LEARNING: EFFECTIVE CLASSROOM MANAGEMENT (Climat organisationnel: Gestion de classe efficace)
The focus of the course will be on establishing a positive classroom climate to help students become responsible for their learning, behaviours and choices. Foci include strategies to promote student motivation, build positive student-teacher relationships, and develop partnerships between parents and school.
1 credit course

4060 SUPPORTING STUDENTS' SOCIAL AND EMOTIONAL HEALTH (Comprende la sante sociale et emotionnelle chez les eleves)
This course will examine the responsibilities of teachers in supporting the mental health of K-12 learners in the contemporary contexts of family, peers, school, work, and the media. Emphasis is placed on challenges such as low self-esteem, difficult emotions, anxiety, depression, eating disorders, bullying, self-injury, and suicide.
3 credit course

4110 LEARNERS AND LEARNING
This course explores the growth and development of learners from early childhood to late adolescence. Topics include physical, cognitive, social/emotional and moral/spiritual development; individual differences; learning theories and motivation; behaviour; and the legal, ethical, and counselling responsibilities of teachers.
Three hours a week

4120 SCHOOL AND CLASSROOM CULTURE
This course will familiarize students with the variety of often contradictory and unnoticed social, epistemological, economic, political, and cultural influences that have shaped dominant beliefs about K-12 schooling. Students will develop critical inquiry skills as they examine educational assumptions and arrangements, with particular attention to their impact on educational outcomes, in their own lives, in schools, and in society at large.
Three hours a week

4130 MULTILITERACIES ACROSS THE CURRICULUM
This course introduces students to the critical, developmental, and pedagogical dimensions of supporting students K-12 as they learn the range of literacies required for life in the twenty-first century.
Three hours a week

4150 THE DIVERSE AND INCLUSIVE CLASSROOM

This course explores student diversity and addressing the needs of a wide variety of learners within the context of inclusive education. Particular focus will be placed on the development of instructional strategies that support all learners.
Three hours a week

4170 MEETING THE NEEDS OF THE ADOLESCENT LEARNER
This course examines topics in educational psychology relevant to the middle and senior years classroom. Topics include physical, cognitive, social/emotional and moral/spiritual development; individual differences; learning theories and motivation; behaviour; and the legal, ethical, and counselling responsibilities of teachers for supporting students in need.
Three hours a week

4180 GUIDANCE IN THE SCHOOLS
This course examines principles, problems and procedures in the provision of guidance services in a school setting. Particular attention is given to such topics as the functions of school personnel in guidance; integration of school and community resources; guidance-testing programs; information services; placement and follow-up activities.
Three hours a week

4200 TEACHING FOR SCIENCE, TECHNOLOGY, ENGINEERING AND MATH (STEM)
This course introduces students to the pedagogies, practices, and instructional alternatives that foster acquisition of the knowledge, skills, and attitudes critical to success in the sciences, technology, engineering and maths.
Three hours a week

4210 TEACHING FOR THE HUMANITIES
This course introduces students to the pedagogies, practices, and instructional alternatives that foster acquisition of the knowledge, skills, and attitudes critical to success in the social studies and humanities.
Three hours a week

4220 MATHEMATICS FOR TEACHERS
The course provides opportunities for students to reason and make sense of mathematics in meaningful ways by discovering mathematics through inquiry-based instructional methods grounded in real-life contexts. Content will be drawn from the National Council of Teachers of Mathematics five content (number & operations, algebra, geometry, measurement, and data analysis & probability) and process (problem-solving, reasoning & proof, communications, connections, and representation) standards.
Three hours a week

4230 PRIMARY/ELEMENTARY MATHEMATICS
This course examines the pedagogy of Primary/Elementary mathematics. Instruction focuses on how children learn mathematics, what it means to engage children in doing mathematics, teaching mathematics through problem solving, and curriculum sequencing. Underlying these foundational ideas for teaching, students will have the opportunity to re-learn key areas of mathematics in a twenty-first century approach to teaching and learning
PREREQUISITE: Education 4220
Three hours a week

4245 INQUIRY-BASED METHODS IN SCIENCE AND SOCIAL STUDIES
This course introduces pre-service teachers to curriculum integration in Science and Social Studies. Pre-Service Teachers will learn how to use inquiry-based methods to connect
learning with life experiences.
Three hours a week
Note: Credit will not be allowed for ED 4245 if a student has already received credit for ED 4450 or ED 4540

4260 INTERMEDIATE/SENIOR MATHEMATICS I
Building on the pedagogy of mathematics at the Primary/Elementary grades, this course examines the pedagogy of

Intermediate/Senior mathematics. Instruction focuses on how students learn mathematics in these grades, what it means to engage them in doing mathematics, teaching mathematics through problem solving, and curriculum sequencing. Students will also have the opportunity to re-learn key areas of mathematics in a twenty-first century approach.
Three hours a week

4270 INTERMEDIATE/SENIOR MATHEMATICS II
This course is a continuation of Education 426, and builds a conceptual foundation for the topics covered in the intermediate/senior years curriculum. Emphasis is placed on the critical examination of the current intermediate/senior years mathematics curriculum in relation to materials and methodologies. Experience in a variety of teaching methodologies is provided in addition to the development of an understanding of the principles and practices of assessment in mathematics.
PREREQUISITE: Education 4260
Three hours a week

4280 PRIMARY/ELEMENTARY MATHEMATICS II
A continuation of Education 4230, this course further examines and extends the pedagogy of Primary/Elementary focusing on how children conceptualize mathematics and instructional methods required to foster children's numeracy skills.
PREREQUISITE: Education 4230
Three hours a week

4290 MATHEMATICS IN THE MIDDLE YEARS II
This course provides pre-service teachers with an opportunity to design effective learning experiences, to enable students in the middle years to achieve the key stage outcomes of the Atlantic Provinces Education Foundation Curriculum for Mathematics Grades 5 – 9.
PREREQUISITE: Education 4250
Three hours a week

4310 DIFFERENTIATED INSTRUCTION AND INCLUSIVE PRACTICES (Inclusion et differenciation pedagogique en salle de classe)
This course focuses on the design, implementation and assessment of differentiated instructional practices to simultaneously address curriculum outcomes and the significant range of student differences in inclusive classrooms.
1 credit hour

4320 PRIMARY/ELEMENTARY LANGUAGE LITERACIES AND MULTILITERACIES I
This course provides an examination of the foundations of language/literacy processes based on current theories of language acquisition and literacy development. The focus is on six core strands: reading, writing, listening, speaking, viewing and representing, as well as balanced approaches to teaching, learning and assessing literacy skills in the Primary/Elementary grades.
Three hours a week

4330 LITERACY AND MULTILITERACIES IN THE EARLY YEARS II
This course is a continuation of Education 4320, in which students use language arts outcomes, materials, methods, and assessment techniques to design comprehensive literacy programs and activities.
PREREQUISITE: Education 4320

4336 DEVELOPING LEARNING AND PLAY IN THE EARLY YEARS (AGES 0-8)
Current theoretical and conceptual frameworks in the field of early years education and how they inform current approaches to the children's learning from age 0-8 will be examined.
Participants will study play and its major role in young children's learning, major influences affecting learning and play, methods of observing and studying play, and practical approaches for supporting and facilitating children's learning in early childhood settings and in grades K-2. Participants in current BEd programmes and educators from early years settings will develop

projects combining their observations in early years settings with practical curriculum activities.
Three hours a week

4340 LANGUAGE ARTS IN THE MIDDLE YEARS I
This course provides an introduction to current theory and conceptual frameworks for language arts, as well as teaching methods associated with teaching language arts in the middle years of school. The focus includes literacy acquisition with core strands of reading, writing, listening, speaking, viewing and representing, with teaching methods that develop a balanced approach to teaching language arts in grades 5-9.
Three hours a week

4360 INTERMEDIATE/SENIOR ENGLISH I
This course familiarizes students with a variety of theories, practices, and values for addressing curriculum and pedagogy as they relate to the teaching of English at the Intermediate/Senior level. With a view to being and becoming English teachers, both locally and globally, students will participate in writing, speaking, listening, reading, viewing and representing activities as informed by research and in a range of developmental, socio-cultural, and media contexts.
Three hours a week

4370 INTERMEDIATE/SENIOR ENGLISH II
Building on Ed 4360, placement experiences and a growing expertise in English education, students will critically inquire and contribute to current discussions and practices on the nature and cross-curricular scope of language and literacy. Emphasis will be on sense-making and concept development, effective writing instruction, the interactive/iterative relationship between teaching and assessment, and the evolving social/economic relevance of communication genres, modes, and media.
PREREQUISITE: Education 4360
Three hours a week

4410 INTRODUCTION TO CURRICULUM DEVELOPMENT
This introductory course examines the foundational forces (historical, philosophical, psychological, and societal/cultural) which influence the curriculum, and presents various models for curriculum development. Specific references will be made to the PEI scene.
Three hours a week

4420 ADOLESCENT SOCIAL & EMOTIONAL HEALTH
This course will explore the topic of social emotional health of adolescent learners in the contemporary contexts of family, peers, school, work, and the media. Mental health challenges such as anxiety, depression, addiction, and the teaching of social emotional learning strategies will be emphasized.
Three semester hours of credit

4450 PRIMARY/ELEMENTARY SCIENCE
The course examines methods of science teaching in the Primary/Elementary grades. Emphasis is placed on practical aspects of organizing and delivering active learning experiences in science, the reading of current literature on method and theory of science, the study of new curricular programs including the integration of science learning with other disciplines, and the relationship between sustainability and science.
Three hours a week

4460 INTERMEDIATE/SENIOR SCIENCE I
This course provides an introduction to basic pedagogical concepts and skills needed for the successful and effective teaching of science to Intermediate/Senior school students. Using the concepts of general science and the provincial science curriculum, the course examines the nature and limitations of teaching, learning and technology within the Canadian science classroom context.

PREREQUISITE: At least a minor in a Natural Science, or permission of the instructor.
Three hours a week

4470 INTERMEDIATE/SENIOR SCIENCE II
This course examines the development, nature, and limitations of science and technology; the role of science and technology in society; and the teaching of science and technology in the schools. Time is devoted to an examination of the provincial science curricula, innovative teaching and assessment strategies and techniques, and the development of active learning opportunities.
PREREQUISITE: Education 4460
Three hours a week

4480 SOCIAL EMOTIONAL LEARNING AND CHILDREN'S MENTAL HEALTH
This course introduces students to an overview of children's mental health issues, the core competencies of Social Emotional Learning, and evidenced-based programs and strategies identified for improving students' social skills, emotional well-being, and academic outcomes.
Three hours a week

4490 INTRODUCTION TO INDIGENOUS EDUCATION
This course is a combination of classroom and community-based learning. Anchored in L'nu (Mi'kmaq) knowledge, students will learn about ceremony, protocol, Elders and traditional teachers. In turn, these will help foster a mental, physical, emotional, and spiritual understanding of Indigenous worldviews and ways of knowing. This course also introduces Canada's history of cultural assimilation and genocide imposed upon Indigenous Peoples in Canada. It will discuss why all teachers – and anyone living in Canada – needs to know this history.
3 semester hours of credit

4510 INTEGRATING INDIGENOUS THEMES IN THE CURRICULUM
This course promotes dynamic ways for the public school curriculum to acknowledge more faithfully the histories, cultures, worldviews and teachings of Indigenous peoples in Canada and globally. The importance of developing more culturally responsive pedagogies and assessment practices and more respectful and inclusive research is highlighted. Insights are shared into the processes of recovery for Indigenous communities and the essential supports for their students to experience success at all grade levels.
Three hours a week

4530 CURRICULUM AND PEDAGOGY
In this course students will develop the conceptual understandings and practical skills to design learning in relation to diverse needs. Curriculum foci include inquiry, integration and universal design; pedagogical foci include promoting motivation, building positive relationships, and establishing strategies for students to become responsible for their learning, behaviours and choices.
3 hours a week

4540 PRIMARY/ELEMENTARY SOCIAL STUDIES
This course promotes dynamic teaching methods and inclusive approaches to inspire young learners and to elevate the quality of teaching and learning through Social Studies at the Primary/Elementary levels. Grounded in the needs of twenty-first century learners, this course offers concrete ways to create more vibrant, engaging, playful, supportive and inviting environments for this core curriculum area to give all learners dignity and honour their diverse ways of learning.
Three hours a week

4560 INTERMEDIATE/SENIOR SOCIAL STUDIES I
This course promotes dynamic teaching methods and inclusive approaches to inspire learners in grades 7-12 and to elevate the quality of teaching and learning through Social Studies at the Intermediate/Senior levels. Grounded in the needs of twenty-first century learners, this course offers concrete ways to create more vibrant, engaging, playful, supportive and inviting

environments for this core curriculum area to give all learners dignity and honour their diverse ways of learning.
Three hours a week

4570 INTERMEDIATE/SENIOR SOCIAL STUDIES II
This course develops a rationale, framework and procedures for facilitating thematic teaching and learning on critical social issues appropriate for grades 7-12. Skills in curriculum development are refined as students explore authentic assessment practices and ways of promoting student ownership of and co-responsibility for learning.
PREREQUISITE: Education 4560
Three hours a week

4590 ENTERPRISE EDUCATION
This course introduces the key principles and components of Learning For Enterprise, an international movement that nurtures initiative, self-determination, creativity and innovation in twenty-first century learners. A workshop design engages participants in classroom and community-based challenges that contribute to learners' confidence in self and community as they apply enterprising capabilities in a wide range of contexts throughout their lives. Specific applications to historically dependent cultures are explored.
Three hours a week

4620 INTERNATIONAL EDUCATION
This course introduces students to the economic, political, and cultural factors that influence public education in foreign countries. The public school systems of selected foreign countries are examined and compared to the provincial systems in Canada. Students are expected to carry out independent research on a foreign country of their choosing.
Three hours a week

4630 PERSPECTIVES ON CULTURE AND SOCIETY IN EDUCATION (culture et societe)
This course introduces students to the visible and invisible impact of culture and society on education. As students develop an understanding of cultural and social perspectives in education, they examine the roles of schools in the proliferation of social and cultural norms as well as their potential as sites for change.
3 credit course

4640 EDUCATING FOR GLOBAL CITIZENSHIP
This course is intended to broaden pre-service teachers' theoretical and pedagogical perspectives on global citizenship education by gaining an enhanced awareness of a world view that recognizes the interdependence and interconnections of the natural and social worlds. Participants will be introduced to the concept of global citizenship and, from this, develop an understanding of social justice, diversity, socio-cultural responsibility, sustainability, and agency. Demonstrating how to integrate global citizenship into educational practices is a key learning outcome of this course.
3 credit course

4650 INTERNATIONAL DEVELOPMENT
This course introduces students to the history of international development and explores the models of development currently employed. Particular attention is given to the effects of economic, political, environmental, and cultural development on public education in emerging countries.
Three hours a week

4660 PRINCIPLES AND PRACTICES OF TEACHING ENGLISH AS AN ADDITIONAL LANGUAGE
This course explores the theoretical foundations for teaching English as a second/additional language (ESL/EAL). Students are introduced to fundamental aspects of additional language acquisition and the factors affecting language learning and teaching. The course introduces the needs of English language learners in various contexts including ESL/EAL, mainstream and foreign language classrooms. Students develop a critical perspective on issues related to language learning and teaching.
Three hours a week

4670 APPROACHES AND METHODS FOR TEACHING ENGLISH AS AN ADDITIONAL LANGUAGE
This course provides students with the foundations to facilitate language classes in contexts including ESL/EAL, mainstream and foreign language classrooms. The course introduces a range of English language teaching approaches and methodologies and addresses techniques specific to teaching listening, speaking, writing, reading, vocabulary and grammar in an additional language.
PREREQUISITE: Education 4660
Three hours a week

4680 SCHOOL AND COMMUNITY
This course examines the historical and cultural roles of the rural school. Emphasis is placed on the evolving role of the school as a community resource centre.
Three hours a week

4690 SPECIAL TOPICS
To create a category for uniquely titled courses offered by a department and put on the timetable as a "special course" on a one-time basis.
Hours of Credit: 1, 2 or 3 credit hours

4710 ADMINISTRATION IN EDUCATION
This course is an introduction to the theory and practices of administration in education which includes an analysis of the nature of school organizations, effective administrative processes, the administrative structure of education on PEI, and legal issues in administration.
PREREQUISITE: Permission of the instructor
Three hours a week

4730 COMMUNICATIONS
An introductory course covering both interpersonal and group communication, aimed at teaching the student to think and to express ideas in lucid and well-defined terms. The emphasis will be on the workshop approach involving constant practice in the techniques of voice and speech, public speaking, classroom drama, and creative movement. This should encourage in the students a flexible and resourceful attitude, and help them to develop self-confidence, together with the awareness and sensitivity needed for teaching.
Three hours a week

4740 TECHNOLOGY IN EDUCATION
This course provides an introduction to the integration of digital technologies into teaching and learning. The focus is on use of technology as a tool to support the school curriculum. Web-based communication and work with web-based resources is an essential component.
1 semester hour of credit

4750 ADVANCED TECHNOLOGY IN EDUCATION
This course provides an opportunity to explore, develop and post web-based resources. Digital photography, digital video, and other emerging technologies are explored and applied within the educational context.
PREREQUISITE: Education 4740 or permission of instructor.
Three hours a week

4760 FRENCH METHODS I
In this course, students explore the curriculum and teaching of core French in the intermediate and secondary schools. Students develop a variety of teaching methodologies in the area of core French.
PREREQUISITE: At least a minor in French, or permission of instructor.
Three hours a week

4790 COMPÉTENCES LANGAGIÈRES EN CONTEXT ÉDUCATIF-PARTIE 2
This course is a continuation of ED 4930. Participants will continue to enhance their language skills through the same type of activities as the previous course.
PREREQUISITE: ED 4930
Three semester hours of credit

4800 TEACHING IN A CORE FRENCH, IMMERSION AND FRENCH FIRST LANGUAGE IN A MINORITY CONTEXT SETTING
In this course, students will examine the similarities and differences when teaching Core French, Immersion and French First language in a minority setting. This course will outline the guidelines and practices/strategies used in each of these three setting in the public school system.
3 semester hours of credit

4810 STATISTICS IN EDUCATION
This course is an introduction to descriptive and inferential statistics required to understand, interpret, express, and evaluate the results of measurement in education. Topics included are frequency distributions, histograms, frequency polygons, mean, median for grouped and raw data, normal distributions, standard deviation, normal approximation of a binomial random variable, random sampling and sampling distributions, estimation of means, confidence intervals, student distribution, small and large samples, one- and two-tail tests of hypotheses, correlation and regression, Chi-square test, analysis of variance.
Three hours a week

4820 ASSESSMENT AND EVALUATION
This course examines the complexity of assessment by contrasting assessment theories with common practices in the classroom. Students explore the concept of a balanced assessment program that integrates formative and summative assessment practices. Students develop skills in creating a variety of assessment instruments (e.g., observation check-lists, tests, rubrics, portfolios). Issues and practices of large-scale assessment are also explored.
Three hours a week

4850 PÉDAGOGIE EN IMMERSION: LES PRINCIPES DE BASE
This course explores the general pedagogical principles and techniques of content-based teaching in French Immersion at all levels. Topics covered include development of language skills, thematic teaching in immersion, integrating form and content in immersion, and strategy instruction in immersion. This course is taught entirely in French and students are required to complete all assignments in French.
PREREQUISITE: Students must have completed at least six courses (18 credit hours) in French studies in a recognized university program or have been educated in a francophone university for at least two years. Students must also meet the minimum standard, as determined by the Faculty of Education, on a French proficiency test administered before admission to the program.

4860 DIDACTIQUE DU FRANÇAIS LANGUE SECONDE: UNE INTRODUCTION
This course explores the general pedagogical principles and techniques of communicative-experiential teaching in core and immersion French programs at all levels. Topics covered include three-stage lesson planning, personalization, pedagogical grammar, and culture teaching. This course is taught entirely in French and students are required to complete all assignments in French.
PREREQUISITE: Students must have completed at least six courses (18 credit hours) in French studies in a recognized university program or have been educated in a francophone university for at least two years.

4870 L'ACQUISITION DES LANGUES SECONDES
This course explores students' past experiences and beliefs about language learning and teaching, principal theories related to second language acquisition, and practical applications of theory to classroom contexts in French Immersion and core French at all levels. This course is taught entirely in French and students are required to complete all assignments in French.
PREREQUISITE: Students must have completed at least six courses (18 credit hours) in French studies in a recognized university

program or have been educated in a francophone university for at least two years or with instructor's permission.
2.5 credit course

4880 LITTÉRATIE I
This course introduces students to the general pedagogical principles and techniques of literacy development in French first and second language contexts at the early, middle and senior years. Using materials available in schools and applying appropriate methods and assessment techniques, students design programs and activities based on the learning outcomes in the Atlantic Provinces Education Foundation French Immersion Curriculum. This course is taught entirely in French and all assignments are completed in French.
Three hours a week

4888 LITTÉRATIE – ÉDUCATION EN FRANÇAIS II (Intermédiaire/Secondaire)
This course allows students to continue to explore the theoretical foundations and practices in the field of literacy. Students build their understanding of reading and writing processes by exploring the characteristics, needs, and practices that are unique to learners who are in the process of becoming autonomous or advanced on the development continuum of readers and writers. Students continue to learn the components of an effective literacy program, including those that allow for instructional differentiation, such as writing and reading workshops and reading circles / clubs. In addition, students appropriate practices and resources that develop literacy skills and competencies across subject areas.
PREREQUISITE: Education 4880
3 credit course

4890 LITTÉRATIE II (PRIMAIRE-ÉLÉMENTAIRE)
This course explores and deepens students' understanding of the pedagogical principles and techniques of literacy development in French first and second language contexts at the early, middle and senior years. Using materials available in schools and applying appropriate methods and assessment techniques, students design programs and activities based on the learning outcomes in the Atlantic Provinces Education Foundation French Immersion Curriculum. This course is taught entirely in French and all assignments are completed in French.
PREREQUISITE: Education 4880
3 credit course

4900 INTÉGRATION DE LA LANGUE AU CONTENU
This course will provide a foundation for the integration of language and content taught in French first and second language programs. Through examination and application of different models, students will develop competence in the integration of context and language.

4910 SOCIOLOGY OF EDUCATION
This course involves an analysis of the reciprocal relations between school and society. It examines the influence of political and economic structures in shaping the education systems of various societies, as well as the relevance of different types of schooling in facilitating political and economic participation and cultural enrichment. Empirical attention is given to societies at various levels of general development, with particular emphasis on Canada.
PREREQUISITE: A university degree or two courses in Sociology and at least third year status or permission of the instructor
Three hours a week

4930 FRENCH LANGUAGE PROFICIENCY IN A SCHOOL SETTING/LES COMPÉTENCES LANGAGIÈRES EN CONTEXTE ÉDUCATIF
This course will provide current and future teachers of French as an additional language with the opportunity to enhance their language skills. This will be accomplished through speaking, listening, reading, writing, and viewing. The course will also include a grammar component. Activities will be of a reflective, interactive, and practical nature.
3 semester hours of credit

4950 INQUIRY AND ACTION I
Through on-campus seminars and five weeks of school placement, students will observe, experience and reflect upon

the various roles and responsibilities that a teacher has within the classroom and school and the impact of teaching on learners. They will begin to plan and teach lessons under the guidance of mentor teachers. Using an ePortfolio, they will begin to document their personal and professional growth as
educators.
Three hours a week

4960 TEACHING PRACTICES I

Through on-campus seminars, and nine weeks of in-school observation and school experience, students will gain in-class experience in organizing and managing a classroom, and planning and teaching effective lessons. They will use strategies developed in coursework to facilitate and assess student learning. Feedback from the mentor teacher and faculty advisor will inform self-assessment and personal and professional growth. Students, using an ePortfolio, will document their personal and professional growth as educators.
6 credit course

4961 PREPARATION FOR THE TEACHING PROFESSION I

Through a series of seminars, students will prepare for the role for a professional career. Topics will include teaching philosophy, classroom management and organization, teacher resilience, legal and ethical responsibilities, preparation for in-school experience, teacher certification, resume writing, questioning and presentation skills.
Three credit hours

4962 PRACTICUM I

Students will complete a 9 week teaching placement in a PEI public school with the guidance of a practicum Faculty advisor and a host mentor teacher. Students undertake planning and teaching effective lessons, develop personal classroom management strategies, and use strategies from methods courses to facilitate and assess student learning. Feedback from the host mentor teacher and faculty advisor will inform self- assessment and personal professional growth.
Three credit hours

4970 TEACHING PRACTICES II

On-campus seminars and eleven weeks of practicum placement will deepen their knowledge and practice required to meet the diverse learning needs of students within the classroom setting. Students effectively plan, implement, and assess adaptations and modifications required for optimal learning by individuals and the entire group. Students will further develop skills in classroom management and organization. In addition, the seminars will assist students in preparing for their chosen profession. ePortfolios will be completed and presented to meet course and program requirements.
6 credit course

4971 PREPARATION FOR THE TEACHING PROFESSION II

Through a series of seminars, students will continue preparing for a professional career in education. Topics from ED 4961 will continue to be developed and will also include job interviews, student referrals and supports, and relationships within schools and community.
Three credit hours

4972 PRACTICUM II

Students will complete a 10 week teaching placement with the guidance of a Faculty practicum advisor and a host mentor. Students will further develop planning and teaching effective lessons, themes and unit plans, personal classroom management skills, and assessment.
PREREQUISITE: Education 4961, Education 4962, and Education 4971, or permission from the Dean.
Three credit hours

4980 ADVOCACY II – BECOMING A PROFESSIONAL

On-campus seminars and six weeks of practicum placement will prepare students for professional certification in contexts chosen to deepen their knowledge and practice. ePortfolios will be completed and presented to meet course and program requirements.

PREREQUISITE: Education 4970
Three hours a week

5090 FOUNDATIONS OF TRANSFORMATIONAL LEADERSHIP IN NUNAVUT EDUCATION
This course reviews the history and world view of the Inuit, with particular emphasis on culture, educational history, struggles with power and privilege, beliefs, values, and principles relevant to Nunavut. Traditional and contemporary views on leadership are studied as participants develop a deeper understanding of the cultural context in which they live and work as educational leaders. Participants examine the directions and philosophies established in Nunavut, including ties to the environment and practices that facilitate transformational educational leadership.
Three semester hours

5110 PROACTIVE INSTRUCTIONAL LEADERSHIP IN NUNAVUT COMMUNITIES
The responsibilities, roles, and tasks of principals and other educational leaders are explored as they relate to the creation of a positive, inclusive, collaborative, and culturally responsive school community. The role of leadership in teaching and learning and building positive relationships, both in and outside school, is examined as a key factor in facilitating the academic achievement and well-being of learners. A variety of culturally appropriate facilitation strategies are introduced as participants analyze the legal, moral, ethical and policy rights of learners and educators in maintaining and strengthening culture and language and promoting success in schools, the local community, and the world beyond.
Three semester hours

5120 EDUCATIONAL LEADERSHIP—ENGAGING NUNAVUT PARENTS, ELDERS, AND COMMUNITY
This course focuses on the development of collaborative relationships, positive communication, and empowerment of parents, elders, and community members who lead, support, and guide education in Nunavut. Participants discuss approaches that respond to and involve the community, and build accountability in ways that are transparent and reciprocal. The involvement of the extended community in the daily life and long-term vision of the school provides a central focus as participants reflect on, and write about, the process of creating collaborative learning communities with parents, caregivers, and elders based on cultural values, beliefs, and principles.
Three semester hours

5130 LEADERSHIP OF THE SCHOOL IMPROVEMENT PROCESS IN NUNAVUT COMMUNITIES
Policy implementation, supervision of teaching and the leadership of learning, staff evaluation, and program accountability play a key role in transformational educational leadership and are a major focus in this course. Participants discuss and write extensively about policy implementation that is culturally and linguistically responsive in promoting learning. Participants are challenged to develop skill sets they require to involve the community and parents in developing and implementing a vision for education based on current policies.
Three semester hours

5140 REFLECTIVE PRACTICE IN EDUCATIONAL LEADERSHIP FOR NUNAVUT
Participants propose, develop, and implement an approved reflective inquiry project based on their own educational practice.
Three semester hours

ED 5141 ACTION RESEARCH AND REFLECTIVE PRACTICE IN NUNAVUT EDUCATION (DESIGN)
Participants design and develop a reflective practice and/or action research project. The course will focus on developing action research and reflective practice approaches leading to the development of a Government of Nunavut approved research project plan (literature review, methodology, and ethics approval), which would be conducted in ED 5142.
One semester hour

ED 5142 ACTION RESEARCH AND REFLECTIVE PRACTICE IN NUNAVUT EDUCATION (IMPLEMENTATION)
Participants conduct an approved reflective practice and/or action research project. The course will consist of highly individualized online instruction where instructors support participants in the implementation of their research projects through local District Education Authority approvals, intervention implementation, data collection, analysis and academic report writing, with the final dissemination of results conducted in ED 5143.

PREREQUISITE: ED 5141
One semester hour

ED 5143 ACTION RESEARCH AND REFLECTIVE PRACTICE IN NUNAVUT EDUCATION (COMMUNICATION)
Participants disseminate and defend the findings from their research project as a means of evaluating their own Educational Leadership.
PREREQUISITE: ED 5142
One semester hour

5590 SPECIAL TOPICS IN EDUCATION
In this course, students investigate special topics in the field of education. Permission of the Coordinator of Graduate Studies and the Dean is required.
Hours of Credit: 1, 2 or 3 credit hours

5730 CHILDREN'S LITERATURE IN EDUCATION
An introduction to, and survey of, children's literature with emphasis on contemporary books written for children. These include picture books, fiction, and nonfiction with special consideration of Canadian titles. Students examine, read, evaluate, and discuss different forms of literature and various genres of fiction, as well as the ways children's literature is integrated into contemporary school curriculum.
Three hours a week

5740 YOUNG ADULT LITERATURE
An introduction to young adult literature with emphasis on contemporary books written for adolescents. These include picture books, fiction, and nonfiction with special consideration of Canadian titles. Students examine, read, evaluate, and discuss young adult books and explore the ways young adult literature is integrated into contemporary school curriculum.
Three hours a week

5750 ORGANIZATION AND MANAGEMENT OF LEARNING RESOURCES
This course provides opportunities to consider principles of analysis, appraisal, and review of learning resources. Students develop criteria for evaluating and selecting a wide range of both print and non-print learning resources, and to formulate policies and procedures for the selection of learning resources to support the instructional program in the school.
Three hours a week

5810 THE INCLUSIVE CLASSROOM
Teachers examine the emergence of inclusive education and explore the history of services to children with special needs and attitudes teachers bring to the classroom. Recent research and practice in inclusive education is explored by the students.
Three hours a week

5820 ASSESSMENT OF INDIVIDUAL LEARNERS
Teachers are introduced to individualized educational assessment of children with learning needs and become familiar with a variety of assessment tools and their implementation.
Three hours a week

5830 DIFFERENTIATION AND INDIVIDUALIZED INSTRUCTION
This course introduces teachers to differentiation of curriculum and a variety of teaching methods for learners with exceptional needs, as well as the components and implementation of an individualized educational plan.
Three hours a week

5840 LEADERSHIP AND COLLABORATION
Teachers explore inclusive teaming and classroom consultation as methods to promote inclusive education. Leadership traits required to facilitate the development of an inclusive school is also explored.
Three hours a week

5850 IMPROVING LANGUAGE AND LITERACY ACHIEVEMENT

This course looks at strategies teachers can employ to develop language and literacy skills in the students in their classrooms. Current research in this area is presented and critiqued.

Three hours a week

5910 DIRECTED STUDIES

In this course, individual students pursue a special topic or issue in education. Before approval is granted, each student must prepare a detailed outline of the contents of the course, and obtain the consent of a faculty member to supervise the work.

PREREQUISITE/CO-REQUISITE: Permission of the Dean and Coordinator of Graduate Studies, and permission of instructor.

Three semester hours of credit

# 67. Engineering

## Faculty of Sustainable Design Engineering

http://upei.ca/engineering
http://upei.ca/programs/engineering

**Engineering Faculty**
Suzanne Kresta, Professor, Dean
Amy Hsiao, Professor
Greg Naterer, Professor
Trung Ngo, Professor
Marya Ahmed, Associate Professor
Aitazaz Farooque, Associate Professor
Andrew Swingler, Associate Professor
Senthilkumar Thiruppathi, Associate Professor
Andrew Trivett, Associate Professor
Kuljeet Grewal, Assistant Professor
Yulin Hu, Assistant Professor
Grant McSorley, Assistant Professor
Elizabeth Osgood, Assistant Professor
Stephanie Shaw, Assistant Professor

UPEI's Bachelor of Science in Sustainable Design Engineering program focuses on engineering design as an engineering discipline in itself. Sustainable design engineers are problem solvers. They use design skills, engineering knowledge, math and science to deliver innovative and sustainable solutions to modern-day problems. A sustainable solution is one in which all factors and stakeholders are considered. It goes beyond just providing an efficient, attractive, on-time, and on-budget solution. It also cares about how such goals are achieved and about its impact on people, the environment and society.

Our program provides students with a solid technical foundation which supports the development of their design skills. Just as important, though, the program also provides the professional skills necessary to succeed as a professional engineer. To achieve this, we have created a unique and innovative design clinic model that is integrated throughout all years of the program. In the design clinics, students are immersed in hands-on, experiential learning while working on real projects for a wide range of external partners from the community, municipalities, government, industry and others.

Our program allows students in the upper years to focus their studies and apply their design skills in three areas: mechatronics; bioresources; and sustainable energy. Very often, then, design clinic projects and the interests of project team members cover each of these areas.

With a strong interdisciplinary background in engineering design, strengthened by solid professional and technical skills, our graduates are well-positioned to work in a diverse range of industry sectors such as: bio and food processing, robotics, industrial automation, aerospace, automotive, advanced manufacturing, sustainable and alternative energy, marine applications, and many others. Our graduates also pursue careers in research and development by enrolling in graduate programs either here at UPEI or at other schools. Some of our graduates move on to medical school and some even start their own companies.

The following core design clinic courses must be taken in succession to support the students' developing skills.

**Community Design Program**
Engineering 1210—Engineering Communications
Engineering 1220—Engineering Analysis

**Junior Design Clinic**
Engineering 2210—Engineering Projects I
Engineering 2220—Engineering Projects II

**Senior Design Clinics**
Engineering 3710—Project-Based Professional Practice I
Engineering 3720—Project-Based Professional Practice II
Engineering 4710—Project-Based Professional Practice III
Engineering 4720—Project-Based Professional Practice IV

The following are the course requirements for the Sustainable Design Engineering degree which can be taken over a four-year or a five-year course plan. Refer to the individual course matrices, available on the website, for the course sequencing for each of these plans. Please note that a 60% minimum grade is required in each of the following courses to proceed to the next course: Engineering 1210, 1220, 2210, 2220, 3710, 3720 and 4710. Students are strongly encouraged to meet with an academic advisor early in the program to review course selection.

| Course | Credit Hours |
|---|---|
| Engineering 1210—Engineering Communications* | 3 |
| Engineering 1220—Engineering Analysis | 3 |
| Engineering 1230—Engineering Mechanics I: Statics | 3 |
| Engineering 1250—Materials Science | 3 |
| Engineering 1310—Computer Programming with Engineering Applications | 3 |
| Engineering 1340 – Engineering Mechanics II: Dynamics | 3 |
| Engineering 1410—Sustainability in Engineering Design | 3 |
| Engineering 2130—Statistics for Engineering Applications | 3 |
| Engineering 2210—Engineering Projects I | 3 |
| Engineering 2220—Engineering Projects II | 3 |
| Engineering 2310—Strength of Materials | 3 |
| Engineering 2360—Materials, Mechanics, and Manufacturing | 3 |
| Engineering 2610—Thermo Fluids I: Thermodynamics | 3 |
| Engineering 2620—Thermo Fluids II: Fluid Mechanics | 3 |
| Engineering 2810—Electric Circuits | 3 |
| Engineering 2830—Digital Logic Design | 3 |
| Engineering 3220—Engineering Measurements | 3 |
| Engineering 3270—Machines & Automatic Controls | 3 |
| Engineering 3430—Technology Management and Entrepreneurship | 3 |
| Engineering 3630—Thermo Fluids III: Heat Transfer and Thermodynamic Cycles | 3 |
| Engineering 3710—Project-Based Professional Practice I | 6 |
| Engineering 3720—Project-Based Professional Practice II | 6 |
| Engineering 3810—Systems Engineering | 3 |
| Engineering 3820—System Dynamics with Simulation | 3 |
| Engineering 4210—Facilitated Study & Experimental Practice | 3 |
| Engineering 4710—Project-Based Professional Practice III | 6 |
| Engineering 4720—Project-Based Professional Practice IV | 6 |
| Engineering 4850—Computational Methods for Engineering Design | 3 |
| One (1) introductory engineering focus area elective** | 3 |
| Three (3) engineering focus area electives** | 9 |
| Chemistry 1110—General Chemistry I | 3 |
| IKE 1040 – Indigenous Teachings | 3 |
| Mathematics 1910—Single Variable Calculus I | 4 |
| Mathematics 1920—Single Variable Calculus II | 4 |
| Mathematics 2610—Linear Algebra | 3 |
| Mathematics 2910—Multivariable and Vector Calculus | 4 |
| Mathematics 3010—Differential Equations | 3 |
| UPEI 1010 – Writing Studies | 3 |
| One (1) complementary studies elective*** | 3 |
| One (1) complementary studies or science elective*** | 3 |

| | |
|---|---|
| Total | 141 |

**Notes**

* Engineering 1210 satisfies the intensive writing course requirement.

** Four engineering focus area electives are required. The first of these must be the introductory elective course in either Mechatronics (ENGN 3340), Sustainable Energy (ENGN 3440), or Bio-Resources (ENGN 3540) The remaining three engineering focus area electives can be selected from any of the elective courses listed below depending on availability. At least one of the engineering focus area electives must be at the 4000 level.

*** Complementary studies courses are any non-engineering or non-science courses.

**Engineering Focus Area Electives**

Engineering 3370—Mechatronic System Integration and Interface Design
Engineering 3380—Real-time Embedded Systems
Engineering 3390—Introduction to Mechatronic Computer-Aided Product Development, Modelling and Simulation
Engineering 3450—Wind and Water Power
Engineering 3460—Solar Energy and Electricity Storage
Engineering 3490—Chemical Energy Conversion
Engineering 3570—Engineering Applications of Biological Materials
Engineering 3580—Soil Mechanics
Engineering 4310—Advanced Fabrication Techniques and Computer-Integrated Manufacturing
Engineering 4320—Control System Design
Engineering 4330—Innovations in Biomedical Engineering
Engineering 4350—Advanced Robotic Dynamics and Control
Engineering 4370—Fluid Power Control
Engineering 4410—Macro Energy Systems
Engineering 4440—Advanced Energy Storage
Engineering 4450—Fluid Loads on Energy Structures
Engineering 4470—Micro Grids
Engineering 4510—Geoinformatics in Bioresources
Engineering 4530—Fundamentals of Agricultural Machinery
Engineering 4550—Biotechnological Processes
Engineering 4830—Biomedical Signal Processing
Engineering 4840—Sustainable Technology Development and Commercialization

# ENGINEERING COURSES

1210 ENGINEERING COMMUNICATIONS

This course is the first in a series of design courses structured to foster development toward becoming a professional engineer. It provides a basic introduction to the profession, to the design process, and to the way that engineers communicate through drawing, writing, speaking, and presenting. Students learn about the engineering design process by completing simple engineering design projects in a team-based environment. There is a strong focus on computer-aided drawing and the design process.

PREREQUISITE: Admission to the Engineering Program. Engineering 1410 and Math 1910 must both be completed or taken concurrently

Three hours lecture and three hours design studio per week

1220 ENGINEERING ANALYSIS

This course is the second in a series of design courses structured to foster development toward becoming a professional engineer. It further introduces the engineering design process through team-based engineering design projects. Additionally, emphasis is placed on the development of structured problem-solving, analysis, testing, interpretation, impact on design, and computer-aided design. Analysis tools and topics such as basic concepts of electricity; statics; dynamics; estimation; statistics; graphing; and regression are applied to clinic projects. Computer-aided design focuses on 2D and 3D technical drawing using advanced CAD tools.
PREREQUISITE: Engineering 1210 with a grade of at least 60%. Engineering 1310 must be completed or taken concurrently.
Three hours lecture and three hours of design studio per week

1230 ENGINEERING MECHANICS 1: STATICS
This course focuses on the study of mechanics concerned with the equilibrium conditions of particles and rigid bodies at the state of rest and subject to forces and moments. A structured problem-solving method is introduced to identify and solve problems using appropriate theory, tools, and methodologies. Topics to be discussed include unit systems, vector operations, equilibrium conditions, free-body diagrams, moments and couples, distributed loadings, support reactions, truss analysis, centroids, moments of inertia, products of inertia, shear and bending moment diagrams, and friction
PREREQUISITE: Admission to the Engineering Program. Mathematics 1910 must be completed or taken concurrently.
Three lecture hours and three lab hours per week

1250 MATERIALS SCIENCE
This course focuses on the fundamental principles of chemistry as they relate to the properties and behaviour of materials in application to engineering systems. The relationship between electronic structure, chemical bonding, and atomic order is emphasized. The characterization of atomic arrangements in crystalline and amorphous solids, i.e. that of metals, ceramics, polymers, and composites are introduced. Knowledge of materials phenomena, including chemical equilibrium and kinetics, diffusion, electrochemistry, and phase transformations will be gained through experiential labs and lecture. Examples from industrial practice and emerging technologies will be used to illustrate the materials science concepts in this course.
PREREQUISITE: Admission to the Engineering program. Mathematics 1920 must be completed or taken concurrently, Chemistry 1110
Three hours lecture and three hours lab per week

1310 COMPUTER PROGRAMMING WITH ENGINEERING APPLICATIONS
This introductory course in computer programming is specifically designed for engineering students with no previous programming experience. The learning objectives are twofold: 1) to gain the ability to write scripts and solve basic engineering problems using numerical computing environments, 2) to introduce embedded systems and the fundamentals of programming, using microcontrollers. Topics include problem solving, algorithm design, modular programming, data types and number systems, operators, functions, decision statements, loops, and arrays. The latter part of the course deals with the fundamentals of interfacing peripheral devices including sensors and actuators to design small embedded systems PREREQUISITE: Admission to the Engineering Program. Mathematics 1920 must be completed or taken concurrently.
Three lecture hours and three lab hours per week

1340 ENGINEERING MECHANICS II: DYNAMICS
This course is a study of mechanics concerned with the state of motion of particles and rigid bodies that are subject to the action of forces and moments. The course considers the kinematics and kinetics of motion applied to particles and rigid bodies particularly as it relates to engineering applications and design. Topics include rectilinear and curvilinear motions, rectangular, normal-tangential, and cylindrical coordinate systems, rotation about a fixed axis, general plane motion, dependent and relative motion, Newton's Laws of Motion, and energy and momentum methods.

PREREQUISITE: Mathematics 1920 must be completed or taken concurrently. Engineering 1230
Three hours lecture and three hours lab per week

1410 SUSTAINABILITY IN ENGINEERING DESIGN
This course introduces the principles of sustainability in engineering design as they relate to the interactions among humans, living systems, the natural environment and the engineered world. Physical, chemical, biological, ecological, social, economic and life-cycle concepts, and their relevance to sustainable engineering design, are emphasized.
PREREQUISITE: Admission to the Engineering Program
Three lecture hours and three lab hours per week

2130 STATISTICS FOR ENGINEERING APPLICATIONS
This course provides an introduction to statistics through its application to engineering with a focus in design of experiments and statistical analysis of results. Basic statistical concepts, such as probability, descriptive measures, population distributions, and hypothesis testing including t-Test and ANOVA are taught in the context of engineering reliability and experimentation scenarios.. Students also learn the basics of experimental design, including one-factor-at-time and factorial testing, quality control, regression, correlation, and interaction development.
PREREQUISITE: Admission to the Engineering program. Mathematics 1920
Three lecture hours and three lab hours per week

2210 ENGINEERING PROJECTS I
Combined with ENGN 2220, this course provides a complete community/industry design project experience. Emphasis is placed on strong technical design knowledge, technical writing, and team dynamics to facilitate learning and critical thinking. Students are encouraged to develop and apply CAD, economics, sustainability, social justice, and ethics concepts in their own community/industry design projects. Students are required to research and analyze the community partner's situation (internal/external) and develop detailed analytical proposals and conceptual design options. Innovative project management tools and communication skills (team/ community partner) are also introduced to achieve project deliverables in an effective manner
PREREQUISITE: Engineering 1220 with a grade of at least 60%. Engineering 1250, 1310, 1340 and 1410. Engineering 2310, Engineering 2610 and Engineering 2810 must be completed or taken concurrently and UPEI 1010
Three hours lecture and three hours design studio per week

2220 ENGINEERING PROJECTS II
Building on the work in ENGN 2210, students will complete detailed designs of their concepts, in-depth engineering analyses and develop a physical model or demonstration to support the recommended design solution. Working closely with community/industry partners and faculty, students learn how to manage a complex community partner oriented project, supported by accurate numerical analysis and professional documentation. Emphasis is placed on hands-on activities in a team-oriented environment to achieve an optimal working prototype, keeping in view the concepts of practicality, adoptability, economics, and sustainability.
PREREQUISITE: Engineering 2210 with a grade of at least 60%
Three hours of lecture and three hours of design studio per week

2310 STRENGTH OF MATERIALS
This course provides an introduction to statistics through its application to engineering with a focus in design of experiments and statistical analysis of results. Basic statistical concepts, such as probability, descriptive measures, population distributions, and hypothesis testing including t-Test and ANOVA are taught in the context of engineering reliability and experimentation scenarios.. Students also learn the basics of experimental design, including one-factor-at-time and factorial testing, quality control, regression, correlation, and interaction development.
PREREQUISITE: Engineering 1230 and Mathematics 1920
Three hours lecture and three hours lab per week

2360 MATERIALS, MECHANICS, AND MANUFACTURING

This course advances the fundamental knowledge of materials science to focus on materials processing and industrial manufacturing techniques for metals, ceramics, polymers, and composites. Knowledge of heat treatment and various metallurgical processes, as well as cold-working, subtractive and additive manufacturing, corrosion and fatigue, will be linked to an evaluation of materials properties, materials performance and mechanical behavior, and microstructure. Students will apply the materials life cycle and use various tools to assess quality and integrity to predefined specifications and tolerances. The materials phenomena and manufacturing techniques discussed in lecture will be demonstrated through experiential labs.

PREREQUISITE: Engineering 1250 and 2310

Three lecture hours and three lab hours per week

2610 THERMOFLUIDS I: THERMODYNAMICS

This course is designed to provide the student with a basic understanding of the fundamental concepts and principles of thermodynamics (first and second laws) and the application of these principles to engineering problems. Topics included are: the nature and forms of energy; basic concepts of systems, properties, states and processes; energy transfer as work and heat; energy and The First Law of Thermodynamics; entropy and The Second Law of Thermodynamics; and heat engine and refrigeration cycles.

PREREQUISITE: Admission to the Engineering program. Chemistry 1110 must be completed or taken concurrently; Mathematics 1920

Three hours lecture and three lab hours per week

2620 THERMO FLUIDS II: FLUID MECHANICS

This course is an introduction to the field of fluid mechanics. Topics covered include properties of fluids, forces on submerged surfaces, stability of floating objects, ideal fluid flow, and momentum and energy methods. Concepts of similitude are introduced and fundamental scaling parameters in real fluids. Turbulence is introduced; pipe flow problems and lift/drag problems are solved.

PREREQUISITE: Engineering 2610 and Math 2910

Three hours lecture and three hours lab per week

2810 ELECTRIC CIRCUITS I

This course is a study of topics such as: voltage, current, resistance, power, Ohm's laws, Kirchoff 's laws, sources, voltage and current division, nodal and mesh analysis, linearity and superposition, Thevenin's and Norton's theorems, capacitance and inductance, RL and RC circuits. Concepts of electric charge, force and field are also introduced.

PREREQUISITE: Admission to the Engineering program. Math 1920

Three hours lecture and two hours tutorial per week

2830 DIGITAL LOGIC DESIGN

This course is a study of topics such as: digital and binary systems, Boolean algebra, combinational logic, sequential logic, minimization, registers and counters, clocks and synchronization, state machines, and programmable logic devices. Ladder logic and programmable logic controllers are also introduced.

PREREQUISITE: Engineering 1310, Engineering 2810

Three lecture hours and three lab hours per week

3220 ENGINEERING MEASUREMENTS

This course covers the basic types of measurement of many fundamental physical phenomena, including time, distance, displacements, speed, rates, force, flow, temperature, pressure, stress and strain, and frequency. Calibration, accuracy, trueness, and precision of a measurement method are defined. The focus is on understanding ways to sense physical parameters. This course has a significant lab component.

PREREQUISITE: Engineering 2130, 2810, and Math 3010

Three hours lecture and three hours lab per week

3270 MACHINES AND AUTOMATIC CONTROL

This course introduces students to the complexity of automating machines. Building on previous machine design and electric circuit's courses, students will investigate and experiment with all aspects of electrical systems, mechanical systems and automatic control. Topics covered include: history of machines, how machines work, concept of control, human interaction, instruments and measurements, control schematics, AC/DC machines and transformers, programmable technology, power electronics, electric motors, protection systems, and industrial safety. Labs involve reverse engineering exercises and industrial field trips are used to enhance understanding.

PREREQUISITE: Engineering 3220

Three lecture hours and three lab hours per week

3340 INTRODUCTION TO MECHATRONICS ENGINEERING

This course covers fundamental skills associated with the development of computer-controlled intelligent systems and processes. Following a modern approach to mechanical engineering design, students will attempt synergistic integration of electronics, control systems, and mechanical components in a controlled laboratory environment. Students must demonstrate skills related to the selection, integration and/or calibration of sensors, actuators, signal conditioning, control algorithms, computer software, and hardware systems used to manage complexity, uncertainty, and communication in robotic systems.

PREREQUISITES: Engineering 3710 must be completed or taken concurrently

Three hours of lecture and three hours of lab per week

3370 MECHATRONIC SYSTEM INTEGRATION AND INTERFACE DESIGN

This course focuses on the fundamentals of human and mechatronic system interaction and a systematic approach to its interface design. Signal generation, transmission, and interface design are the main topics of this course. Integration of the Mechatronics system focuses on the use of embedded electronics to control and monitor mechanical behavior in a mechatronic system. Following a user-centered design and observational philosophy, students will learn to evaluate the execution efficiency of typical voice, command and graphical (GUI) user interfaces to interact with the mechatronic system with the specific aim of monitoring and control. Topics include: transducers, motors and actuators I/O and signaling, signal transmission philosophy and design, conducting user studies, evaluation techniques, information structure, and programming for interactive systems. Labview and Simulink interface software development packages are used.

PREREQUISITES: Engineering 3340, 3440, or 3540

Three hours of lecture and three hours of lab per week

3380 REAL-TIME EMBEDDED SYSTEMS

This course will provide students with an overview of how different hardware components are inter-connected and how embedded systems are programmed. Students will learn how to determine the functions of given function units, and construct small scale logic circuits based on their functional specifications. Students will also learn to explain the stages involved in decoding and executing instructions, to illustrate basic concepts of interfacing to external devices, and to compare different set architectures. Students will study how to do programming for real-time embedded systems.

PREREQUISITES: Engineering 3340, 3440, or 3540

Three hours of lecture and three hours of lab per week

3390 MECHATRONICS COMPUTER-AIDED PRODUCT DEVELOPMENT, MODELLING, AND SIMULATION

This course reinforces students' skills in solid modelling and expands into computational simulation. Utilizing advanced CAD/CAM/CAE simulation software such as SolidWorks, CATIA, Altair Hyperworks, ANSYS Workbench, and Stratsys Insight 3D printing software, and in a controlled environment, students engage in developing skills required to work in today's industrial and integrated computer-aided product development. The course focuses on a hands-on approach to product innovation and the effective use of computational simulation technology. The course covers aspects of structural and mechanical CAE/FEA as well as thermal management CAE/CFD simulations when designing intelligent

mechatronics products.
PREREQUISITES: Engineering 3340, 3440, or 3540
Three hours of lecture and three hours of lab per week

3430 TECHNOLOGY MANAGEMENT & ENTREPRENEURSHIP
This course provides an overview on how to start and sustain a technology-oriented company. Topics discussed will include the role of technology in society, intellectual property, business feasibility studies, financial planning, sources of capital, business structure, marketing, operational and human resource management. The focus will be on students as engineers-entrepreneurs with involvement from real life entrepreneurs as motivators and facilitators. This course will use problem-based and experiential learning strategies to develop new ventures. Students who produce a well-developed business idea from this course may be considered for approval to use this as the basis for their final year engineering design project.
Cross-listed with Computer Science 3840.
PREREQUISITE: Engineering 3710
Three lecture hours per week

3440 INTRODUCTION TO SUSTAINABLE ENERGY ENGINEERING
This introductory course considers current and promising future energy systems. Topics introduced include available resources, energy conversion technologies and end use applications and technologies. An emphasis is placed on understanding the needs of a future of global energy supply and its associated challenges. Students will develop a technical and analytical framework with which they can evaluate energy supply alternatives in the context of political, economic, environmental and social goals. Life cycle analysis is also considered. Topics introduced in this course may be covered in greater depth in other sustainable energy focus-area electives.
PREREQUISITES: Engineering 3710 must be completed or taken at least concurrently
Three hours of lecture and three hours of lab per week

3450 WIND AND WATER POWER
This course explores the engineering of wind- and water-based renewable energy conversion technologies such as wind turbines, tidal turbines, wave energy converters, and hydroelectric dams. Students will develop an understanding of the current state of technology and gain an appreciation for related issues of resource assessment, stakeholder engagement, and environmental impact. The underlying fluid mechanics principles will be emphasized to appreciate device operating principles and performance drivers. The challenge of satisfying energy demand with intermittent supply will be reviewed to further contextualize the different resource potentials, and related fluid-based storage technologies will be discussed.
PREREQUISITES: Engineering 3340, 3440, or 3540
Three hours of lecture and three hours of lab per week

3460 SOLAR ENERGY AND ELECTRICITY STORAGE
This course covers the fundamentals of solar power generation and associated energy storage systems. Course emphasis surrounds the electrical nature of solar photovoltaic energy generation associated energy/power conversion and storage systems. Students will develop a technical understanding of the underlying core technologies as well as how the technologies are productized. Topics covered may include: Solar photovoltaic (PV) generation, electric power converters for solar PV, battery storage technology, off-grid solar power conversion systems and small solar home systems. Lab projects may consist of studying various scales of PV power products and technologies.
PREREQUISITES: Engineering 3340, 3440, or 3540
Three hours of lecture and three hours of lab per week

3490 CHEMICAL ENERGY CONVERSION
This course covers fundamentals of thermodynamics, chemistry, flow and transport processes as applied to energy systems. Topics include analysis of energy conversion in thermochemical and thermomechanical processes as seen in

existing power and transportation systems, and ways these processes may be improved in the future. Systems utilizing fossil fuels, biofuels, hydrogen, and other chemical energy sources, over a range of sizes and scales are discussed. Applications include fuel reforming, hydrogen and synthetic fuel production, combustion, thermal power cycles, fuel cells and catalysis. The course also deals with combustion emissions and environmental impacts, source utilization and fuel-life cycle analysis.
PREREQUISITES: Engineering 3340, 3440, or 3540
Three hours of lecture and three hours of lab per week

3540 INTRODUCTION TO BIORESOURCES ENGINEERING
Growing environmental problems created by unsustainable use of fossil resources is forcing us to move from a synthetic-based economy to a bio-based one. This introductory course will provide the fundamental skills in developing environmental technologies to enable students to pursue career opportunities in a range of industries. Looking into different resources available within the biosphere, students will learn to apply engineering knowledge for its sustainable use. Concepts of a bio-refinery will be introduced for developing fundamental understanding of integrated conversion processes (thermal, chemical and biological). Understanding the concepts of enzymatic and cellular kinetics, students will learn to design bioreactors. This course will also review the fundamental concepts of life-cycle analysis and explore the application of it to selected environmental projects.
PREREQUISITES: Engineering 3710 must be completed or taken at least concurrently
Three hours of lecture and three hours of lab per week

3570 ENGINEERING APPLICATIONS OF BIOLOGICAL MATERIALS
This course will focus on the understanding of the basic molecular structures of biological materials, such as wood, bioplastics, biocomposites and biofuels, and their engineering applications. It will develop the fundamental understanding of relationships between composition, structure and properties of various materials of biological origin. It will also address molecular design of new biological materials applying the molecular structural principles. The long-term goal of this course is to teach molecular design of new biological materials for a broad range of applications. A brief history of biological materials and its future perspective as well as its impact to the society will also be discussed.
PREREQUISITES: Engineering 3340, 3440, or 3540
Three hours of lecture and three hours of lab per week

3580 SOIL MECHANICS
This course explores the fundamentals of soil mechanics and their applications in engineering practice. Students will develop an understanding about the physical properties of soils, and will examine the behavior of soil masses subjected to various forces. The list of topics to be covered in this course include: soil composition and texture, physical properties of soils, classification of soils, permeability and seepage, consolidation, settlement, shear strength, vertical stresses in soils, soil exploration, bearing capacity and slope stability of soils.
PREREQUISITES: Engineering 3340, 3440, or 3540
Three hours of lecture and three hours of lab per week

3630 THERMOFLUIDS III: HEAT TRANSFER AND THERMODYNAMIC CYCLES
This course advances student knowledge across the related fields of thermodynamics, fluid mechanics, and heat transfer with an emphasis on engineering applications. Heat transfer topics include: steady and unsteady heat conduction, convection and radiation phenomena; and heat exchanger analysis. Thermodynamic cycles topics include: internal combustion as it applies to power generation; air standard and vapour cycles; gas turbines; jet engine; and steam power plants.
PREREQUISITE: Engineering 2620
Three lecture hours and three lab hours per week

3710 PROJECT-BASED PROFESSIONAL PRACTICE I
Building on previous design courses, this is the first of a series of upper-year design courses which simulate the

practice of a professional engineer. Professional and technical skills are developed through problem-, activity-, and project-based learning. Teams work with industry partners to develop innovative and sustainable solutions to meet their engineering challenges. Following a design-build-test approach and best practices in project management and sustainability, teams develop detailed project proposals, conceptual designs, and proofs of concepts within the ethical and safety considerations that are fundamental to the profession. Concepts are further developed into operational prototypes in ENGN 3720.
Six lecture hours and six hours design studio per week

3720 PROJECT-BASED PROFESSIONAL PRACTICE II
This is the second in a series of upper-year design courses which simulates the practice of a professional engineer and continues the work in ENGN 3710. Professional and technical skills are developed through problem-, activity-, and project-based learning. Working closely with their industry partners, teams complete detailed designs of their concepts and build full-scale operational prototypes (where possible). Testing and validation of solutions are carried out in controlled laboratory and/or industrial environments (where possible), and teams present the final design solutions to their partners.
PREREQUISITE: Engineering 3710 with a grade of at least 60%
Six lecture hours and six hours design studio per week

3810 SYSTEMS ENGINEERING
This course introduces students to the interdisciplinary field of systems engineering and a systems approach to analyzing complex problems. Specific subjects covered include: logistics, reliability, safety, performance, and risk management. Open-ended problems are used and students are expected to classify, categorize, and illustrate physical and functional relationships using schematic diagramming techniques. Modeling of performance is introduced, but is covered in greater depth in the systems dynamics course to follow. Systems considered in the course include human, ecological, transportation, communication, mechanical, electrical, and mechatronic. This course utilizes a problem-based experiential teaching method with a significant field component.
PREREQUISITE: Engineering 2220
Three hours lecture and three hours lab per week

3820 SYSTEM DYNAMICS WITH SIMULATION
This course introduces the analysis and control of dynamic systems, with concepts and examples drawn from all disciplines. It includes development and analysis of differential equation models for mechanical, electrical, thermal, and fluid systems. Systems are primarily analyzed using state variables, Laplace transforms and computer simulation methods and tools. Analysis concepts cover first, second, and higher order differential equations, transfer functions, time constants, natural and damped frequency, damping ratio, and transient response characteristics. Systems control theory is introduced, including control loops, proportional-derivative-integral control, tuning, stability, and system classification.
PREREQUISITE: Engineering 3220 and Engineering 3810
Three hours lecture and three hours lab per week

4020 QUALITY CONTROL/PROJECT MANAGEMENT
This course is an introduction to the most widely accepted project management practices in the workforce today. The student will learn the industrially accepted techniques associated with the management of time, cost, risk, and scope in order to achieve total project stakeholder satisfaction. The goal in this course is to prepare students with the most efficient and effective project management practices by applying these techniques to their graduate research work, and in so doing greatly increase their likelihood of managing successful projects during their careers.
Cross-level listed with SDE 8020. Objectives, assessment and outcomes will be commensurate with the undergraduate level.
PREREQUISITE: Permission of the instructor
Three lecture hours per week

4021 ENGINEERING MANAGEMENT

This course is an introduction to the most widely accepted engineering management practices in the workforce today. Through lectures, case studies, guest speakers, and facilitated discussion, students will develop managerial knowledge and skills and be exposed to a spectrum of corporate activities in the engineering environment. Topics presented in this course include strategic management of research and development, organizational management, knowledge, risk and IP management, new product development, globalization, ethics, project management in a technology-based organization. This course will focus on "management for future engineering leaders" and examine national guidelines, practice engineering team dynamics, apply quantitative quality and supply chain concepts, and present financial/ accounting basics for engineers.

Cross-level listed with SDE 8021. Objectives, assessment and outcomes will be commensurate with the undergraduate level.

PREREQUISITE: Permission of the instructor

Three lecture hours per week

4030 CONTEMPORARY TOPICS IN SUSTAINABLE DESIGN ENGINEERING

In this course students will be exposed to and examine the concepts underlying sustainable design engineering as they pertain to engineering practice and in particular engineering research and the development of new technologies. Sustainable design engineering can be defined as an engineering design process which considers not only the key performance indicators and functional characteristics of the system being developed but also the environmental, social and economic context and impacts of the system. Recent advances in sustainability research have focused on the complex interactions between these areas, evolving from "green engineering" to a full consideration of sustainability. In order to develop sustainable solutions, engineers and researchers must be able to critically evaluate their work in this context. To this end, students will examine case studies and relevant readings on such topics as sustainability indicators, techno-economic and life cycle assessment, stakeholder engagement, real time technology assessment, engineering justice, and design for sustainability. While approaches for addressing the specific areas of environmental, social and economic sustainability will be covered, the focus of the course will be on the interactions between these areas. A key outcome of this course will be a paper critically examining the student's research topic from the perspective of sustainable design engineering.

Cross-level listed with SDE 8030. Objectives, assessment and outcomes will be commensurate with the undergraduate level.

PREREQUISITE: Permission of the instructor

Three lecture hours per week

4031 USER CENTRED ENGINEERING DESIGN

User-centred design offers a powerful and systematic approach to understanding users and their needs and delivering effective design solutions in many domains including engineering, technology and health sciences. This course will introduce students to a variety of principles, practices and research methods for designing, developing and evaluating products, systems and solutions based on the users' needs, and context. Students will learn human factors, ergonomics, cognitive and perceptual psychology principles for designing products, information displays and complex systems. Students will be exposed to various subjective and objective metrics and methods for evaluations and usability studies. Students will also be introduced to apply user-centred design for developing sustainable products and systems.

Cross-level listed with SDE 8031. Objectives, assessment and outcomes will be commensurate with the undergraduate level.

PREREQUISITE: Permission of the instructor

Three lecture hours per week

4040 DESIGN OF EXPERIMENTS

This course focuses on the design, implementation, and analysis of engineering, scientific, and computer-based experiments. The course will examine the proper and scientific approach to experimentation, modeling, simulation, and analysis of data. Various designs are discussed, and their respective advantages and disadvantages are noted. Factorial designs and sensitivity analysis will be studied in detail because of its relevance to various industries. Use of software

for designing and analyzing experiments will also be used. For experiments that involved mainly physical quantities and natural phenomena, techniques of dimensional analysis will also be introduced.
Cross-level listed with SDE 8040. Objectives, assessment and outcomes will be commensurate with the undergraduate level.
PREREQUISITE: Permission of the instructor
Three lecture hours per week

4050 ENGINEERING RESEARCH METHODS

This course will introduce students to the elements of a research project and will focus on quantitative research methodologies. Students will practice the planning, implementation, analysis, and documentation for a research project of their own design. Topics will include: performing a literature review, developing a hypothesis, creating a research plan, collecting data, analyzing the results, and compiling a research report. Students will use tools for quantitative data analysis and will explore reliability, validation, and verification concepts. Students will report findings in a technical presentation. The course encourages students to develop their research question and perform a sample experiment to apply lessons learned to their main research topic. Intellectual property rights and engineering ethics topics will be explored.
Cross-level listed with SDE 8050. Objectives, assessment and outcomes will be commensurate with the undergraduate level.
PREREQUISITE: Permission of the instructor
Three lecture hours per week

4060 DESIGN OF ENERGY SYSTEMS

This course focuses on the understanding of the physical processes underlying the energy conversion process from wind and solar energy. Students will have an advanced knowledge of aerodynamics and structural dynamics, and they will understand the main strategies used for controlling these machines over their complete operating range. A specific goal of the course is to provide students with a multidisciplinary vision on the physics of energy systems, and an understanding of the methods used for their modeling and simulation. A particular emphasis will be placed on design, and on the effects of design choices on the cost of energy.
Cross-level listed with SDE 8060. Objectives, assessment and outcomes will be commensurate with the undergraduate level.
PREREQUISITE: Permission of the instructor
Three lecture hours per week

4061 OPTIMIZATION ENERGY INFRASTRUCTURE

The course aims to provide the knowledge about the application of various optimization methods in designing energy infrastructure. The course starts with the introduction to various optimization algorithms. Thereafter, the integration of energy modeling and simulation with optimization algorithms will be demonstrated. This course will also cover the optimization of distributed energy systems using single and multi-objective optimization methods. Several minor projects will be introduced to formulate the energy system optimization problem deciding design variables, objectives, and constraints.
Cross-level listed with SDE 8061. Objectives, assessment and outcomes will be commensurate with the undergraduate level.
PREREQUISITE: Permission of the instructor
Three lecture hours per week

4062 SOLAR BUILDINGS/NEIGHBOURHOOD

The course is aimed to discuss the design considerations in designing solar buildings and neighborhoods. The course will start with the historical background of solar neighborhoods in modern and ancient history. Thereafter, passive solar design considerations in various small and large scale buildings will be discussed. Principles of solar design such as building site setting, building shape, building envelopes, active and passive based heating and cooling techniques will be introduced. The active electrical and thermal energy generation and storage strategies will be discussed. Energy modeling and simulation tools used for the assessment of solar access of various building will be demonstrated.

Various case studies related to solar buildings and neighborhood will be taken for assignments. For the term project, incorporation of solar strategies for modifying existing Canadian buildings and neighborhoods will be assigned to groups of students.
Cross-level listed with SDE 8062. Objectives, assessment and outcomes will be commensurate with the undergraduate level.
PREREQUISITE: Permission of the instructor
Three lecture hours per week

4063 CONTEMPORARY TOPICS IN SUSTAINABLE ENERGY

This broadly applicable course discusses global energy usage and exposes students to current trends in local and global sustainable energy initiatives (i.e., energy generation and storage) and applications. Present and future global energy consumption and related CO2 emissions are considered and discussed. Students will be exposed to and analyze case studies as well as develop and design their own globally relevant solution concepts. Students will ultimately gain an enhanced, quantitative appreciation for the challenges and opportunities related to global energy system decarbonization.
Cross-level listed with SDE 8063. Objectives, assessment and outcomes will be commensurate with the undergraduate level.
PREREQUISITE: Permission of the instructor
Three lecture hours per week

4070 NOVEL ENGINEERED MATERIALS

This course is an examination of the properties and processing of novel, engineered materials for sustainable applications. Fundamental concepts of solid-state diffusion, phase transformations, amorphous-to-crystalline kinetics, rapid solidification – for nuclear energy, more electric generation, renewable energy systems, additive manufacturing, modeling and simulation of the nanoscale will be discussed. As well, the relationships between the performance of electrical, optical, and magnetic devices and the microstructural and defect characteristics of the materials from which they are constructed will be explored. Focusing on functional materials for emerging technologies and emphasizing a device-design approach, applications will center around current research in the Faculty of Sustainable Design Engineering.
Cross-level listed with SDE 8070. Objectives, assessment and outcomes will be commensurate with the undergraduate level.
PREREQUISITE: Permission of the instructor
Three lecture hours per week

4080 INDUSTRIAL MACHINE VISION

This course focuses on computer vision with an emphasis on techniques for automated inspection, object recognition, mechanical metrology, and robotics. Image processing courses typically focus for image enhancement, restoration, filtering, smoothing, etc. These topics will be covered to a certain degree but the main focus will be on image segmentation, feature extraction, morphological operators, recognition and photogrammetry. Issues related to the efficient software implementation of these techniques for real-time applications will also be addressed.
Cross-level listed with SDE 8080. Objectives, assessment and outcomes will be commensurate with the undergraduate level.
PREREQUISITE: Permission of the instructor
Three lecture hours per week

4081 MODERN MECHATRONIC SYSTEMS

advanced design tools are used pragmatically in engineering practice in the mechatronics field. This course explores current topics of modern mechatronics, from the application of complex systems through dimensionality reduction, machine learning, and dynamical systems modelling to innovative methods and algorithms such as augmented reality, medical image analysis, and automated mapping of environments. Above all, this course is designed to entice students to think, ask questions of existing theory, and understand the essence of mechatronics systems. To this end, students will develop and implement practical, hands-on-with-hardware applications of the control system analysis and design

principles that are the subject matter of their research. The findings and results of this project will be presented in the format of a manuscript that incorporates the research methodology, their final product, and critical thinking over the mechatronic topic.
Cross-level listed with SDE 8081. Objectives, assessment and outcomes will be commensurate with the undergraduate level.
PREREQUISITE: Permission of the instructor
Three lecture hours per week

4100 BIOFUEL AND BIOMASS TECHNOLOGY

This course focuses on advanced concepts in understanding biofuels and bioenergy systems, renewable feedstocks, their production, availability and attributes for biofuel/bioenergy production, types of biomass derived fuels and energy, thermochemical conversion of biomass to heat, power and fuel, biochemical conversion of biomass to fuel environmental aspects of biofuel production, economics and life-cycle analysis of biofuel, and value adding of biofuel residues. Students will analyze, as well as prepare, case studies on biofuel production.
Cross-level listed with SDE 8100. Objectives, assessment and outcomes will be commensurate with the undergraduate level.
PREREQUISITE: Permission of the instructor
Three lecture hours per week

4101 ADVANCED BIORESOURCE ENGINEERING

THE quest for food security, renewable energy, climate change and demand for sustainable fuels has increased focus on biomass conversion and technological interventions to cope with these challenges. This course covers advanced topics in bioresource engineering to acquire an understanding of sustainability challenges in bioresource sector and propose optimal climate smart solutions by implementing technologies and processes. The course is delivered in three complementary modules: i) deep learning and artificial intelligence for sustainable food production, ii) biofuels and biomaterials, and iii) the design of biomass conversion reactors.
Cross-level listed with SDE 8101. Objectives, assessment and outcomes will be commensurate with the undergraduate level.
PREREQUISITE: Permission of the instructor
Three lecture hours per week

4210 FACILITATED STUDY AND EXPERIMENTAL PRACTICE

This course provides an individual assessment of the student's cumulative engineering knowledge in a problem-based learning environment. The student, in consultation with faculty, determines the knowledge and skill requirements of their project and develops a project and experimentation plan to fill gaps in the student's knowledge and experience. The content of the course is customized to. the individual needs of each student.
PREREQUISITE: Engineering 4710 must be taken concurrently
Three lecture hours per week

4310 ADVANCED FABRICATION TECHNIQUES AND COMPUTER-INTEGRATED MANUFACTURING

This course concentrates on manufacturing knowledge with a focus on advanced fabrication techniques (AFT) and Computer Integrated Manufacturing (CIM). Students will expand their knowledge of traditional processes including CAD/CAM, forming, welding, milling, etc. leading into innovative advanced fabrication techniques in additive and precision manufacturing, next generation electronics, robotics and smart automation (CIM), and sustainable and green manufacturing modeling and simulation in the manufacturing process developed through lectures and labs. Integration of CIM into supply chain design and management is emphasized based on synergistic application of mechatronics approach and philosophy.
Cross-level listed with SDE 8310.
PREREQUISITES: Engineering 3340, 3440, or 3540; and Engineering 2360
Three hours of lecture and three hours of lab per week

4320 CONTROL SYSTEM DESIGN

This course will provide students with an overview of system modelling and control methodologies of single/multiple input/output systems, e.g., energy transport control, reactor control, heat exchanger control, power production, and mechatronic systems. Students will learn classical control methods e.g., feedforward, feedbacks, cascade, decoupling to modern control methods, LQR, predictive control, optimal and robust control. Students will be equipped with knowledge and skills for analyzing stability, controllability and observability of state-space representation modelled systems.
Cross-level listed with SDE 8320.
PREREQUISITES: Engineering 3340, 3440, or 3540; and Engineering 3820
Three hours of lecture and three hours of lab per week

4330 INNOVATIONS IN BIOMEDICAL ENGINEERING

This course provides an overview of the subdisciplines that are included in field of biomedical engineering. Through a hands-on approach, the course introduces topics including biotransport, bioelectrical phenomena, bioinstrumentation, biomechanics, diagnostic devices, medical imaging, rehabilitation, biomaterials, tissue engineering, biosensors, lab-on-a-chip and micro- and nano-technology. The course also introduces the basics of medical device regulations and ethics of medical instrumentation. Students will gain an appreciation for the collaborative, interdisciplinary nature of engineering in medicine and its potential impact on society.
Cross-level listed with SDE 8330 (Graduate-level project will be defined).
PREREQUISITES: Engineering 3710
Three hours of lecture and three hours of lab per week

4350 ADVANCED ROBOTIC DYNAMICS AND CONTROL

This course advances the fundamentals of robotics through exposure to in-depth knowledge and understanding of kinematics, dynamics, control and trajectory with applications to autonomous vehicles, automated manufacturing and processing and mobile robotics. Areas of interest include: position transformation and control, rigid body motion, kinematic control, compliance and force control.
Cross-level listed with SDE 8350
PREREQUISITES: Engineering 3340, 3440, or 3540
Three hours of lecture and three hours of lab per week

4370 FLUID POWER CONTROL

This course covers the analysis and design of basic hydraulic and pneumatic circuits and systems. Topics include a review of the fundamentals of fluid mechanics including flow through valves, fittings, and pipe; classification of hydrostatic pumps and motors; control valves; hydraulic accumulators; sizing of practical hydraulic circuits; thermal and energy considerations; electrohydraulic control and modeling of hydraulic control systems. The latter part of the course focuses on pneumatic systems including pneumatic cylinders and motors, control valves, and compressor technology. The application of Programmable Logic Controls (PLCs) to industrial automation and the sequential control of pneumatic actuators is also addressed.
Cross-level listed with SDE 8370
PREREQUISITES: Engineering 3340, 3440, or 3540; and Engineering 3820
Three hours of lecture and three hours of lab per week

4410 MACRO ENERGY SYSTEMS

This course covers methods for analyzing energy supply, conversion processes, and end-use at the system level. Aspects considered include the dynamics of energy supply and demand, efficiencies of energy conversion, characteristics of energy currencies, and energy needs across different sectors. Students will characterize methods of delivering energy services such as heat, light, industrial power and transportation. Energy analysis will be introduced and used to build a quantitative framework for integrating techno-economic analysis of energy system components, with emphasis on elements such as fossil fuels and nuclear power. Students will gain an enhanced, quantitative appreciation for the

sustainability, emissions, cost and energy intensity aspects of energy services delivery.
Cross-level listed with SDE 8410.
PREREQUISITES: Engineering 3340, 3440, or 3540

4440 ADVANCED ENERGY STORAGE
This course considers advanced technical analysis of energy storage systems. A comprehensive overview of all industrially relevant energy storage systems is reviewed and emphasis is placed on promising energy storage technologies of the future. Chemical, thermal and kinetic storage technologies will be discussed in detail.
Cross-level listed with SDE 8440.
PREREQUISITES: Engineering 3340, 3440, or 3540
Three hours of lecture and three hours of lab per week

4450 FLUID LOADS ON ENERGY STRUCTURES
This course is an introduction to the loads applied on structures from wind, waves, and currents, and their heightened relevance to structures designed for energy conversion. Phenomena to be discussed include lift and drag, boundary layers, vortex-induced vibrations, wakes, hydrostatic loading, and water waves. A selection of engineering methods will be introduced and brought to bear on these topics, such as potential flow theory, blade-element theory, Airy wave theory and Morison's equation. Dimensional analysis will be introduced to characterize flow problems. Design implications will be discussed for a selection of relevant energy conversion structures such as aircraft wings, wind turbines, breakwaters, marine vessels, and offshore energy platforms.
Cross-level listed with SDE 8450.
PREREQUISITES: Engineering 3340, 3440, or 3540
Three hours of lecture and three hours of lab per week

4470 MICRO GRIDS
This course focuses on the concept, operation and optimization of renewable-energy-based micro-grids. Concepts introduced and considered include renewable energy resources, integration technologies, grid-connected operation, islanded grid operation, energy storage integration and the optimal dimensioning and mixing of multiple energy sources where some are stochastic in nature and some are dispatchable. Existing and future energy storage technologies will be also be discussed. This course is based on energy flow analysis and makes extensive use of software simulation tools. Students will develop a framework for performing techno-economic assessments of micro-grid architectures and designs. A strong background in electrical power systems is not necessarily required.
Cross-level listed with SDE 8470.
PREREQUISITES: Engineering 3340, 3440, or 3540
Three hours of lecture and three hours of lab per week

4510 GEOINFORMATICS IN BIORESOURCES
This course covers the theory and practice of geoinformatics and their applications to problems in bioresources using digital mapping and spatial analysis. Hands on laboratories will provide students with an experience to collect georeferenced data using differential global positioning system, followed by mapping and analysis in geographical information system. Topics include datums, map projections and transformations, vector and raster data, geo-spatial analysis, geo-statistics and interpolation techniques. This course will also cover the fundamentals of remote sensing, data collection with sensors, and spatial and temporal aspects of the bio-resources attributes.
Cross-level listed with SDE 8510.
PREREQUISITES: Engineering 3340, 3440, or 3540
Three hours of lecture and three hours of lab per week

4530 FUNDAMENTALS OF AGRICULTURAL MACHINERY
This course highlights the fundamentals of mechanized agriculture machinery from soil preparation, planting, and crop management to mechanical harvesting. The machines and their unit operation are analyzed with respect functions,

work rates, material flow and power usage. The machine performance relating to work quality and environmental effects will also be evaluated. The labs will emphasize on safety, basic maintenance, adjustment, calibrations of equipment and performance testing. This course also covers the variable rate applicators for site-specific application of inputs, auto guidance system, data acquisition and management for intelligent decision making for machines, and precision agriculture technologies.
Cross-level listed with SDE 8530.
PREREQUISITES: Engineering 3340, 3440, or 3540
Three hours of lecture and three hours of lab per week

4550 BIOTECHNOLOGICAL PROCESSES
The basic topics covered in this course may include fermentation, engineering of reactor, natural products purification and their applications in biotechnology sector. The students will learn basic concepts of chemical and biochemical techniques required for the development and purification of materials in biotechnological, biochemical and pharmaceutical industries. The design of fermenters and biological reactors and their modification to improve the industrial applications will be discussed. The design of reactors in context of mass and energy balances will be evaluated and downstream unit processes involved in product recovery will be presented.
Cross-level listed with SDE 8550.
PREREQUISITES: Engineering 3340, 3440, or 3540
Three hours of lecture and three hours of lab per week

4710 PROJECT-BASED PROFESSIONAL PRACTICE III
This is the third of a series of upper-year design courses which simulates the practice of a professional engineer. Teams work closely with industry partners to develop innovative and sustainable solutions to meet global challenges. Students implement the engineering design process and use project management and product development tools. The role of analysis, simulation, and modeling in engineering design is emphasized. Through the application of appropriate frameworks students gain an appreciation for best practices, ethical behavior, an awareness of the role of engineers in society, engineering leadership, and sustainable design.
PREREQUISITE: Engineering 3720 with a grade of at least 60%, Engineering 3270, Engineering 3630, Engineering 3820 and Engineering 3430. Engineering 4210 must be taken concurrently.
Six lecture hours and six design studio hours per week

4720 PROJECT-BASED PROFESSIONAL PRACTICE IV
This final design course builds from ENGN 4710. Professional and technical skills are developed through problem-, activity-, and project-based learning. Teams work closely with industry partners to develop innovative and sustainable solutions to meet global challenges. The role of prototyping and manufacturing, testing and verification, design of experiments, optimization, and feasibility are emphasized. Students implement the engineering design process and use project management and product development tools.. Through the application of appropriate frameworks students gain an appreciation for best practices, ethical behavior, an awareness of the role of engineers in society, engineering leadership, and sustainable design.
PREREQUISITE: Engineering 4710 with a grade of at least 60%
Six hours of lecture and six hours of design studio per week

4810-4820 DIRECTED STUDIES IN ENGINEERING
Available to advanced engineering students at the discretion of the department. Entry to the course, course content, and the conditions under which the course may be offered will be subject to the approval of the Chair of the Department and the Dean of the Faculty. (See Academic Regulation 9 for Regulations Governing Directed Studies.)

4830 BIOMEDICAL SIGNAL PROCESSING
This course is an introduction to the basics of viewing, processing, and analyzing of biosignals, or signals originating from living beings. Biosignals may be characterized as bioelectrical signals which can be composed of both electrical and

non-electrical parts. Topics include both linear and nonlinear systems, signal conditioning or filtering, improving signal quality (signal-to-noise ratio) through averaging techniques, and signal representations in both the time and frequency domains.
Cross-level listed with SDE 8830.
PREREQUISITE: Engineering 3220
Three lecture hours and three lab hours per week

4840 SUSTAINABLE TECHNOLOGY DEVELOPMENT AND COMMERCIALIZATION
This course engages students in technology development and commercialization. Teams of students work closely as startup companies to develop innovative and sustainable solutions to meet global challenges. Teams will be supported by instructors and industry mentors and will have access to dedicated incubator space, lab equipment and manufacturing facilities to complete their projects. Students further develop their entrepreneurial, professional and technical skills through completing the necessary steps to commercialize their new innovative technologies and products. The course will focus on learning and applying various aspects of validation, incubation and business strategy development including lean startup, design for commercialization, design for certification, manufacturing and distribution planning, investor relations, business growth planning and corporate sustainability.
Cross-level listed with SDE 8840.
PREREQUISITE: ENGN 3430; ENGN 4710 must be completed or taken concurrently or permission of the instructor
Three lecture hours and three lab hours per week

4850 COMPUTATIONAL METHODS FOR ENGINEERING DESIGN
This course covers numerical methods in engineering design. The fundamentals of numerical approaches are discussed, including iteration, approximation, and numerical errors. Numerical methods are presented in detail for integration, differentiation, regression, interpolation, ordinary differential equations (ODEs), and partial differential equations (PDEs). Computational approaches including frequency-domain analysis using discrete Fourier transforms and finite-element analysis are introduced. Finally, these numerical methods are applied to real-world engineering design problems.
PREREQUISITE: Engineering 1310, Engineering 3720, and Math 3010
Three lecture hours and three lab hours per week

4910-4920 SPECIAL TOPICS IN ENGINEERING
This course provides students with an opportunity to pursue special topics in engineering. The course content and its offering in any one semester will be at the discretion of the Department. Interested students should contact the Department to confirm the details of the course and its offering.

# 68. English

http://upei.ca/english

**English Language and Literature Faculty**
Elizabeth Epperly, Professor Emeritus
Brent MacLaine, Professor Emeritus
Terry Pratt, Professor Emeritus
Greg Doran, Professor, Chair
Richard M. Lemm, Professor
Shannon Murray, Professor
Anne Furlong, Associate Professor
John McIntyre, Associate Professor
Wendy Shilton, Associate Professor
Esther Wohlgemut, Associate Professor

PREAMBLE

The English Majors and Honours program encourages students to explore the diverse body of literature in English from a variety of perspectives. Course content and critical approaches range across the discipline and include historical, theoretical, interdisciplinary and genre studies. The program also offers courses in creative writing and linguistics. Students may expect to gain both a sound background in the history of the English language and literature, and a familiarity with the most recent developments in literary practice and scholarship. The curriculum is designed to encourage a progressive acquisition of literary skills. As students earn their degree through their four years, they will progress from introduction to, through development in, toward mastery of, the following: (a) elements of the English language; (b) the research essay; (c) critical reading and literary theory; (d) the terminology of the discipline; (e) knowledge of the periods of literary history; (f ) verbal presentations. In order for students to understand the goal of sequencing of courses and skills acquisition, the Department offers the following general descriptions for courses at four levels:

(i) 1000-Level Courses: Introduction (ii) 2000-level courses: Foundation (iii) 3000-level courses: Coverage (iv) 4000-level courses: Focus

COURSE LEVELS AND PREREQUISITES

(i) Courses at the 1000 level are introductory courses that provide a basic framework for critical reading and writing at university. English 1920 is a general introductions to literature, taught from a variety of perspectives. English 1210 and 1220 are required courses for a major, minor, or honours in English. Detailed descriptions of each year's courses will be available in the Department's Calendar Supplement.

(ii) Courses at the 2000 level are either general interest courses or foundational courses that develop the skills necessary for further study in English. The prerequisite for 2000-level courses is at least one of English 1210, 1220, 1920, or permission of the instructor.

(iii) Courses at the 3000 level provide detailed study of areas of language and literature. The prerequisites for these courses are (a) at least one 1000-level English course, and (b) at least one 2000-level English course, or permission of the instructor. Some courses require specific 2000-level courses.

Courses at the 4000 level are designed to give students the opportunity for advanced study of a chosen topic within a specific area of English language or literature. The classes are usually seminars that require active participation and

independent study. Students must have completed English 2960: Writing About Literature and at least two 3000-level courses before enrolling in a 4000-level course.

**REQUIREMENTS FOR HONOURS IN ENGLISH**

**ADMISSION**

The permission of the English Department is required before a student enrols in Honours English. The admission requirement is an overall average of at least 75% in all prior English courses. Admission to the program will be competitive, and because the demand for the program will likely exceed the resources available at the Department, not all applicants who meet the formal admission requirements will be accepted into the Honours program.

It is strongly recommended that students take English/UPEI 1010 in their first year. **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

**COURSE REQUIREMENTS**

An Honours English student must complete 120 credits, including the following minimal requirements in English:

| | |
|---|---|
| English 1210, 1220, 2040 and 2960 | 12 credits |
| Four Pre-1900 English courses*<br>* One of the courses must be a Shakespeare course | 12 credits |
| English Language and Linguistics | 3 credits |
| Literary Theory | 3 credits |
| Two 4000 Level English Course | 6 credits |
| Eight English Electives | 24 credits |
| English 4960 | 3 credits |
| English 4970 | 3 credits |
| Total | 66 credits |

**REQUIREMENTS FOR A MAJOR IN ENGLISH**

The completion of English/UPEI 1010 in the first year of study is strongly recommended. This course also meets the UPEI requirement of taking UPEI-1010, 1020 or 1030. **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

51 Credits are required for a Major in English:

**Required Courses:**

| | |
|---|---|
| English 1210, 1220, 2040 and 2960 | 12 credits |
| Four Pre-1900 English courses* | 12 credits |
| English Language and Linguistics or Literary Theory | 3 credits |
| Two 4000 Level English Courses | 6 credits |
| Six English Electives | 18 credits |
| Total | 51 credits |

* One of the courses must be a Shakespeare course.

**REQUIREMENTS FOR A MINOR IN ENGLISH**

Students in the English Minors program complete English 1210 and 1220, and at least five other English courses above the 1000 level as electives, two of which must be at the 3000 or 4000 level. Students are encouraged to choose those electives in consultation with the Department Chair or Minors Co-ordinator.

**ADVANCED STUDIES**

Advanced Studies courses are designed to give students the opportunity for in-depth study of a chosen topic within a specific area of English language or literature. The classes are usually seminars that require active participation and independent study. They may be devoted to a major author, a group of authors, thematic or stylistic developments, or critical or theoretical concerns. Detailed descriptions of each year's Advanced Studies courses are published in the Department's Calendar Supplement.

# ENGLISH COURSES

1010 ACADEMIC WRITING (Offered every semester)
This course offers an introduction to university writing and rhetoric, aimed at the development of clear, critical thinking and an effective prose style.
Cross-listed with UPEI 1010.
PREREQUISITE: Successful completion (a passing grade) of the English Academic Program (EAP) program for those students enrolled in the EAP program.
Three hours a week

1210 HEROES, LOVERS, GODS, AND MONSTERS. SURVEY OF LITERATURE FROM ITS BEGINNINGS TO 1789
This course uses the idea of the hero to explore the literature of England from its beginning to 1789. The course will introduce such texts as Beowulf (the Anglo-Saxon epic hero), Sir Gawain and the Green Knight (the romance hero), The Faerie Queene (the allegorical hero), Paradise Lost (the biblical epic hero) and Gulliver's Travels (the satiric hero). Along the way, students will meet other characters, including lovers, gods, and monsters, who challenge and support the hero. This is a course in reading, appreciation, and critical analysis within an historical framework.
PREREQUISITE: Students must be a declared English Major or English Minor; or permission of the instructor.
Three hours a week

1220 VISIONARIES, REBELS, EXILES, AND REFORMERS: SURVEY OF LITERATURE FROM 1785 TO THE PRESENT
This course introduces students to British literature from the onset of the Industrial Revolution in the 1780s to the multicultural, high-tech, globalized twenty-first century. The course investigates how Romantic, Victorian, Modern, and Contemporary writers responded to the profound social, psychological, economic, and political upheavals of their times in poems, short stories, novels, plays, and manifestos, which themselves revolutionized human experience. This is a course in reading, appreciation, and critical analysis within an historical framework.
PREREQUISITE: Students must be a declared English Major or English Minor; or permission of the instructor.
Three hours a week

1920 INTRODUCTION TO LITERATURE
This course introduces the major literary genres and focuses upon a selection of representative works. Students explore and discuss the elements of poetry, fiction, and drama. Class work involves lectures and discussions, with a special emphasis on writing assignments.
Three hours a week

2040 RESEARCH METHODS IN ENGLISH
This course deals with practical and theoretical issues in finding and using standard bibliographic and electronic sources for scholarly research in English literature and language and related disciplines. This course is compulsory for English Honours and

Majors students, and strongly recommended for English Minors.
Three hours a week

2060 CRITICAL APPROACHES TO TEXTS I
This course approaches literary and cultural texts through a number of critical lenses including reader response, Marxism, feminism, historicism, psychoanalysis, and deconstruction. The course is designed to introduce students to a variety of critical approaches to the interpretation of literary and cultural texts.
Three hours a week

2110 CONTINENTAL LITERATURE IN TRANSLATION
This course introduces students to poems, plays, novels, and short stories taken from a variety of eras from the ancient to the contemporary in continental European literature. Authors whose translated works may be read include such figures as Homer, Sophocles, Virgil, Dante, Cervantes, Montaigne, Goethe, Dostoevsky, Baudelaire, Ibsen, Kafka, and Brecht.
Three hours a week

2120 CREATIVE WRITING I
This workshop in creative writing provides students with the opportunity to develop their proficiency in writing fiction, poetry, drama, or creative non-fiction. Students produce and revise new material and present these manuscripts to the workshop. Class time is devoted to discussion of students' manuscripts and published texts and to strategies and structures involved in creative writing.
PREREQUISITE: Submission of a portfolio (e.g., 5-10 pages of poetry, 10-20 pages of fiction or scriptwriting, or 10-20 pages of creative non-fiction); and permission of the instructor
Three hours a week

2130 LITERATURE AND THE BIBLE
This course explores the influence of the Bible on English Literature from the Old English period to the present, through the study of texts such as The Dream of the Rood, the Medieval cycle plays, Paradise Lost, Absalom and Achitophel, Pilgrim's Progress, Frankenstein, and Not Wanted On the Voyage.
Three hours a week

2210 WRITING BY WOMEN
Students explore a wide range of writing by women—poems, plays, novels, short stories, essays—in the context of historical and social concerns. The course normally concentrates on British, American, and Canadian women writers of the nineteenth and twentieth centuries, but in some semesters may concentrate on women writers from other centuries and cultures.
Cross-listed with Diversity and Social Justice Studies 2210.
Three hours a week

2220 READING FILM: INTRODUCTION TO FILM STUDIES
This course introduces students to the basic elements used in the construction of films, such as narrative structure, editing, and mise en scène. Through the exploration of techniques specific to film, as well as other more general narrative strategies, students develop visual literacy skills. They learn how to understand and write about the medium of film and the particular films studied. The films screened cover a variety of styles and come from a variety of periods.
Three lecture hours a week

2240 SCIENCE FICTION
This course introduces students to the genre of science fiction. Looking at literature from a variety of historical periods, students explore how science fiction responds to the cultural contexts out of which it arises. Possible topics include space/time travel, alternative histories, artificial intelligence, the relationship between technology and morality, and utopias and dystopias.

2260 CRIME AND DETECTIVE LITERATURE
This course examines themes of crime, criminality, and detection in English literature. Focussed on a range of works drawn

from selected literary periods and genres, the course considers the roles and representations of the criminal, the detective, the suspect, the witness, the victim, and the terrorist, as well as the perception of crime and criminality more generally. Topics may include popular notions of law and order, the city as crime scene, evidence and interpretation, and social justice.
PREREQUISITE: One of English 1210, 1220, 1920, or permission of instructor
Three hours per week in a combination with lecture/discussion

2330 THE BEGINNINGS OF DRAMA
This course will introduce students to early examples of plays by studying a variety of Ancient Greek, Ancient Roman, and Medieval dramas. The course will explore the plays as examples of the foundations upon which all dramatic literature is created. The course will also explore the theatre history related to the periods and its influence on the plays.
Three hours a week

2340 PUBLIC SPEAKING WORKSHOP
English 2340 is an intensive practical course in public speaking that helps students from across the disciplines become confident oral communicators. By learning and applying the techniques that the very best speakers use, students will gain the knowledge and experience they need to overcome performance obstacles and ultimately to find their own voices. The overall aim of the course is to move participants towards an extemporaneous speaking style that they can carry with them through their studies and into their professional lives.
Three hours a week

2440 INTRODUCTION TO THEATRE STUDY – TEXT, CHARACTER, AND PERFORMANCE
(See Theatre Studies 2440)

2450 INTRODUCTION TO CHILDREN'S LITERATURE
This course is an introduction to the history and genres of Children's literature in English. Along with a survey of folk tales, nursey rhymes, and picture books, the course offers an intensive examination of a wide variety of children's and young adult novels, such as Alice's Adventures in Wonderland, Charlotte's Web, and Harry Potter and the Philosopher's Stone.
Three hours a week

2550 INTRODUCTION TO SHAKESPEARE
This course introduces students to a selection of Shakespeare's plays through a focus on four genres: tragedy, comedy, history, and romance. Because it includes frequently taught plays such as Macbeth and Midsummer Night's Dream, this course is a good choice for students who intend to teach high school English.
Three hours a week

2560 SHAKESPEARE ON FILM
This course explores the works of Shakespeare's by comparing filmed performance history of a selection of his plays, such as Hamlet, Much Ado about Nothing, and Henry V.
Three hours a week

2720 CONTEMPORARY POETRY
This course is a study of poetic directions since 1960, exploring the work of British, Irish, and North American poets such as Larkin, Lowell, Hughes, Heaney, Atwood, Ginsberg, Plath, Hecht, and Rich.
Three hours a week

2750 ARTHURIAN LITERATURE THROUGH THE AGES
This course introduces students to the Arthurian legend as it is re-told through the ages. The course will begin with the origins of the Arthurian myth in Welsh legend, and trace it from the golden age of Medieval romance through to the twentieth century.
Three hours a week

2790 UNDERSTANDING COMICS: READING GRAPHIC NOVELS

This course introduces students to the elements of the graphic novel. Through the exploration of techniques specific to the graphic novel, as well as other general narrative and literary strategies, students will learn to read, interpret and write about graphic novels. Additionally, students will learn about the development of this literary genre.
Three hours per week in a combination with lecture/discussion

2810 THE ENGLISH LANGUAGE

This course introduces students to the nature of language by exploring the factors that shape Present-Day English. Students will cover the basic principles of linguistics, and a brief history of the language. Topics may include languages as structured systems; dialects of English (with an emphasis on Atlantic English); gender and language; the acquisition of language; and human and animal communication. Classes combine lecture, group work, discussion, and practical exercises.
Three hours a week

2850 LINGUISTICS I: THE SOUND SYSTEM OF ENGLISH

This course introduces students to the phonetics and phonology of contemporary English for the purpose of studying the sound patterns of English, and acquaints them with the analysis of syllable structure, rhythm and intonation, and stress. Classes combine lecture, group work, discussion, practical exercises, transcription, and problem solving.
Three hours a week

2860 LINGUISTICS II: THE GRAMMAR AND VOCABULARY OF ENGLISH

This course introduces students to the syntax and morphology of contemporary English. The course will investigate the principles of word formation (morphology), and of the formation of phrases and sentences (syntax). Class activities include lectures, group work, discussion, practical exercises, sentence analysis and problem solving.
Three hours a week

2910 SPECIAL TOPICS IN LITERATURE

This variable content course is designed to accommodate recent developments and trends in literature. It is a general course suited to non-English majors, with a focus on particular themes, writers, or critical approaches. Course descriptions are published in the English Department's Calendar Supplement.
Three hours a week

2960 WRITING ABOUT LITERATURE

This course is designed for English students who are seriously interested in developing the analytical writing skills necessary for producing clear, well-organized, and persuasive arguments about literature. It will provide students with opportunities to read, discuss, and write about fiction, poetry, and plays while becoming more familiar with literary analysis, critical frameworks, and literary discourse (i.e., the rhetoric and terms specific to the discipline of literary studies). Assignments will be based on the multi-step writing process of preliminary writing, drafting, revising and peer review, and editing, with attention to effectiveness at the level of thinking, content, structure, and use of evidence. By the end of the course, students should experience greater confidence and proficiency in their ability to enter the critical conversation about literature.
PREREQUISITE: At least one of English 1210, 1220, 1920, or permission of the instructor
Three hours a week

3030 LATE TWENTIETH CENTURY DRAMA

This course introduces students to a variety of significant late Twentieth Century dramatists. The course examines the plays in relationship to preceding dramatic periods and the variety of influences on them. The course examines a variety of styles, such as Absurdism, and a variety of themes. The course explores the work of a variety of dramatists.
Three hours a week

3040 CONTEMPORARY FICTION

This course studies trends and techniques in fiction in English since the Second World War. It includes representative novels and

short stories by major writers of various nationalities.
Three hours a week

3050 LITERATURE OF NEWER NATIONS AND ANCIENT CULTURES
This course explores English-language literature from nations that came into existence during and soon after the era of European colonialism, for example: Australia, New Zealand, Nigeria, Kenya, South Africa, India, Pakistan, and Caribbean nations. Selected texts may reflect long-standing civilizations and ancient cultures, for instance, of Africa and South Asia. As well, indigenous cultures may be represented in works examined. Through literary works, students encounter the rich legacies and distinctive realities of these seemingly "foreign" societies, as well as the profound similarities and interconnections of these cultures with our own.
PREREQUISITE: (a) at least one 1000-level English course, and (b) at least one 2000-level English course, or permission of the instructor
Three hours a week

3060 CRITICAL APPROACHES TO TEXTS II
This course examines critical trends of the twentieth century and provides practice in the application of critical methodology to literary and cultural texts. The course is designed to build on the knowledge of critical approaches acquired in English 206: Critical Approaches to Texts I.
Three hours a week

3130 PHILOSOPHY AND LITERATURE
(See Philosophy 3610)

3150 STAGING CANADA: CANADIAN DRAMA
This course introduces students to a variety of significant Canadian dramatists from 1967 to the present. In addition to examining the historical and literary contexts of the plays, the course considers the external forces affecting dramatic production throughout the period. The dramatists studied may include George Ryga, David French, Wendy Lill, Sharon Pollock, Judith Thompson, and Tomson Highway.
Three hours a week

3210 TRUE NORTH: CANADIAN FICTION
This course introduces students to a variety of significant English-Canadian fiction writers. Students encounter prominent issues and characteristics in Canadian fiction, for example: regional, urban, and rural manifestations; traditional ethnic heritage and newer multi-cultural legacies; indigenous history and culture; gender and sexual identity and relationships; family and community dynamics; socio-economic aspirations and conflicts; war-time experiences; relationships with the Canadian landscape and seascape; work and technology; the ongoing re-creation of a mythic and historical past to define the present and shape the future. Texts will be drawn from various fictional genres, and may include works of creative non-fiction.
Three hours a week

3220 CANADIAN POETRY
This course approaches Canadian poetry as a vibrant contemporary art form with rich historical roots. By exploring a diverse range of approaches to the writing of poetry in Canada, students will develop an appreciation for the broader historical, aesthetic, political, and social developments that continue to shape this vital form of expression. The focus throughout will be on active forms of interpretation-creative, analytical, and experimental-that not only illuminate the inner workings of individual poems, but also situate their meaning in the world around us.
Three hours a week

3230 LITTÉRATURE CANADIENNE-FRANÇAISE I: DE LA NOUVELLE FRANCE A 1895
(See French 4410)

3240 LITTÉRATURE CANADIENNE-FRANÇAISE II: XXe SIECLE
(See French 4420)

3310 THE LITERATURE OF ATLANTIC CANADA
This course studies works by major writers of Atlantic Canada. It includes a consideration of the socioeconomic and geographic factors that have influenced the region's literary authors and text and an exploration of the character of the region as depicted in their works.
Three hours a week

3320 MODERN BRITISH LITERATURE
By considering the works of authors such as Conrad, Lawrence, Woolf, Yeats, and Joyce, this course examines the literature of Britain, including Anglo-Irish writing, from the close of the Victorian age to the mid-twentieth century.
PREREQUISITE: English 1220
Three hours a week

3330 L.M. MONTGOMERY
This course investigates L.M. Montgomery's contributions as a writer of women's and children's fiction; as a diarist and poet; and as a regional and international writer. Readings include some of Montgomery's most popular works from the Anne and Emily series as well as her lesser-known works.
Three hours a week

3350 BRITISH ROMANTIC LITERATURE
This course traces the origins and development of the British Romantic movement from the dawn of the French Revolution to the aftermath of the Napoleonic wars. Emphasis is placed on understanding the social, cultural, and historical contexts in which the writers worked. Major emphasis will be on the works of such writers as Blake, Wordsworth, Coleridge, Keats, Byron, Percy Shelley, and Mary Shelley.
PREREQUISITE: English 122
Three hours a week

3360 VICTORIAN LITERATURE
This course introduces students to the Victorian period through an examination of the ideas and concerns which characterized the period. Emphasis is placed on understanding the social, cultural, and historical contexts in which the writers worked. Writers covered include Arnold, Carlyle, Tennyson, Ruskin, D. Rossetti, C. Rossetti, E. Barrett Browning, R. Browning, and Wilde.
PREREQUISITE: English 1220
Three hours a week

3370 NINETEENTH-CENTURY BRITISH FICTION
This course examines the development of the novel in Britain from the early to the late nineteenth century, focussing on novels by writers such as Austen, Dickens, the Brontës, Thackeray, Eliot, and Hardy. Emphasis is placed on social context, nineteenth-century responses, and contemporary criticism of the novels studied.
PREREQUISITE: English 1220
Three hours a week

3410 EARLY TWENTIETH CENTURY DRAMA
This course introduces students to a variety of significant dramatists from the late Nineteenth and Early Twentieth Centuries. The course examines the plays in relationship to the preceding period and its influence on them. The course examines the stylistic movements associated with the period, such as Realism. The course explores the work of a variety of dramatists, such as Ibsen, Chekhov, Shaw, Brecht, Synge, and Wilde.
Three hours a week

3450 BANNED AND CHALLENGED CHILDREN'S BOOKS

This course examines the intersection of English children's literature and censorship. Through a variety of children's and young adult texts, students will trace the history of censorship in children's book publishing; examine how definitions of childhood and children's literature have evolved over time and across cultures; and discover how parents, publishers, schools, and libraries handle challenges in practice. The course traces assumptions – both historical and personal — about what reading is appropriate for children and young adults.
PREREQUISITE: English 2450 or permission of the instructor
Three hours a week

3420 FICTION FROM IRELAND
This course surveys Irish fiction in English from the nineteenth century to the present, including the Irish Literary Revival. Students examine works by such writers as Edgeworth, Carleton, Joyce, O'Flaherty, Flann O'Brien, Stephens, Bowen, and Doyle in the context of the political, social, and cultural developments of their time.
Three hours a week

3510 OUTLIERS AND EXPATRIATES: AMERICAN LITERATURE IN THE TWENTIETH CENTURY
This course studies the prevailing currents in American Literature over the course of the Twentieth Century. Students examine a range of literary developments such as modernism, the Harlem Renaissance, the Beat Generation, and postmodernism. Through these movements, American writers responded to an era defined by profound upheaval and cultural transformation, including global economic depression, two world wars, the rise of the nuclear age, and the ensuing counter-cultural revolution. Writers to be studied may include F. Scott Fitzgerld, William Faulkner, Zora Neale Hurston, J.D. Salinger, Don DeLillo, and Toni Morrison.
PREREQUISITE: At least one 1000-level English course and at least one 2000-level English course, or permission of the instructor
Three hours a week

3560 RENAISSANCE LITERATURE
This course offers a survey of the poetry and prose of the time of Henry VIII, Elizabeth I, and James I. Students read the sonnets of William Shakespeare and works by such writers as Thomas More, John Donne, Philip Sidney, and Ben Jonson.
PREREQUISITE: English 1210 or permission of the instructor
Three hours a week

3570 RENAISSANCE DRAMA
This course is a study of representative works of English Renaissance drama (excluding Shakespeare). Writers include Kyd, Marlowe, Dekker, Jonson, Middleton, and Webster.
PREREQUISITE: English 1210 or permission of the instructor
Three hours a week

3580 MILTON
This course offers a thorough reading of John Milton's epic poem, Paradise Lost, a retelling of the story of Adam, Eve, and the serpent.
PREREQUISITE: English 1210 or permission of the instructor
Three hours a week

3620 NINETEENTH-CENTURY AMERICAN LITERATURE 1830-1910
This course focuses on important writers and texts who influenced the social and cultural context of nineteenth-century America from the "renaissance" through the realist period to the beginning of early Modernism. Emphasis is placed on poetry, prose, and prose fiction and to such themes as freedom, individualism, idealism, materialism, and the environmental imagination. Among the writers studied are Emerson, Thoreau, Hawthorne, Poe, Fuller, Whitman, Dickinson, Twain, and James.
Three hours a week

3640 TREMORS AND AFTERSHOCKS: AMERICAN LITERATURE IN THE TWENTY-FIRST CENTURY

Focused on American Literature since the beginning of the twenty-first century, this course studies a range of novels, poems, and plays within the context of a rapidly changing cultural and political context. The course examines how literary and cultural texts respond to and inform debates around topics such as nationalism, regionalism, and immigration as these developments redefine America within a new century.
PREREQUISITE: At least one 1000-level English course and at least one 2000-level English course, or permission of the instructor
Three hours a week

3650 EIGHTEENTH-CENTURY LITERATURE I
This course explores a variety of different kinds of texts–poems, novels, pamphlets, essays, diaries–written between 1660 and the middle of the eighteenth century. The course allows students to consider a number of cultural themes and issues, for example, gender, race, travel, crime, and science. Writers may include Rochester, Behn, Dryden, Pepys, Hay wood, Swift, Pope, Montagu, Leapor.
PREREQUISITE: English 1210 or permission of the instructor
Three hours a week

3660 EIGHTEENTH-CENTURY LITERATURE II
This course explores a variety of different kinds of texts–poems, novels, pamphlets, essays, diaries–written between the middle and the end of the eighteenth century. The primary focus of this course is on the literature of sensibility and the development of the gothic. This course considers writers such as Richardson, Fielding, Montagu, Johnson, Walpole, Burney, and Radcliffe, placing their texts within a larger cultural context, and exploring their connection, for example, to medical discourses, architecture, and prison reform.
PREREQUISITE: English 1210 or permission of the instructor
Three hours a week

3670 RESTORATION AND EIGHTEENTH-CENTURY DRAMA
This course explores British drama from the reopening of the theatres in 1660 through the eighteenth century. Students study a representative selection of plays, with particular attention to the ways they are embedded in the culture of the time. Students will also read the drama within a larger cultural context. Playwrights considered may include Wycherley, Behn, Congreve, Centlivre, Gay, and Sheridan.
Three hours a week

3720 CHAUCER
This course provides an introduction to the works of Geoffrey Chaucer in his context as a fourteenth-century English poet. The course explores a selection of Chaucer's writings, such as The Book of the Duchess, The Parliament of Fowls, The Legend of Good Women, and The Canterbury Tales.
PREREQUISITE: English 1210 or permission of the instructor
Three hours a week

3750 ROMANCING THE MIDDLE AGES
This course studies the themes, conventions and genres of medieval romance. It begins with romance itself, following the ideals of the hero, the heroine and the quest. It then moves to the interaction of romance and other genres, such as devotional literature and saints' lives.
PREREQUISITE: English 1210 or permission of the instructor
Three hours a week

3780 THE MEDIEVAL BOOK
This course focuses on the physical artefact of the Medieval manuscript book – in particular, how manuscripts were made, designed and used. Students are introduced to a variety of medieval manuscripts in facsimile form to study the different designs

that were used for books intended for different genres and uses.
Three hours a week

3810 PROFESSIONAL WRITING
This course introduces students from a variety of disciplines to the skills and tasks required for effective communication in a professional environment. The course focuses on the following: analytical reports, proposals, descriptions of processes, extended definitions, instructions, business correspondence, memoranda, graphics, presentation of data, and oral presentations. Assignments, designed for the student's particular discipline, emphasize a sound analysis of the goals for each task, and the effective, economical, clear, and correct use of language to achieve these goals.
PREREQUISITE: English 1010
Three hours a week

3850 LINGUISTICS AND LITERATURE
In this course students apply the principles and practice of linguistics to the analysis and interpretation of literary texts. Particular emphasis is placed on metrical theory and its application to an understanding of verse forms. Topics may include a linguistic account of metaphor and aesthetic effects; the communicative function of literary language; the linguistic aspects of the performance of literature; and narrative. Classes combine lecture, group work, discussion, and practical exercises.
PREREQUISITE: English 2850 or English 2860, English 1010 or permission of the instructor
Three hours a week

3910 SPECIAL TOPICS IN LITERATURE
This variable content course is designed to accommodate recent developments and trends in literature. It is an advanced course intended for English majors, with a strong focus on particular themes, writers, or critical approaches. Course descriptions are published in the English Department's Calendar Supplement.
Three hours a week

3920 CREATIVE WRITING II
This advanced workshop in creative writing provides students with the opportunity to develop further their proficiency in writing fiction, poetry, drama, or creative non-fiction. Students produce new material and revise work-in-progress, and present these manuscripts to the workshop. Class time is devoted to discussion of students' manuscripts and published texts and to strategies and structures involved in writing them.
PREREQUISITE: English 2120 and permission of instructor
Three hours a week

3930 CREATIVE WRITING III
This is a master-class workshop for students who have demonstrated discipline, ability, and professionalism in their previous writing, editing, and workshop participation. Students revise and finish projects in the genres of one or more of fiction, poetry, scriptwriting, and creative non-fiction, and prepare manuscripts for submission to literary journals and competitions. This course includes public readings and attendance at readings by visiting writers.
PREREQUISITE: English 2120, English 3920, and permission of instructor
Three hours a week

3940 WRITING LIVES: THE ART AND CRAFT OF LIFE-WRITING
This workshop-based course offers students the opportunity to study and to practice genres of writing such as memoir, autobiography, biography, and fictive memoir. Students examine texts with an emphasis on the craft, purpose, and historical context of life-writing. Students produce their own manuscripts, and present these to the workshop for discussion of strategies and structures involved in life-writing.
PREREQUISITE: English 2120 and/or permission of the instructor
Three hours a week

4010 CAPSTONE IN ARTS
(See Arts 4010)

4040 SPECIAL STUDIES IN COMMUNICATION AND RHETORIC
(See Writing 4040)

4060 ADVANCED STUDIES IN CRITICAL THEORY
PREREQUISITES: English 3060, or English 2060 and permission of the instructor
Three hours a week

4150 ADVANCED STUDIES IN TWENTIETH- CENTURY LITERATURE
PREREQUISITE: One 3000-level course in twentieth-century literature
Three hours a week

4250 ADVANCED STUDIES IN CANADIAN LITERATURE
PREREQUISITE: One 3000-level course in Canadian Literature
Three hours a week

4350 ADVANCED STUDIES IN NINETEENTH- CENTURY BRITISH LITERATURE
PREREQUISITE: One of English 3350, 3360, or 3370, or permission of the instructor
Three hours a week

4450 ADVANCED STUDIES IN CHILDREN'S LITERATURE
PREREQUISITE: English 2450 or permission of the instructor
Three hours a week

4550 ADVANCED STUDIES IN EARLY MODERN LITERATURE
PREREQUISITE: English 2560, 3560 or 3580, or permission of the instructor
Three hours a week

4630 ADVANCED STUDIES IN AMERICAN LITERATURE
PREREQUISITE: One of 3510, 3610, 3620, or 3640, or permission of the instructor
Three hours a week

4650 ADVANCED STUDIES IN EIGHTEENTH- CENTURY LITERATURE
PREREQUISITE: English 3650 or 3660, or permission of the instructor
Three hours a week

4660 ADVANCED STUDIES IN GENDER AND SEXUALITY
PREREQUISITE: One 3000-level course in English literature or permission of the instructor
Three hours a week

4750 ADVANCED STUDIES IN MEDIEVAL LITERATURE
PREREQUISITE: English 3720, 3750, 3760 or permission of the instructor
Three hours a week

4850 ADVANCED STUDIES IN LINGUISTICS
PREREQUISITE: English 2850, 2860, and 3850, or permission of the instructor
Three hours a week

4860 ADVANCED STUDIES IN CREATIVE WRITING
PREREQUISITE: English 2120 and permission of the instructor
Three hours a week

4910 SPECIAL TOPICS IN LITERATURE

This variable content seminar course is designed to accommodate the most recent developments in literature. It is an advanced course for English majors only. The course typically concentrates on a particular author, genre, theme, or methodology not covered by other 4000-level courses. Course descriptions are published in the English Department Calendar Supplement.
PREREQUISITE: At least one 3000-level English course or permission of the instructor.
Three hours a week

4920 DIRECTED STUDIES

With the approval of the Chair and Dean, a senior student of high (usually first class) standing, pursuing an English Major, Minor or Honours degree, may be allowed to explore a special topic under the guidance of a faculty member. Before such approval is granted, the student must obtain the consent of a faculty member to supervise the work and submit, at least one month before enrolling in the course, a detailed proposal of the project, including the area of interest, the method of approach, and a comprehensive bibliography. If the project receives Departmental approval and approval of the Dean, the student may proceed with the study.

4960 HONOURS TUTORIAL

This is an intensive tutorial course in the area of the student's Honours Thesis, supervised by the student's Honours Supervisor. Each Honours Tutorial will be developed by the student and advisor and approved by the department as a whole. As part of this course, students will be required to produce a substantive proposal for their Honours Thesis. Other requirements may include annotated bibliographies, preliminary draft work, reading journals, essays. This course is a prerequisite for English 4970.

4970 HONOURS THESIS

Each student is required to complete a substantial scholarly work devised by the student and approved by the English Department. The thesis will be written under the supervision of a member of the English Department and assessed, after a discussion with the student, by a three-member committee consisting of the supervisor, a second reader from the English Department, and an outside examiner, usually from another academic department at the University. Students must complete English 4960 before beginning 4970.

# 69. Environmental Studies

Carolyn Peach Brown, Professor, Director
Nino Antadze, Associate Professor
Nicholas Mercer, Assistant Professor

**Overview**

The objective of the Bachelor of Environmental Studies program at the University of Prince Edward Island (UPEI) is to equip students as global citizens, with the tools to understand the environmental connections across academic fields, to critically analyze complex environmental issues, and to lead the way in innovation toward sustainable solutions. Environmental issues typically do not respect traditional academic boundaries and require scientific, technical, human and social perspectives to address. As an interdisciplinary liberal arts and science program, the Bachelor of Environmental Studies will provide students with the opportunity to integrate knowledge across faculties of Arts, Science, and Business. In the classroom, in the field and in the community, students will explore how they can make a positive impact toward sustainability in their personal lives, communities and globally.

A student enrolled in the BES will require a total of 120 credit hours or 40 Courses which includes a minimum of 42 credit hours or 14 discipline specific courses with a designation of Environmental Studies (ENV). Of these 14 ENV courses, at least 6 must be at the 3000 level or above, including at least 2 at the 4000 level. There are 5 required core (ENV) courses included as part of the 14 discipline specific courses, one of which requires a 30 hour internship working with a community partner engaged in the environmental field (ENV 3010). There are requirements from the Faculties of Arts, Science, and Business. Students are required to choose one of three specializations:

Environmental Thought and Practice
Island Environments and Sustainability
Environmental Innovation and Change Management

Note: Each specialization has specific required courses (see Specializations tab).

**Degree Requirements**

**ALL BACHELOR OF ENVIRONMENTAL STUDIES (BES) MAJORS**

A total of 120 credit hours or 40 courses which includes a minimum of 42 credit hours or 14 discipline specific courses with a designation of Environmental Studies (ENV). Of these 14 ENV courses, at least 6 must be at the 3000 level or above, including at least 2 at the 4000 level. There are 5 required core (ENV) courses included as part of the 14 discipline specific courses.

**(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

Five Core Environmental Studies Courses (ENV) = 15 Hours Credit
ENV 1010 – Introduction to Environmental Studies
ENV 2030 – Societies and Sustainability: Past and Present
ENV 2040 – Methods of Environmental Inquiry
ENV 3010 – Environmental Studies Internship
ENV 4010 – Public Scholars on Environmental Issues

At least nine (9) additional Environmental Studies (ENV) courses = 27 Hours Credit. Please note that these 9 courses can be taken as part of a specialization requirement (see Specialization tab) or as an ENV elective to fulfil the requirements indicated above.

CHOICE OF ONE (1) SPECIALIZATION – (see Specialization tab for description and required courses for each Specialization)

**REQUIRED COURSES IN OTHER DEPARTMENTS – ALL BES MAJORS**

- One of UPEI 1010, 1020, or 1030 = 3 Hours Credit AND
- IKE 1040 AND
- One Writing Intensive Course

3 Foundational Cognate Courses = 9 Hours Credit (Please note that these courses are required in addition to the other requirements for the BES)

- Biology 1010 – Environmental Biology
- Philosophy 3020 (formerly 2030) – Environmental Philosophy
- Either Sociology 1010 – Introduction to Sociology I OR Anthropology 1050 – Introduction to Anthropology I

1 Course in Statistical Methods = 3 Hours Credit

- Statistics 1210 – Introductory Statistics (or other course with permission of Director) (Note: Please contact the Director if you lack the requirements for university level Math courses)

4 Foundational Courses from Science and Business that fit the following criteria = 12 Hours Credit (Please note that these courses are required in addition to the other requirements for the BES)

- 2 Science
- 2 Science or Business

4 Foundational Courses from Arts that fit the following criteria = 12 Hours Credit (Please note that these courses are required in addition to the other requirements for the BES)

- It is recommended that students take 1 Political Science or Economics
- 3 Arts

**GENERAL ELECTIVES**
The remaining number of semester hours required to complete the requirements for the Bachelor of Environmental Studies (120 credit hours) will be made up from courses selected by the students.

**WRITING INTENSIVE COURSE**
All graduating students at UPEI must include at least one Writing Intensive course as part of their graduation requirements:
Either English 3810 – Professional Writing or Business 2110 – Business Communications are recommended.

**COURSE REQUIREMENTS FOR THE AREAS OF SPECIALIZATION**
Students select a particular specialization when they apply to the Bachelor of Environmental Studies program. Students may subsequently change their specialization during their degree subject to course requirements.

**ENVIRONMENTAL INNOVATION AND CHANGE MANAGEMENT SPECIALIZATION**
The specialization in Environmental Innovation and Change Management focuses on learning how to live within the

limits of our environment, and develop innovations to manage the interaction of human activities with and upon the environment in a positive way; to challenge the conventional and move organizations, businesses and communities to invoke positive change.

**Two Core Specialization Courses = 6 Hours Credit**
ENV 3320 – Environmental Innovation and Change Management Skills
Either Economics 2110 – Introduction to Resource Economics OR Economics 2150 – Environmental Economics

**9 credit hours chosen from the following list OR other course with permission of Director:**
ENV 2240 – Field Course in Ecological Forestry
ENV 2420 – Society and Natural Resources
ENV 3510 – Sustainable Community Planning
ENV 3540 – Environmental Valuation: Theory and Practice
ENV 4330 – Environmental Communication Strategies
ENV 4950 – Environmental Studies Symposium
ACC 3050 – Renewable Energy and Clean Technologies
ACC 3140 – Carbon Pricing Mechanisms and Business Risk Assessments
BUS 1410 – Marketing
BUS 2650 – Introduction to Entrepreneurship and Small Business Management
BUS 3730 – Tourism Management
SAN 3410 – Technology, Society and the Environment

**ENVIRONMENTAL THOUGHT AND PRACTICE SPECIALIZATION**
The specialization in Environmental Thought and Practice focuses on the exploration of the values, attitudes and beliefs of people in relation to the environment in order to provide answers to pressing environmental concerns.

**Two Core Specialization Courses = 6 Hours Credit**
Either Psychology 1010 – Introduction to Psychology I OR Psychology 3330 – Ecopsychology
Sociology/Anthropology 3410 – Technology, Society and the Environment

**9 credit hours chosen from the following list OR other course with permission of Director:**
ENV 2420 – Society and Natural Resources
ENV 2310 – Island Environmental Histories
ENV 3420 – Environment and Development
ENV 4110 – Environmental Governance
ENV 4330 – Environmental Communication Strategies
ENV 4950 – Environmental Studies Symposium
ENG 3220 – Canadian Poetry
ENG 3620 – 19th-Century American Literature 1830-1910
HIST 4830 – The History of the Environmentalist Movement
PHIL 2060 – Animal Ethics
PHIL 2710 – Ethics of Climate Change
PHIL 3710 – Community-based Ethical Inquiry

**ISLAND ENVIRONMENTS AND SUSTAINABILITY SPECIALIZATION**
The Island Environments and Sustainability specialization focuses on the diverse characteristics of islands and islanders' interaction with the environment in order to gain an understanding of lessons for sustainability in all places.

**Two Core Specialization Courses = 6 Hours Credit**

IST 2010 – Introduction to Island Studies
Either POLS 2330 – Political Geography OR ENV 3340 – Environmental Stresses on Island Communities

**9 credit hours from the following list OR other course with permission of Director:**
ENV 2120 – Earth's Physical Environment
ENV 2310 – Island Environmental Histories
ENV 3110 – Understanding Climate Change
ENV 3210 – Natural Hazards
ENV 3510 – Sustainable Community Planning
ENV 4110 – Environmental Governance
BIO 2220 – Ecology
BIO 3270 – Field Coastal Ecology
BIO 3910 – Marine Biology
BIO 4520 – Biogeography and Macroecology
BIO 4620 – Watershed Ecology
IST 2110- Island Tourism

**REQUIREMENTS FOR A MINOR IN ENVIRONMENTAL STUDIES**
A minor in Environmental Studies will be recognized when a student has successfully completed 21 semester hours of courses drawn from Environmental Studies courses and cross-listed courses.

These courses must include:
1) Two core introductory Environmental Studies courses (Environmental Studies 1010 and 2030)
2) A minimum of 6 semester hours in approved courses within the Faculty of Science; and
3) A minimum of 6 semester hours in approved courses within the Faculty of Arts; and
4) A minimum of 3 semester hours in Environmental Studies or approved courses within the Faculty of Arts or Faculty of Science.

**APPROVED COURSES ENVIRONMENTAL STUDIES MINOR**
Students who do not have the required prerequisites for particular courses that are cross-listed in the Environmental Studies Program are encouraged to consult with the instructors of these courses to seek their permission to enrol. Instructors may choose to admit students to these courses based upon alternative prerequisites that are judged to provide the student with sufficient background preparation for the course.

**Faculty of Science**
ACC 1040 – Introduction to Climate Change
ACC 1010 – Introduction to PEI Living Climate Lab
**Biology 1010 – Current Issues in Environmental Biology OR **Biology 1320 – Organisms and Their Environment
Biology 2220 – Ecology
Biology 3140 – Plant Community Ecology
Biology 3270 – Field Coastal Ecology
Biology 3910 – Marine Biology
Biology 4110 – Principles of Wildlife Biology
Biology 4520 – Biogeography and Macroecology
Biology 4540 – Biodiversity and Conservation Biology
Biology 4620 – Watershed Ecology
Biology 4650 – Marine Community Ecology
Biology 4850 – Environmental Toxicology
Chemistry 2020 – Environmental Chemistry
** Students may only credit either Biology 1010 or Biology 1320 toward their minor.

**Faculty of Arts**
Economics 2110 – Introduction to Resource Economics
Economics 2150 – Environmental Economics
English 3220 – Canadian Poetry
English 3310 – The Literature of Atlantic Canada
English 3350 – British Romantic Literature
History 4830 – The History of the Environmentalist Movement
Island Studies 2010 – Introduction to Island Studies
Philosophy 1020 – Introduction to Ethics and Social Philosophy
Philosophy 1050 – Technology, Values, and Science
Philosophy 2060 – Animal Ethics
Philosophy 2710 – Ethics of Climate Change
Philosophy 3020 – Environmental Philosophy
Philosophy 3710 – Community-Based Ethical Inquiry I
Psychology 3330 – Ecopsychology
Sociology/Anthropology 3410 – Technology, Society and the Environment

# CO-OP EDUCATION IN ENVIRONMENTAL STUDIES

The UPEI Co-operative Program is an integrated approach to university education which enables students to alternate academic terms on campus with work terms in suitable employment. The success of such programs is founded on the principle that students are able to apply theoretical knowledge from course studies in the workplace and return to the classroom with practical workplace experience. Students who successfully complete all the requirements of the program will have the notation entered on their transcripts and on the graduation parchment.

Students accepted into the program complete at least three paid work terms of normally 14 weeks duration, and three professional development courses. Credits earned through completion of work terms are counted as general electives.

The Co-operative option is available to full-time students in the Bachelor of Environmental Studies program. Applications to the Co-operative Education Program are normally made after completion of the first year of study.

See the Co-operative Education Program section of the UPEI Academic Calendar for more information.

# ENVIRONMENTAL STUDIES COURSES

1010 INTRODUCTION TO ENVIRONMENTAL STUDIES (Core Course)
This course introduces students to a multidisciplinary and interdisciplinary approach to the study of environmental issues; and emphasizes the interrelationships among the various physical, biological, and human systems. It examines major contemporary environmental issues, such as land use and climate, and focuses on how these issues are understood and addressed within the natural sciences, social sciences, and humanities. These topics will be explored through lecture, discussion and field trips during the tutorials.
Three hours lecture a week, Two-hour tutorial every other week
Three semester hours of credit

2030 SOCIETIES AND SUSTAINABILITY: PAST AND PRESENT (Core Course)
This course explores the concept of sustainability in relation to how societies have interacted with the environment overtime. Through exploration of successes and failures from historical and contemporary societies, students will develop the capacity to understand the ecological context in which humans live, to recognize limits, and to design sustainable human systems for the

future.
Three semester hours of credit

2040 METHODS OF ENVIRONMENTAL INQUIRY (Core Course)
This course introduces students to the diverse nature of inquiry in the various fields of environmental studies. Through practical case studies it provides literacy in key methods used in understanding the environment in the sciences, social sciences and humanities.
PREREQUISITE: ENV 1010 or permission of the instructor
Three semester hours of credit

2090 SPECIAL TOPICS
To create a category for uniquely titled courses offered by a department and put on the timetable as a "special course" on a one-time basis.
Three semester hours of credit

2120 EARTH'S PHYSICAL ENVIRONMENT
This course will introduce students to the basic 'building blocks' of Earth's physical characteristics, providing a foundation on which to develop more specialist knowledge in their understanding of Environmental Studies. It will examine the geologic and geomorphic cycles, including processes of weathering, erosion, transportation and deposition, and investigate how these create fluvial, glacial, and coastal landforms and impacts on human activity. It also aims to address atmospheric processes and the links between global climate zones and world ecosystems.
Three semester hours of credit

2130 INTEGRATED WATERSHED MANAGEMENT
This field course focuses on integrated water management at the watershed level with a focus on the Prince Edward Island context. The physical and biological characteristics of watersheds will be explored along with the planning approaches, adaptive management strategies, watershed governance, as well as Indigenous perspectives.
PREREQUISITE: Admission to the Bachelor of Environmental Studies program, a declared minor in Environmental Studies or permission of the instructor.
Three hours lecture, three hour field

2240 FIELD COURSE IN ECOLOGICAL FORESTRY
This course introduces students to the principles and practices of ecological forestry management. By combining theory-based lectures and an experiential learning approach at the Macphail Woods Ecological Forestry site students will gain a deep understanding of the forest and forest restoration efforts.
PREREQUISITE: Admission to the Bachelor of Environmental Studies program, declared minor in Environmental Studies or with permission of the instructor.
Three semester hours of credit

2310 ISLAND ENVIRONMENTAL HISTORIES
Environmental history is broadly defined as the study of continuity and change in human relationships with the environment. This course introduces students to environmental history and historical methods with a focus on historic and current, interaction with the environment on global islands. Special focus will be given to ocean, forest, and land use activity in Prince Edward Island and islands in the Atlantic region.
Three hours lecture,

2420 SOCIETY AND NATURAL RESOURCES
This course examines the development, use and conservation of natural resources. It explore the definition of natural resources, the history of resource use, governance regimes, and theories and practices around integrated resource planning and management, ecosystem management, adaptive management, conflict resolution approaches, local

knowledge and public participation. Case studies explore recent trends in forestry, fisheries, agriculture, parks and recreation, wildlife, and water resources management.
PREREQUISITE: ENV 1010 or permission of the instructor
Three semester hours of credit

2910 DIRECTED STUDIES
This course offers recognition for equivalency-learning to returned CUSO cooperants and interns who have completed an international development placement overseas. Students who have completed a CUSO placement with a focus on environmental issues – such as environmental science, resource management, conservation, environmental education – can apply to receive credit toward their Environmental Studies degree.
Three semester hours of credit

3010 ENVIRONMENTAL STUDIES INTERNSHIP (Core Course)
This course provides students with opportunities to develop, integrate and apply their knowledge of environmental issues and theory. Students will be involved in 'internship' experiences with varied environmental organizations, in environmental action research on campus issues or in other settings, and in developing personal plans for environmental action and change. Classroom discussions and written work will aid students in developing a multidisciplinary and systems approach to the analysis of these experiences.
PREREQUISITE: ENV 1010. Students taking this course concurrently may apply for admission to the instructor
One and a half hours per week in class, two and a half hours per week in practicum work
Three semester hours of credit

3020 AQUACULTURE AND THE ENVIROMENT
This field course will examine interactions between aquaculture and the environment by providing an overview of the global field of aquaculture with an emphasis on the aquaculture industry on Prince Edward Island. Topics covered include policy and regulation, water quality, production systems, disease and pest management, and the effect of aquaculture on the environment and human communities
PREREQUISTIE: Admission to the Bachelor of Environmental Studies program, a declared minor in Environmental Studies or with permission of instructor.
Three hours lecture, three hour field

3090 SPECIAL TOPICS
To create a category for uniquely titled courses offered by a department and put on the timetable as a "special course" on a one-time basis.
PREREQUISITE: ENV 1010 or ENV 2030 or permission of the instructor
Three semester hours of credit

3110 UNDERSTANDING CLIMATE CHANGE
This course introduces students to the science of climate change. Students explore its social and political implications, and examine its impact on daily life by reviewing current scientific data as it relates to vulnerabilities of particular regions. Topics include methods, strategies, and technologies that address climate change, using case studies of adaptive and mitigative programs in North America, with a special emphasis on Canada's climate action plan.
PREREQUISITE: ENV 1010 or ENV 2030
Three hours a week
Three semester hours of credit

3210 NATURAL HAZARDS
This course provides an introduction to the causes of a variety of natural hazards (tectonic – e.g. earthquakes, tsunamis, and volcanic activity; meteorological – e.g. hurricanes and flooding; and mass movement – e.g. landslides, mudslides, and avalanches) as well as their impact on human activities and the strategies available to predict and manage such

events.
PREREQUISITE: ENV 1010 or ENV 2030 or permission of the instructor
Three semester hours of credit

3320 ENVIRONMENTAL INNOVATION AND CHANGE MANAGEMENT SKILLS
This course will introduce students to a general overview of innovations to address environmental goals. It will examine how using a structured approach to change can move organizations, businesses and communities toward more environmentally sustainable practices.
PREREQUISITE: ENV 1010 or ENV 2030 or permission of the instructor
Three semester hours of credit

3340 ENVIRONMENTAL STRESSES ON ISLAND COMMUNITIES
This course explores the risk and vulnerabilities associated with climate change and other environmental stress on island communities. This course will focus on the special characteristics of island communities and will explore island vulnerabilities in the natural and built environment as well as in social and economic systems.
PREREQUISITE: ENV 1010 or ENV 2030 or permission of the instructor
Three semester hours of credit

3420 ENVIRONMENT AND DEVELOPMENT
This course focuses on environment and development issues in an international, particularly a developing country, context. Issues related to trade, biodiversity conservation, agriculture, climate change, wealth, poverty, population, and gender will be explored.
PREREQUISITE: ENV 1010 or permission of the instructor
Three semester hours of credit

3510 SUSTAINABLE COMMUNITY PLANNING
An overview of how planning tools and practice shape the form of communities, including: (1) Key issues and principles of sustainability at a community scale; as well as related planning approaches; (2) Sustainable community planning approaches and tools for identifying and achieving quality of life, and (3) The components and process of developing an integrated sustainable community plan. Students will learn how to assess community capital, identify and recruit key stakeholders and develop, implement, monitor and evaluate a community plan.
PREREQUISITE: ENV 1010 or ENV 2030 or permission of the instructor
Three semester hours of credit

3540 ENVIRONMENTAL VALUATION: THEORY AND PRACTICE
This course would develop the theory and techniques in the valuation of non-market (ecological) good and services. It will focus on the techniques and methods for placing monetary values on the environment and incorporating them into economic decision making at both the macro and project level.
PREREQUISITE: ENV 1010 or ENV 2030 or permission of the instructor
Three semester hours of credit

4010 PUBLIC SCHOLARS ON ENVIRONMENTAL ISSUES (Core Course)
This seminar course will provide a forum for students to interact and learn from local, national and international experts in various fields of environmental studies. Students will gain an increased awareness and understanding of the diverse ways in which our society is addressing issues related to the environment. The course will provide opportunities for students to develop in their own expertise as public scholars.
PREREQUISITE: ENV 3010 or permission of the instructor
Three semester hours of credit

4090 SPECIAL TOPICS

To create a category for uniquely titled courses offered by a department and put on the timetable as a "special course" on a one-time basis.
PREREQUISITE: ENV 1010 or ENV 2030 or permission of the instructor
Three semester hours of credit

4110 ENVIRONMENTAL GOVERNANCE
This course focuses on developing an understanding of principles, practices and emerging issues relating to environmental governance. An emphasis is placed on exploring the roles of governments, markets and collective action in environmental policy and management. Examples of governance arrangements are drawn from different parts of the world and different ecological contexts, including the uniqueness of island contexts.
Cross-level listed with Island Studies 6190.
PREREQUISITES: ENV 1010 or permission of the instructor. For students taking the course as IST 6190 they need to be an active graduate student
Three semester hours of credit

4310 ENVIRONMENTAL IMPACT ASSESSMENT
This course examines Environmental Impact Assessment (EIA) from philosophical, methodological and institutional perspectives. The evolution of EIA in Canada will be the focus. The strategic role of EIA will be explored as to its effectiveness as a tool for achieving sustainability goals. Case studies illustrating major issues and applications will be presented at a variety of geographical scales. Some field trips may be required.
PREREQUISITES: ENV 1010 or with permission of instructor
Three semester hours of credit

4330 ENVIRONMENTAL COMMUNICATION STRATEGIES
This course promotes the development of communication skills in the context of environmental issues and exposes students to direct interaction with representatives from industry, government and the community. The course will also provide broad theoretical and practical knowledge needed to resolve disputes as well as skills training in techniques of mediation, facilitation, and negotiation.
PREREQUISITE: ENV 1010 or ENV 2030 or permission of the instructor
Three semester hours of credit

4410 ENVIRONMENT AND INTERNATIONAL RELATIONS
Ecological problems such as climate change and resource scarcity transcend the boundaries of nation-states and therefore necessitate international cooperation between states and non-state actors. This course will examine the dynamics of global environmental politics.
PREREQUISITE: ENV 1010 or ENV 2030 or permission of the instructor
Three semester hours of credit

4910-4920 DIRECTED STUDIES
These courses offer students the opportunity for the study of other subjects in environmental studies in two different forms: (1) In response to an individual student's needs, a program of directed readings or directed research can be developed with a faculty member; (2) Directed Studies courses are offered on occasion by members of the faculty or by visiting instructors. (See Academic Regulation 9 for Regulations Governing Directed Studies.)
Three hours a week
Three semester hours of credit

4950 ENVIRONMENTAL STUDIES SYMPOSIUM
The Student Environmental Studies Symposium course is an opportunity for students to facilitate a public forum to raise awareness and discussion about a contemporary environmental issue. This unique course will focus on students planning and running a one day symposium about a relevant environmental issue of their choice. It will provide an

opportunity for active and collaborative learning as students dialogue with important stakeholders engaged in real world issues from government, the private sector and civil society. Through the process of organizing this symposium, students will deepen their knowledge of the complex nature of environmental issues and the challenges in finding sustainable solutions. Practical outcomes of the course include the development of critical thinking and writing skills, as well as organizational, communication and team-building skills.
PREREQUISITE: ENV 1010 or ENV 2030 or permission of the instructor
Three semester hours of credit

# 70. Fine Arts

http://upei.ca/finearts

Fine Arts (art history) is a discipline which examines the role of the visual arts in the development of human society. Fine Arts attempts to understand the nature of art, its origins and evolution, and the role it plays in various civilizations. While the task of the artist is the creation of works of art, that of the art historian is their systematic study, analyzing and understanding the products of creative expression. Studies of the Fine Arts can involve the examination of economic, social, and political issues; problems of patronage, taste, style, and iconography; and questions of literary influence, philology, philosophy, psychology, and religion. At the same time, how works of art are made, their conservation and/or restoration and theories of perception or optics are also investigated.

The study of Fine Arts helps to enhance our aesthetic awareness and our ability to "see" and describe and to search for new meanings and explore new ideas in our environment. The Department of Fine Arts offers a range of art history courses, especially Western art, from ancient times to the present. The art history courses concentrate on the study of architecture, sculpture, painting, and minor/decorative arts.

**REQUIREMENTS FOR A MINOR IN FINE ARTS**
Students in the Minor Program in Fine Arts must take FAH 1010 and FAH 1020 consecutively as prerequisites and five other courses including at least two at the 2000 level and at least two at the 3000 or 4000 level.

## FINE ARTS COURSES

FAH—Fine Arts History

FAH 1010 INTRODUCTION TO THE HISTORY OF WESTERN ART I
This course is a survey of the development of visual arts from Prehistoric to Medieval times. Emphasis is placed on the study of major works of art, methods of analysis, use of proper terminology, historical and cultural contexts, and changes of forms and styles.
Cross-listed with History 1030.
Three hours a week

FAH 1020 INTRODUCTION TO THE HISTORY OF WESTERN ART II
This course is a continuation of the survey begun in FAH 101. It covers the most representative works of the visual arts from the early Renaissance period through the Modern era. The major artistic achievements and stylistic changes are studied with particular emphasis on their relationship to historical and cultural circumstances.
Cross-listed with History 1040.
Three hours a week

FAH 2010 EGYPTIAN AND MESOPOTAMIAN ART
This course examines (in chronological order) the changes of style in architecture, painting, sculpture, and the minor/decorative arts from the prehistoric periods in Egypt and Mesopotamia to the establishment of the Hellenistic kingdoms in both regions. The characteristics of each period are considered with emphasis on the outstanding works of art/architecture and their historical contexts.
Cross-listed with Classics 2310.
Three hours a week

FAH 2020 GREEK ART

This course examines (in chronological order) the changes of style in architecture, painting, sculpture, and the minor/decorative arts from the Archaic period to the end of the Hellenistic age. The characteristics of each period are considered with emphasis on the outstanding works of art/architecture and their historical contexts.
Cross-listed with Classics 2320.
Three hours a week

FAH 2110 ROMAN ART
This course examines (in chronological order) the changes of style in architecture, painting, sculpture, and the minor/decorative arts from the beginning of the Roman Republic to the end of the Imperial era. The characteristics of each period are considered with emphasis on the outstanding works of art/ architecture and their historical contexts.
Cross-listed with Classics 2410.
Three hours a week

FAH 2120 MEDIEVAL ART
This course examines (in chronological order) the changes of style in architecture, painting (especially illuminated manuscripts), sculpture, and the minor/decorative arts from the Byzantine period to the end of the Gothic era in Europe. The characteristics of each period are considered with emphasis on the outstanding works of art/architecture and their historical contexts.
Cross-listed with Religious Studies 2720.
Three hours a week

FAH 3010 RENAISSANCE ART
This course examines the artistic milieu in Europe — with a particular emphasis upon the Italian and Flemish schools — from the early Fifteenth Century to the mid-Sixteenth Century.
Three hours a week

FAH 3020 BAROQUE AND ROCOCO ART
This course examines (in chronological order) the changes of style in architecture, painting, sculpture, and the minor/decorative arts in Italy and other parts of Europe from the early Seventeenth Century to the end of the Eighteenth Century. The characteristics of each period are considered with emphasis on the outstanding works of art/architecture and their historical contexts.
Three hours a week

FAH 3110 NINETEENTH-CENTURY ART
The evolution of the visual arts is studied from the French Revolution to the Post-Impressionist era. Neoclassicism, Romanticism, revival styles, Realism, and Impressionism are the subject areas of the course.
Three hours a week

FAH 3120 TWENTIETH-CENTURY ART
This course is designed to develop an understanding of the various artistic expressions in the visual arts, including the new art forms of photography and cinema, from the late Nineteenth Century to the present.
Three hours a week

FAH 3210 CANADIAN ART
The development of the visual arts in Canada is studied from the Seventeenth Century (colonial times) to the present. The course examines the native tradition in Canada, the legacy of the early French and English settlers, and later developments in the visual arts within the context of the socio-economic and political history of the country.
Three hours a week

FAH 4510-4520 DIRECTED STUDIES
These courses involve the examination of particular problems in specific areas of interest in the visual arts and

archaeology.* Individual studies are conducted under faculty guidance. Open to qualified students from any discipline. (See Academic Regulation 9 for Regulations Governing Directed Studies.)
*Archaeology of Roman Pannonia and of early Medieval times in Western Hungary. Fieldwork in Hungary.

# 71. History

http://upei.ca/history

**History Faculty**
Edward MacDonald, Professor Emeritus
Richard Raiswell, Professor, Chair
Lisa Chilton, Professor
Ian Dowbiggin, Professor
James Moran, Professor
Susan Brown, Associate Professor
Sharon Myers, Associate Professor
Thomas Larkin, Assistant Professor

**HISTORY PROGRAM**

History has been defined as the "memory of human group experience" because it brings the student into contact with the whole range of human effort and achievement. Its object is to recreate the past from the evidence left to us, and to try to explain how and why human beings spoke, acted, and thought as they did in the past. Although history must always deal with the "facts" of societies, it is even more concerned with explaining and illuminating them.

The program is centred broadly on the history of "Atlantic Civilization"—the historical development of Europe and the Americas. The courses aim to provide both a broad exposure to the history of the Atlantic World, and more specialized work in the history of various regions and countries. The Department also offers courses in the practice and the craft of history.

**AREA COURSES**
The Department offers the following "streams"—Canadian, American, British, European, Global, and Others:

**Canadian**

1010 Canadian History—Pre-Confederation
1020 Canadian History—Post-Confederation
2310 The Atlantic Region
2320 The Atlantic Region
3250 Canadian Social History to World War I
3260 Canadian Social History since World War I
3310 History of Prince Edward Island— Pre-Confederation
3320 History of Prince Edward Island— Post-Confederation
3520 The History of Quebec and French Canada
3850 Women in 19th-Century Canada
3860 Women, the Law, and Civil Rights in 20th-Century Canada
4150 Canada Apologizes: Studies in Historical Apologies
4240 History of Canadian Nationalism and the Canadian Identity
4250 Childhood in Modern Canada
4890 Postwar Prince Edward Island

**American**
2410 United States History—From the Colonial Period to Reconstruction

2420 United States History since Reconstruction
3330 Health Care and North American Society in Historical Perspective
3950 Race & Ethnicity in American Life: A History of Immigration
3960 Race & Ethnicity in American Life: African-American History
3970 Race & Ethnicity in American Life: The Hispanic- American Experience

**British**

2610 Britain in the Age of Revolutions: 1688-1860
2620 Rule Britannia to Cool Britannia: Britain 1860-2000
3100 Tudor England, 1485-1603: Creation of a Nation
3620 Victorian Britain
3630 Modern Irish History
4720 Britain in the 20th-Century: Society, Culture and Identity
4730 The Rise of Consumer Society: British Society in the 18th-Century

**European**

1030 Introduction to the History of Western Art, I
1040 Introduction to the History of Western Art, II
2010 European Civilization 500 BC – 1648
2020 European Civilization 1648 to the Present
3030 Power, Culture and Consumption: The Renaissance in Italy
3050 Martyrs, Marauders, Clerics and Kings: The Culture of the European Middle Ages
3110 Science, Magic, Witchcraft, and the Occult in Premodern Europe
3112 The Age of Uncertainty: Western Europe, 1450-1650
3230 Russian History since 1682
3410 German History since 1648
3420 History of France since 1500
4040 Monsters, Gold, and Glory: Travel, Trade and the Problem of Discovery in Premodern Europe
4110 Europe Since Bismarck
4165 The Malleus Maleficarum in Historical Context
4620 History of Economic Thought, I
4620 History of Economic Thought, II
4850 The Ideas that Changed Modern European History

**Global**

2150 Foreign Foods: Eating in the Age of Empires
2220 From Magic to the Double Helix: Science and Society in Historical Perspective
2520 Roman Civilization
2720 Later Roman Empire, 234-410 AD
2910 Introduction to West Asia
2920 Introduction to East Asia
3210 History of Christianity to the Reformation
3220 History of Christianity from the Reformation to the Present
3270 Migration to Canada I
3280 Migration to Canada II
3710 The Atlantic World I
3720 The Atlantic World II
3730 The Second World War in Global Context
3750 Tourism in Western Society: The Travel Imperative

3760 The History of Genocide
4050 Crusades and Crusading
4320 Britain and the Imperial Experience
4340 Madness and Society
4550 War and Revolution in the 20th Century World
4740 The Hidden Histories of Objects
4830 The History of the Environmentalist Movement

**Other**
1110 Discovering the Past
1130 Crime and Punishment: Historical Themes
1140 Plaque: Historical Themes
1150 Nazi Germany: Historical Themes
1160 The Devil in Western Society: Historical Themes
1170 Rock and Roll From Presley to Punk: Historical Themes
2110 The History Workshop: Skills and Methods in History
3120 Themes and Debates in History
4840 Applied Public History
4910 Directed Studies
4920 Directed Studies
4970 Honours Tutorial in Historiography
4980 Honours Graduating Essay

Normally, students who intend to major in History will choose History 1010/1020 as their introduction to history. These courses include an important tutorial component emphasizing introductory skills and methods of history.

2000-level courses provide introductions to the histories of civilizations, regions, and countries, especially in the areas listed above. They are intended to build upon the skills acquired in first year History courses.

3000-level courses provide more specialized studies in a number of areas.

4000-level courses are usually seminars emphasizing discussion and research in more specialized areas.

While providing courses for students in all faculties, schools, and departments, the Department also provides a minor, major, and honours program for those who have a special interest in the study of history.

**MAJOR PROGRAM**

To register as a major in History, a student must complete History 1010/1020 and six semester hours (2 courses) at the 2000 level. Students are urged to take History 2010/2020 in the first or second year to satisfy the second requirement. Students may take additional 2000-level courses.

History 1010/1020, 2010/2020, 2110, and 3120 are compulsory for students in the major program.

History 1010/1020, 2010/2020, and 2110 should be completed by the end of the fourth semester.

History 3120 should be completed no later than the end of the sixth semester.

A major program is complete when a student has successfully completed a minimum of 42 hours of credit in History (14 courses) of which a minimum of 9 hours (3 courses) must be at the 3000 level, and 9 hours (3 courses) must be at the 4000 level. Majors must complete courses totalling 6 semester hours of credit at the 2000-4000 levels in one of the following areas of study: Europe, Britain, the USA, and Global. **(NOTE: As per Academic Regulation #1 h), all**

**undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

**HONOURS PROGRAM**

To be admitted to the Honours program, the student must submit a letter of application to the Honours Coordinator. Applicants must be registered in, or have completed, the major program. Applications are normally submitted during the fourth or fifth semester. Decisions on admission are made by the department acting as a committee of the whole. Admissions decisions will be made on the basis of demonstrated and potential ability to carry out independent research and sustained historical analysis. Meeting the minimum entry requirements does not guarantee admission.

Applicants normally must have a CGPA of 3.0 in all previous University courses. Normally, the Department expects an average of at least 80% in all previous history courses.

In addition to the courses required for the major, honours students are required to complete History 4970 and 4980.

Each honours student must prepare a graduating honours essay under the direction of a supervisor. This essay will be evaluated by a three-person committee, two members from within the Department and one member of which will be from outside the Department.

The candidate must take a final oral examination on the essay.

Students intending to enter graduate programs should be aware that many such programs require a reading knowledge of a second language. Undergraduate courses in a second language are a useful preparation for graduate work in history.

An Honours program is complete when the student completes:
1. a total of 120 semester hours of course credits with a mini- mum overall average of 75%;
2. a total of 48 semester hours of course credits in History (6 semester hours in addition to the minimum required for the major), with a minimum average of 75%. **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

**CREDITS FOR CROSS-LISTED COURSES**

The Department accepts as part of its major or honours program a maximum of 12 hours (4 courses) of courses cross-credited to History from related disciplines. Of such courses, students can apply 6 hours (2 courses) taken at the 1000 or 2000 levels and 6 hours (2 courses) at the 3000 or 4000 levels. Students must have the prior approval of the Chair of History if credit is to be granted. The courses from related disciplines which may be approved for credit are the following:

Asian Studies 2010 – Introduction to West Asia
Asian Studies 2020 – Introduction to East Asia
Economics 3110/3120 – History of Economic Thought
English 3780 – The Medieval Book
Fine Arts History – 1010/1020 Art History
Religious Studies 3310/3320 – History of Christianity

**MINOR PROGRAMS**

**HISTORY MINOR**
To complete a minor in History, the student must complete History 1010/1020 and five other history courses (15 semester hours), including

one Canadian history,

one continental European history,
one course each out of two of the following three fields: British history, USA history, and Global history,
one other history course.
At least two of the student's courses must be at the 3000 level or above.

**MEDIEVAL AND RENAISSANCE STUDIES MINOR**

A minor in Medieval and Renaissance Studies will be recognized when a student has completed 21 semester hours in Medieval and Renaissance courses, including History 2010 and six other courses from at least three different departments. At least one course must be at the 4000 level.

The following courses would all be eligible to be counted towards the minor. Not all courses listed are available in any given year.

Classics 1010: Latin 1
Classics 1020: Latin 2
English 2550: Introduction to Shakespeare
English 2560: Shakespeare in Film and Media
English 2750: Arthurian Literature
English 3560: Renaissance Literature
English 3570: Renaissance Drama
English 3580: Milton
English 3720: Chaucer
English 3750: Middle English Literature
English 3780: The Medieval Book
English 4550: Advanced Studies in Early Modern Literature
English 4750: Advanced Studies in Medieval Literature
Fine Arts 2120: Medieval Art
Fine Arts 3010: Renaissance Art
French 4010: Renaissance Literature
French 4020: Le moyen-age
History 2010: European Civilization 500 BC-1648
History 3030: Power, Culture and Consumption: The Renaissance in Italy
History 3050: Martyrs, Marauders, Clerics and Kings: The Culture of the European Middle Ages
History 3100: Tudor England – 1485-1603
History 3110: Science Magic, Witchcraft and the Occult in Pre-modern Europe
History 4040: Monsters, Gold, and Glory: Travel, Trade, and the Problem of Discovery in Premodern Europe
History 4050: Crusades and Crusading
Philosophy 2840 (RS 2840): Introduction to Medieval Theology and Philosophy
Religious Studies 3760: Thomas Aquinas and the Thomistic Tradition
Spanish 4050: The Legacy of the Spanish Mystics
Spanish 4070: Spanish Medieval Literature
Spanish 4150: Cervantes' Don Quixote and the Formation of the Modern Novel

**DIRECTED STUDIES**

History 4910/4920 (Directed Studies courses) are designed to allow students to pursue an area of study of their own interest which may not be offered by the curriculum. Directed Studies courses are usually restricted to qualified Third and Fourth Year students in any discipline. The program of study in the course must be approved by the Instructor, the Chair, and the Dean of the Faculty prior to registration.

# HISTORY COURSES

1010 CANADIAN HISTORY—PRE-CONFEDERATION
This course surveys topics of historical importance in Canadian history up to and including the attainment of Confederation. The emphasis is on the interaction between political events and change in the economy and society. Tutorials examine various historical interpretations of the Canadian experience.
Lecture: Two hours a week
Tutorial: One hour a week

1020 CANADIAN HISTORY—POST-CONFEDERATION
This course surveys topics of historical importance in Canadian history in the Post-Confederation period. The emphasis is on the interaction between political events and change in the economy and society. Tutorials examine various historical interpretations of the Canadian experience.
Lecture: Two hours a week
Tutorial: One hour a week

1030 INTRODUCTION TO THE HISTORY OF WESTERN ART I
(See Fine Arts History 1010)

1040 INTRODUCTION TO THE HISTORY OF WESTERN ART II
(See Fine Arts History 1020)

1110 DISCOVERING THE PAST
This course is a unique and exciting chance for students to work closely with each other and with a professor in a seminar, applying the techniques of historical investigation to shed light on one particular issue. These techniques include; the careful analysis of primary sources; an appreciation that there are different historical interpretations of the same subject; an understanding of how the subject under investigation changes over time. Instead of regular lectures, in each class students work through a series of carefully selected readings which forms the basis for interactive discussions. Each year, the seminar is devoted to a different historical issue, and is led by a different professor from the History Department.

1130 CRIME AND PUNISHMENT: HISTORICAL THEMES
This course provides an introduction to changing ideas and practices surrounding crime and punishment over time. Topics may include who has been identified as a threat to the social order, including thieves, prostitutes, vagrants, and young offenders, and the punishments that societies have deemed appropriate for criminals, including public executions, exile, and imprisonment. Additionally, the course provides opportunities to explore and to develop skills in historical thinking and methods.
Three credit hours; lecture, discussion

1140 PLAGUE: HISTORICAL THEMES
This course introduces students to plague, an important aspect of disease and health history. From the devastating outbreaks of the Black Death in medieval Europe, to the contemporary phenomenon of Ebola, the course focuses on the ways in which major outbreaks of infectious disease have shaped societies. The course considers the medical, social, economic, and political consequences of epidemics and pandemics. The course explores how various forms of plague were understood when they happened, and how our views of them have changed over time. This will be done by reading important works on plagues, and by examining original sources that were produced by those living through major disease outbreaks as they unfolded.
Three credit hours; lecture, discussion

1150 NAZI GERMANY
This course covers the history of Adolf Hitler's Third Reich (1933-1945) from the origins of the Nazi Party during the Weimar Republic (1919-1933) to the post-World War II trials of German war criminals. Topics include Hitler's life and career, the Nazi Party's electoral success, the causes and course of World War II from the German perspective, the Holocaust, and the relations between the churches and the Nazi regime. The course seeks to answer the question: why did Germans support Hitler?
Three credit hours

1160 THE DEVIL IN WESTERN SOCIETY: HISTORICAL THEMES
From Megiddo and Patmos, through the sewers of nineteenth-century Paris and into the studios of America's televangelists, this course will examine how the figure of the devil has been made and remade over the centuries in response to broader historical trends. Topics may include: the ancient combat myth; the devil in the Christian scriptures; Satan and Lucifer; the devil and the saints; the idea of hell; monks and demons; demonic witchcraft; the development of exorcism; Protestant devils; the devil in art, literature and film; the demonization of outsiders; devils and the New World and Old; comedic devils; and the devil in the modern American consciousness.
Three credit hours

1170 ROCK AND ROLL FROM PRESLEY TO PUNK: HISTORICAL THEMES
This course explores the social, cultural, and political contexts for the evolution of rock and roll music during the post-Second World War era when a new musical form was grafted onto the popular music industry. Beginning with the roots of rock and roll music in African American communities, the course follows the progress of rock and roll music from the early 1950s to the Punk era of the late 1970s, focusing on the symbiotic relationship between iconic performers and their times.
Three credit hours, Lecture and Discussion

2010 EUROPEAN CIVILIZATION 500 BC-1648
This introductory course examines the history of European civilization from the rise of classical Greece to the Treaty of Westphalia in 1648. Lectures analyze the major political, economic, social, and cultural forces which shaped European society during this period.
Lecture: Three hours a week

2020 EUROPEAN CIVILIZATION 1648 TO THE PRESENT
This introductory course examines the history of European civilization from the end of the Thirty Years' War to the present. Lectures analyze the main political, economic, social, and cultural forces which shaped Europe from the early modern to the post-industrial period.
Lecture: Three hours a week

2090 SPECIAL TOPICS
Creation of a course code for Special Topics offered by the Department of History at the second year level.

2110 THE HISTORY WORKSHOP: SKILLS AND METHODS IN HISTORY
This introductory course offers students the opportunity to develop their research, writing and critical thinking skills while introducing them to the nature of historical method and inquiry. The course provides instruction and practice in the use of standard print and electronic bibliographic tools and in the writing of research, analytical and critical papers in history. Topics of study include the relationship between history and truth, the uses of evidence and argumentation, and the varieties of historical research. The course features library workshops as well as experience using local archives.
Lecture/Discussion/ Workshops: Three hours a week

2150 FOREIGN FOODS: EATING IN THE AGE OF EMPIRES
Food has been understood in a variety of ways: spices to preserve and mask rotting meats; sugar, chocolate and raisins

as cure-alls; cocoa as a hallucinogen; potatoes as a plot to kill off surplus peasants; porridge as a middle-class conspiracy to undermine working-class culture. In this course we use intrinsically interesting case studies to explore important themes in the history of food discovery, distribution, and consumption. Underlying themes may include the use of unfree labour, the expansion of a capitalist economic system, the growth and evolution of European imperialism, and negotiations in social relations along class, gender, and racial/ethnic lines.
Three credit hours

2220 FROM MAGIC TO THE DOUBLE HELIX: SCIENCE AND SOCIETY IN HISTORICAL PERSPECTIVE
This course evaluates the history of science from the scientific revolution to late twentieth century. It also evaluates how science has been understood differently from one period to the next, how science has been grounded in cultural, social, and political currents, and how scientific understandings and perceptions have influenced how we see the world around us. This survey includes the study of major changes in scientific outlook brought about by thinkers like Isaac Newton, Auguste Comte, Louis Pasteur, Charles Darwin, Marie Curie and Albert Einstein. Important technological developments and the professionalization of scientific knowledge are also considered.
Three semester hours

2310 THE ATLANTIC REGION
This course examines Atlantic Canada from the early interactions between the Mi'kmaq and Beothuk and the Europeans in the 16th century through to the middle of the 19th century when Atlantic Canadians adopted a modern vision of democratic culture and social improvement. Topics of study will include native-newcomer interactions, the growth of Acadia and the Expulsion of the Acadians, the impact of the Planters and Loyalists, the Land Question on PEI, ethno-religious tension, social reform movements, and the question of Confederation.
Three hours a week

2320 THE ATLANTIC REGION
A continuation of History 2310.
Three hours a week

2410 UNITED STATES HISTORY—FROM THE COLONIAL PERIOD TO RECONSTRUCTION
This survey course in United States History begins with the Colonial period and concludes with an examination of the Civil War and Reconstruction. It covers a variety of topics in social, political, economic, diplomatic, military, and constitutional history.
Lecture: Three hours a week

2420 UNITED STATES HISTORY SINCE RECONSTRUCTION
This survey course in modern United States History examines industrial and urban development, modern political trends, social themes, and the development of the United States as a world power. Topics covered include Progressivism, the American role in World War I and World War II, the New Deal, and contemporary American society.
Lecture: Three hours a week

2520 ROMAN CIVILIZATION
(See Classics 1020)

2610 BRITAIN IN THE AGE OF REVOLUTIONS: 1688-1860
This course surveys the major political, social and cultural developments in British history from the "Glorious Revolution" of 1688 to the age of the industrial revolution. Topics include the changing role of the monarchy, political patronage and social elites, crime and the law, radical political movements in the era of the French revolution, the growth of industrialization and its impact on working and living conditions, poverty and disease in Victorian cities, Irish nationalism, family life and "Victorian values," and imperial conflicts in India and the Crimea.
Lecture: Three hours a week

2620 RULE BRITANNIA TO COOL BRITANNIA: BRITAIN 1860-2000
This course surveys British political and social developments from the period of Victorian British imperialism to the era of "Swinging London" and "Cool Britannia" at the end of the 20th century. Topics include the advent of a democratic political system, the rise of the labour movement, suffragette protest, Irish nationalism, the repercussions of World Wars I and II, post-war popular culture, and the era of Thatcherism.
Lecture: Three hours a week

2720 THE LATER ROMAN EMPIRE, 284-410 AD
(See Classics 3420)

2910 INTRODUCTION TO WEST ASIA
(See Asian Studies 2010)

2920 INTRODUCTION TO EAST ASIA
(See Asian Studies 2020)

3030 POWER, CULTURE AND CONSUMPTION: THE RENAISSANCE IN ITALY
This course examines the period bounded by the Black Death and the Protestant Reformation. It explores the major political, intellectual and cultural developments in Renaissance Italy and their later translation to Northern Europe. Topics may include the place of Italy in the late medieval world; the causes and consequences of the crises of the fourteenth century; the emergence of humanism and the revival of antiquity; the relationship between culture and power; popular piety; new models of gender relations in Renaissance society; the impact of printing; and the unique shape of the Renaissance in Northern Europe. Assignments will stress primary source analysis.
PREREQUISITE: Second Year standing or above, or permission of the instructor
Lecture: Three hours a week

3040 NAPOLEON AND THE LEGACY OF THE EUROPEAN ENLIGHTENMENT
This course examines the meteoric career of Napoleon Bonaparte within the larger context of the European Enlightenment. Specific topics include the French Revolution, the rise of Napoleon, the Scientific Revolution, enlightened despotism, romanticism, and nationalism.
PREREQUISITE: Second year standing or above OR permission of the instructor.
Lecture: Three hours a week

3050 MARTYRS, MARAUDERS, CLERICS AND KINGS: THE CULTURE OF THE EUROPEAN MIDDLE AGES
This course traces the history of Europe from the fall of the Roman Empire to the Black Death of the fourteenth century. Topics include the early history of Christianity and Islam, the Carolingian renaissance, the Viking invasions, the growth of the Papacy, the emergence of nation states, and the Crusades
PREREQUISITE: Second Year standing or above, or permission of the instructor
Seminar: Three hours a week

3090 SPECIAL TOPICS
Creation of a course code for Special Topics offered by the Department of History at the third-year level.

3100 TUDOR ENGLAND – 1485-1603: CREATION OF A NATION
This course examines how the kings and queens of the Tudor dynasty transformed England from a crumbling, medieval monarchy into a powerful, centralized nation. It was a bloody process that saw thousands of English men and women lose their lives, but the result was an English nation endowed with a unique sense of identity, culture, and mission in the world. Topics include Henry VIII and the search for a legitimate heir; the Reformation in England; the evolution of queenship under Mary and Elizabeth; the ideological revolution and the problem of dissent; the changing structures of society; and the contrasting worlds of high and low culture.
PREREQUISITE: Second Year standing or above, or permission of the instructor

3110 SCIENCE, MAGIC, WITCHCRAFT AND THE OCCULT IN PREMODERN EUROPE

This course investigates how men and women sought to understand, explain, control and manipulate the natural world in the early modern period. Topics include medieval cosmology and astrology; alchemy and learned magic; changing views of the role of the devil in the natural world; witch belief and witch hunting. Particular attention is paid to how the traditions of learned magic informed the development of science in the seventeenth century.

PREREQUISITE: Second Year standing or above, or permission of the instructor

Three semester hours of credit

3112 THE AGE OF UNCERTAINTY; WESTERN EUROPE, 1450-1650

The period between 1500 and 1648 is generally described as the age of the European reformations. But it was also a period of great intellectual and technological foment as the medieval worldview cracked under the strain of new discoveries, new inventions and the rise of new social, cultural and economic forces. This course investigates these changes and the sense of uncertainty they spawned on the cusp of the modern age. Topics may include: the information revolution; the rise of Protestantism and its consequences; the European Reconnaissance; state building and state power; the reformations in gender relations, social structures and culture.

PREREQUISITE: Student must have second year standing or above OR have permission of the instructor.

Three semester hours of credit

3120 THEMES AND DEBATES IN HISTORY

This course introduces students to some of the key theories and debates within current Western historiography (the study of historical writing). History is fundamentally concerned with the analysis of evidence, yet historians often disagree over the interpretation of that evidence and what is considered causally significant. This course will consider major "schools" and concepts of historical analysis that shape how history is interpreted. Topics may include the role of ideas and individuals versus broad economic and social forces; class, gender, race, post-colonialism, post-modernism, oral history, public history, and digital history.

PREREQUISITE: Second Year standing or above, or permission of the instructor

Lecture: Three hours a week

3210 HISTORY OF CHRISTIANITY TO THE REFORMATION

This course examines the growth and development of Christianity prior to the Reformation. Special emphasis is placed on the relationship between the growth of the Church and the broader historical context within which it occurred.

Cross-listed with Religious Studies 3310.

PREREQUISITES: Second Year standing or above, or permission of the instructor

Lecture: Three hours a week

3220 HISTORY OF CHRISTIANITY FROM THE REFORMATION TO THE PRESENT

This course examines some of the principal developments within Christianity from the Reformation until the present. Special emphasis is placed on the relationship between these developments and the broader historical context within which they occurred.

Cross-listed with Religious Studies 3320.

PREREQUISITES: Second Year standing or above, or permission of the instructor

Lecture: Three hours a week

3230 RUSSIAN HISTORY SINCE 1682

This course explores the political, social, economic, diplomatic, and cultural history of Russia since the reign of Peter the Great. It covers topics such as Russia's rise as a European power in the 18th and 19th centuries, the development of Russian autocracy, the revolutions of 1905 and 1917, the history of the Soviet Union under Lenin and Stalin, the nationalities question, the collapse of communism, and Russia since Gorbachev.

PREREQUISITES: Second Year standing or above, or permission of the instructor

Lecture: Three hours a week

3250 CANADIAN SOCIAL HISTORY TO WORLD WAR I
This course focuses on selected themes in the day-to-day lives of Canadians within their respective communities to World War I. Topics of study may include native society, pioneering, immigration and outmigration, the Victorian frame of mind, industrialization and urbanization, social and ethnic groups, attitudes and mores, working conditions, reform, the arts, and recreation.
PREREQUISITES: Second Year standing or above, or permission of the instructor
Lecture: Three hours a week

3260 CANADIAN SOCIAL HISTORY SINCE WORLD WAR I
This course focuses on selected themes in the lives of Canadians within their respective communities since World War I. Topics of study may include immigration and ethnicity, industrialization and urbanization, reform, labour, health, education, welfare, crime and punishment, the arts and recreation.
PREREQUISITES: Second Year standing or above, or permission of the instructor
Lecture: Three hours a week

3270 MIGRATIONS TO CANADA I
This course explores the history of Canadian migrations between the mid-18th century and the First World War. Migrant groups studied include the Loyalists of the late 18th century, African Americans, the Irish Famine, and the Central and East Europeans.
PREREQUISITES: Second Year standing or above, or permission of the instructor

3280 MIGRATIONS TO CANADA II
This course explores the history of Canadian migrations between the First World War and the present. Some of the migrants whose histories will be highlighted are Chinese and Japanese settlers in the west during the early 20th century, Jews, Italians, peoples from the Caribbean islands, and peoples from the Middle East.
PREREQUISITES: Second Year standing or above, or permission of the instructor

3310 HISTORY OF PRINCE EDWARD ISLAND— PRE-CONFEDERATION
This study of Prince Edward Island until 1873 traces the island's history from pre-history through to the colony's reluctant entry into Confederation. Topics will include the nature and impact of settlement in the colony, the French Regime, the development of colonial institutions and the colonial economy, the struggle for Responsible Government, and the influence of the land tenure system on the economic, political, and social development of the Island.
PREREQUISITES: Second Year standing or above, or permission of the instructor
Lecture: Three hours a week

3320 HISTORY OF PRINCE EDWARD ISLAND—POST- CONFEDERATION
This study of Prince Edward Island from 1873 until 1945 emphasizes its entry into Confederation, provincial-federal relations as they affected Prince Edward Island's history, and the development of the province's rural society and culture during decades of economic struggle and population decline. It is recommended that History 3310/3320 be taken in sequence.
PREREQUISITES: Second Year standing or above, or permission of the instructor
Lecture: Three hours a week

3330 HEALTH CARE AND NORTH AMERICAN SOCIETY IN HISTORICAL PERSPECTIVE
This course explores the history of health, disease and medicine, focussing on North America from the time of contact between Native Peoples and Europeans, to the present. The course is organized around four major themes in the history of health and illness: historical epidemiology, social and political responses to health and disease, the rise of modern medicine and other health care groups, and the recent challenges to regular medical practice by alternative health care providers. Particular attention is paid to the effects of shifting systems of medical practice on patient experience.

PREREQUISITES: Second Year standing or above, or permission of the instructor
Lecture: Three hours a week

3410 GERMAN HISTORY SINCE 1648
This course covers the political, diplomatic, social, economic, and cultural history of Germany since the Reformation. It explores topics such as the Thirty Years' War, Austro-Prussian rivalry in the 18th century, German unification in the 19th Century, World War One, Hitler's Third Reich, the division of Germany after 1945, and Germany since the collapse of communism.
PREREQUISITES: Second Year standing or above, or permission of the instructor
Lecture: Three hours a week

3420 HISTORY OF FRANCE SINCE 1500
This course covers the political, diplomatic, social, economic, and cultural history of France since the Reformation. It explores topics such as the Wars of Religion, the Age of Louis XIV, the French Revolution, Franco-German rivalry, the Dreyfus Affair, the Presidency of Charles DeGaulle, and the student revolts of 1968.
PREREQUISITES: Second Year standing or above, or permission of the instructor
Lecture: Three hours a week

3520 THE HISTORY OF QUEBEC AND FRENCH CANADA
This course examines the social, economic and political history of Quebec. It examines economic development, political change, secularization, and the rise of nationalist and separatist movements. It also explores the changing relations between Quebec and prominent French Canadian communities else-where in Canada.
PREREQUISITES: Second Year standing or above, or permission of the instructor
Lecture: Three hours a week

3620 VICTORIAN BRITAIN
This course explores themes in British social, political and cultural history in the nineteenth century. The course examines the nature of the changes sweeping British society, particularly those associated with Britain's congested cities and the urban working class. The anxieties and fears generated by these changes will constitute the focus of this course. The course challenges many popular stereotypes of the "Victorian Age" through its exploration of family life, poverty, sexuality, crime, drugs, disease and death in the Victorian city.
PREREQUISITE: Second year standing or above, or permission of the instructor
Lecture/Seminar: Three hours a week

3630 MODERN IRISH HISTORY
This course examines key developments in Irish history from the eighteenth century to the present. Drawing upon scholarly articles, visual images, song, film and documentary evidence, the course explores the various struggles over land, politics and culture that have shaped the past two centuries of Irish history. Two central themes that run through the course are the contested meanings of "the Irish nation" and the uses of history in contemporary commemoration and politics. The course concludes with an inquiry into the "Troubles" in Northern Ireland and the ongoing search for peace and political stability.
PREREQUISITE: Second year standing or above, or permission of the instructor
Lecture/Seminar: Three hours a week

3710 THE ATLANTIC WORLD I
This course examines the emergence of an Atlantic world through the European "discovery," conquest, and colonization of the Americas. The interaction of West African, Western European and Aboriginal American peoples, and the societies and institutions they developed, is the focus of the course. Spanish, English, French and Portuguese activity in the Atlantic and the Americas is surveyed, with particular attention given to topics such as labour systems, religious patterns, agriculture, and the nature of colonial societies before 1700.

PREREQUISITES: Second Year standing or above, or permission of the instructor
Lecture: Three hours a week

3720 THE ATLANTIC WORLD II
This course traces the emergence of a maturing Atlantic world from the latter 1600s to the period of independence. The shape and interaction of the English, French, Spanish and
Portuguese and their colonial empires, together with the continuing relationship with African and Aboriginal American peoples, is the focus of study. Slavery, the plantation system,
differing patterns of development, and political independence are given particular attention.
PREREQUISITES: Second Year standing or above, or permission of the instructor
Lecture: Three hours a week

3730 THE SECOND WORLD WAR IN GLOBAL CONTEXT
This course combines lectures and class discussions and covers the history of the Second World War, its causes, conduct, and impact on twentieth century history. Topics include the rise of Adolf Hitler and the Nazi movement in Germany; the international crises of the 1930s; the war on land, on sea, and in the air in Europe, Africa, the Middle East, and the Far East; the Holocaust; the wartime conferences of Stalin, Churchill, and Roosevelt; the use of atomic weapons against Japan; the post-war Nuremberg Trials; the origins of the Cold War; and the impact of the war on society and the home front.
PREREQUISITES: Second Year standing or above, or permission of the instructor
Lecture/Seminar: Three hours a week

3750 TOURISM AND WESTERN SOCIETY: THE TRAVEL IMPERATIVE
This course will provide an historical overview of the evolution of tourism with special emphasis on the Western world, beginning with the medieval passion for pilgrimage through the Enlightenment Grand Tour to the birth of the modern tourist trade, one of the world's fastest growing industries. A series of case studies will be used to pursue specific topics, such as the economics of tourism, motivation for travel, the rise of the resort, the transportation revolution, promotion and imaging, the conflicted relationship between visitor and host, sustainability, and the social and cultural impacts of tourism on host societies.
PREREQUISITES: Second year standing or above, or permission of the instructor
Three credit hours

3760 THE HISTORY OF GENOCIDE
This course covers the history of genocide as both a type of historical event and as a concept which has shaped international policy-making and legal practice. Topics include the Holocaust, the Ukrainian Holomodor, the Yugoslav wars of the 1990s, the "Killing Fields" of Cambodia, the Armenian and Rwandan atrocities, and the life and career of Raphael Lemkin, who coined and defined the term. The course seeks to answer the question: what is genocide and how does it differ from ordinary cruelty towards other human beings?
PREREQUISITES: Second year standing or above, or permission of the instructor
Three credit hours

3850 WOMEN IN 19th-CENTURY CANADA
This course examines the changes that have taken place in the historical roles of women in Canadian society, and the relationship of these changes to social, economic, and intellectual developments. Using both a thematic and chronological approach, the course examines women's roles from the beginning of the 19th Century to the achievement of suffrage in the 20th Century.
Cross-listed with Diversity and Social Justice Studies 3850.
PREREQUISITES: Second Year standing or above, or permission of the instructor
Lecture/Discussion: Three hours a week

3860 WOMEN, THE LAW, AND CIVIL RIGHTS IN 20th-CENTURY CANADA
This course examines the experiences of women in 20th-Century Canadian society viewed through the prism of law and civil rights. Topics of study include the struggle for the right to vote, the Persons Case, efforts to secure equality in the workplace, the regulation of sexuality and reproduction, and the particular experiences of immigrant and Indigenous women in relation to civil rights.
Cross-listed with Diversity and Social Justice Studies 3860.
PREREQUISITES: Second year standing or above, or permission of the instructor
Lecture/Discussion: Three hours a week

3950 Migration in United States History
The history of migration focuses on the free and forced movement of peoples from Europe, Asia and Africa to (and from) the United States from the colonial era to the present. Topics include early settlement immigration and emigration; the transatlantic slave trade; Indigenous Displacement; indentured servitude & Chinese exclusion; transpacific networks; the European origins and American destinations of the successive waves of immigrants; refugee experiences and immigration law, 'illegal' immigration; nativism'; and islamophobia. rural and urban immigrant life, Asian immigration, changing immigration law, and the new ethnicity. Through this course, students will encounter diverse migrant experiences and cultivate a critical vocabulary of migration within the United States context.
PREREQUISITES: History 2410/2420 or permission of the instructor
Lecture/Seminar: Three hours a week

3960 RACE & ETHNICITY IN AMERICAN LIFE: AFRICAN-AMERICAN HISTORY
This course provides an introduction to African-American history. Beginning with the introduction of slavery into the American colonies, it examines the journey from slavery to freedom, the limits to freedom, and the persistent struggle for civil rights in American society.
PREREQUISITES: Second Year standing or above, or permission of the instructor
Lecture/Seminar: Three hours a week

3970 RACE & ETHNICITY IN AMERICAN LIFE: THE HISPANIC-AMERICAN EXPERIENCE
This course provides an introduction to Hispanic-American history. Beginning with the Spanish conquest, this course examines the struggle for independence, the American conquest, and the evolution of Chicano culture and La Raza as aspects of the persistent struggle for civil rights in America.
PREREQUISITES: Second Year standing or above, or permission of the instructor
Lecture/Seminar: Three hours a week

4040 "MONSTERS, GOLD, AND GLORY": TRAVEL, TRADE, AND THE PROBLEM OF DISCOVERY IN PREMODERN EUROPE
This advanced seminar examines European interaction with Asia and Africa from the time of Alexander the Great and the Ancient Greeks up to the formation of the large trading
companies in the early 17th century, when Europeans understood the lands of the far east and south to be inhabited by strange semi-human peoples and the earth filled with gold and precious stones. This course examines the sources and evolution of this lore, noting how it affected the way explorers and merchant adventurers of the 16th century understood the world and interacted with the peoples they encountered. Topics include the development of the Greek and Roman world view; Europe's experience with barbarism; the Pax Mongolica and the development of the medieval world system; medieval geography; the cartographic revolution; explanations of difference and the emergence of race; cross-cultural exchange; and hybridity.
PREREQUISITES: Third year standing or above, or permission of the instructor

4050 CRUSADES AND CRUSADING
This advanced seminar course examines the crusading movement of the High Middle Ages from both the Christian and Islamic perspective. Topics may include: the Reconquista; Urban II and the development of early crusading theory;

Abbasid-Fatimid relations; the evolution of Christian notions of knighthood and the rise of the military orders; the development and application of Christian and Islamic notions of holy war; Crusading against Christians; the logistics of crusading; Christian-Muslim interaction in the Levant; and the counter-crusade under Salah al-Din and Sultan Baybars. Students will be expected to read and engage with a diverse assortment of primary sources, taken from both Christian and Islamic contexts.
PREREQUISITES: Third year standing or above, or permission of the instructor
Seminar: Three hours a week

4090 SPECIAL TOPICS
Creation of a course code for Special Topics offered by the Department of History at the fourth year level.

4110 EUROPE SINCE BISMARCK
This seminar course covers the social, political, economic, cultural, military, and diplomatic history of twentieth-century Europe from the age of nationalism in the late nineteenth century to the post-Cold War era of ethnic conflict and economic integration. Topics include imperialism, nationalism, World Wars One and Two, Nazism, decolonization, the Cold War, the European Union, the rise and fall of communism, the Balkan wars of the 1990s, globalization, and the rise of the New Right. Using a comparative perspective, the course examines what forces have united and divided Europe's nations since the end of the nineteenth century.
PREREQUISITES: Third year standing or above, or permission of the instructor

4150 CANADA APOLOGIZES: STUDIES IN HISTORICAL APOLOGIES
This course considers the phenomenon of the historical apology in the modern Canadian context. Students are introduced to a collection of historical events for which governments and churches have since offered official apologies for their participation. Case studies include: the imposition of the Chinese Head Tax, the denials of entries to the Komagata Maru and the S. S. St. Louis, the internment of the Japanese during World War II, the institutionalization of the Duplessis Orphans, the operation of Indian Residential Schools, the relocation of the Inuit, and the relocation of Africville. This course poses these questions: is it possible to right the wrongs of the past, and to what extent do past wrongs belong to us.
PREREQUISITES: Third year standing or above, or permission of the instructor
Three semester hours of credit
4165 THE MALLEUS MALEFICARUM IN HISTORICAL CONTEXT
This seminar course centres upon an extended examination of the infamous witch-hunters' manual, the Malleus maleficarum, first printed in 1486. The Malleus is a crucial text, for it helped spread the "elaborated theory of witchcraft" which argued that witches made a formal alliance with the devil to work maleficent magic. Yet for all of its influence on the witch hunts of the sixteenth and seventeenth century, the Malleus is a very poorly argued book, full of contradictions. Along with analysis of the treatise, this course will use the legal sections of text to re-enact a witch trial.
PREREQUISITE: 3rd or 4th-year status
Seminar: Three hours a week

4240 HISTORY OF CANADIAN NATIONALISM AND THE CANADIAN IDENTITY
This seminar course examines the development of Canadian nationalist thought and the evolution of the Canadian identity. Topics to be examined may include the evolution of national symbols, such as the Mountie, hockey, and the canoe, and their roles in the process of Canadian nation building and identity formation. The course also examines the influence of the United States and Great Britain in shaping Canadian identity, and the promotion of a distinctive Canadian culture through a variety of media ranging from tourism pamphlets to the CBC.
PREREQUISITES: Third year standing or above, or permission of the instructor
Seminar: Three hours a week

4250 CHILDHOOD IN MODERN CANADA

This is a seminar course in 19th- and 20th- Century Canadian social history which takes the experiences of children as its central focus. Themes of study may include the rise and decline of child labour, the development of education and child welfare systems, and changing ideas about childhood and the family.
PREREQUISITES: Third year standing or above, or permission of the instructor
Seminar: Three hours a week

4320 BRITAIN AND THE IMPERIAL EXPERIENCE
This advanced seminar course examines Britain's experience of empire and imperialism from its days as a colony of the Roman Empire up to and including decolonisation in the twentieth century. Through a series of case studies and cross-cultural and trans-regional thematic comparisons, this course will introduce students to some of the main issues underlying the study of empire, colonialism and the relationship between coloniser and colonised in the British Empire. Topics may include: the ambiguous legacy of Rome; Wales, England's first colonial experience; Ireland and the early pattern of imperialism; England and the Moghul Empire; England and the Caribbean; the rhetoric of Empire; Britain's involvement in the scramble for Africa; the emergence of racial theory; the tools of imperialism; culture and imperialism; colonial resistance; decolonisation in South Asia and southern Africa; the post-colonial empire.
PREREQUISITES: Third year standing or above, or permission of the instructor
Seminar: Three hours a week

4340 MADNESS AND SOCIETY
This course examines the history of madness in comparative context from the beginning of the eighteenth century to the present with a focus on Europe and North America. Topics include major historical developments in the understanding of madness such as traditional responses to unsoundness of mind, the development of asylums, the rise of professional psychiatry, scientific models of mental illness, and the community care movement. Pivotal theorists, including Freud, Kraepelin, Foucault, and Szasz are discussed.
PREREQUISITES: Third year standing or above, or permission of the instructor
Lecture: Three hours a week

4550 WAR AND REVOLUTION IN THE 20th CENTURY WORLD
This course examines the history of the world since the First World War. It explores crucial events such as the First and Second World Wars; communist revolution in countries such as Russia, China, Cambodia and Cuba; decolonization; the Korean conflict; war in southeast Asia; the Cold War; the collapse of communism in eastern Europe; and the Persian Gulf War. It also focuses on pivotal figures such as Lenin, Churchill, Hitler, Mao, Thatcher, De Gaulle, Gorbachev, and Castro.
Cross-listed with DSJS 4550
PREREQUISITES: Third year standing or above, or permission of the instructor
Seminar: Three hours a week

4610 HISTORY OF ECONOMIC THOUGHT I
(See Economics 3110)

4620 HISTORY OF ECONOMIC THOUGHT II
(See Economics 3120)

4720 BRITAIN IN THE 20th CENTURY: SOCIETY, CULTURE AND IDENTITY
This course explores the construction of British national identities in the twentieth century, in particular how issues of class, gender, race and nationalism have been represented in popular culture. Topics may include the social impacts of World War I, the experience of the Depression era, British Fascist movements, the Blitz, post-war austerity, youth culture, multi-racial Britain, and football violence. Course materials include journalism of the period, film footage, oral history, diaries, pop music and contemporary cinema.
Cross-listed with Diversity and Social Justice Studies 4740.

PREREQUISITE: Third year standing or above, or permission of the instructor
Seminar: Three hours a week

4730 THE RISE OF CONSUMER SOCIETY: BRITISH SOCIETY IN THE 18TH CENTURY
This course examines the social and cultural changes brought about by the birth of a consumer society in 18th-century Britain. Topics include the rise of commercial society and consumerism, new techniques in marketing and advertising, the debate over fashion and luxury, the emergence of the public sphere of the coffeehouse, the commercialization of theatre and the art market, and the relationship between commerce, crime and punishment.
PREREQUISITE: Third year standing or above, or permission of the instructor
Seminar: Three hours a week

4740 THE HIDDEN HISTORIES OF OBJECTS
This course introduces students to the study of material culture in historical research. The course uncovers the hidden stories embedded in everyday objects – how they were made, used, and what they reveal about the relationships and values of ordinary people in the past. Students work directly with historical artifacts from local museum collections, and are introduced to practices and skills in museum and heritage professions. Some classes are held off campus to facilitate research and visits to local museums.
PREREQUISITE: Permission of the instructor
Lecture/Seminar: Three hours a week

4830 THE HISTORY OF THE ENVIRONMENTALIST MOVEMENT
This seminar course covers the history of the environmentalist movement in the United States and Canada since its origins in the late nineteenth century. It describes the changes the movement has undergone thanks to its links to the conservation, eugenics, ecology, birth control, and population control movements. The course also focuses on the writings of key figures in the environmentalist movement, such as Paul Ehrlich, Barry Commoner, Rachel Carson, David Suzuki, and Bill McKibben, as well as the activities of organizations such as the Sierra Club, Zero Population Growth, and Earth First. Students seek to understand the nature of today's environmentalism as a political, social, and cultural movement by examining what it has meant to earlier generations.
PREREQUISITE: Third year standing or above, or permission of the instructor
Seminar: Three hours a week

4840 APPLIED PUBLIC HISTORY
This course introduces students to both the field of public history and the application of history and historical methods in a variety of workplace settings. Public history, which involves the practice and presentation of history outside the academic setting, is the domain of a wide variety of practitioners. While the course deals primarily with the North American context, it also addresses questions of ethics, standards, and audience of broader interest to students of history.
PREREQUISITE: Third or fourth year standing in a history major or honours program, as well as permission of the department
Seminar/field work: Three hours a week and eight hours per week of unpaid field work in a public history workplace setting, supervised by a qualified professional acting as a mentor.
Semester hours of credit: 6

4850 THE IDEAS THAT CHANGED MODERN EUROPEAN HISTORY
This course covers the history of European ideas since the French Revolution and focuses on the main political ideologies that have arisen over the last two centuries. Topics include conservatism, liberalism, socialism, feminism, imperialism, nationalism, Soviet communism, and environmentalism. The course seeks to determine the fate of these ideologies as the twenty-first century unfolds.
Cross-listed with Political Science 4360.

PREREQUISITES: Third year standing or above, or permission of the instructor
Seminar: Three hours a week

4890 POSTWAR PRINCE EDWARD ISLAND
This course examines major economic, political, and cultural developments within Prince Edward Island since 1945. Topics include the impact of modernization on the Island's society and culture; federal-provincial relations, including transfer payments and the 15-year Comprehensive Development Plan; the "Rural Renaissance"; the emergence of tourism as a major economic and cultural force; the debate surrounding construction of the "fixed link"; and the collision of globalism with localism in the new millennium.
PREREQUISITES: Third year standing or above, or permission of the instructor
Seminar: Three hours a week

4910-4920 DIRECTED STUDIES
These tutorial courses are intended to encourage independent initiative and study on the part of the student. Reading and research are conducted within specialized areas chosen by the student in close consultation with one or more members of the Department. This course is restricted to qualified Third and Fourth Year students in any discipline.

**Canadian**
The possible areas of study are:

The History of Canadian Native Peoples
Western Canadian History Canadian Social History Canadian Women's History
Folk History of Prince Edward Island
PEI Social and Cultural
Atlantic Region Social and Cultural

**American:**

U.S. Foreign Policy, 20th-Century
18th-, 19th-, and 20th-Century America
Canadian-American Relations
Colonial Societies

**British and European:**

British History
British Social and Cultural History
Western and Central Europe
European, Medieval, Modern, and Intellectual History Early Modern Europe—Social and Cultural History Gender in British and European History
History of Religion

(See Academic Regulation 9 for Regulations Governing Directed Studies).

4930 DIRECTED STUDIES (CLASSICS)
(See Classics 4310 (with approval of History Chair))

4940 DIRECTED STUDIES (CLASSICS)
(See Classics 4320 (with approval of History Chair))

**HONOURS COURSES**
These courses are restricted to students registered in the History Honours Program. For regulations see above.

4970 HONOURS TUTORIAL IN HISTORIOGRAPHY

This is an intensive reading and tutorial course in selected fields offered by the Department. Students should consult with the honours advisor in planning this course. The course normally centres on the historiography of the broad area in which the student's graduating essay is prepared.

Tutorial: Three hours a week

4980 HONOURS GRADUATING ESSAY

Students propose, research, and write a major research essay under the supervision of a tutor from the Department. The essay is the subject of a final oral examination. The oral examination committee consists of the major tutor, one additional member from the Department of History, and a faculty member from another Department of the University.

Tutorial: Three semester hours of credit

# 72. Indigenous Knowledge, Education, Research and Applied Studies (IKERAS)

**Indigenous Knowledge, Education, Research and Applied Studies (IKERAS)**

Dr. Angelina Weenie, Dean
Elder/Dr. Judy Clark, Elder in Residence
Dr. Corinne Chappell, Sessional Instructor; Advisor to the Vice President, Academic and Research
William Bourque, Assistant Professor
Bradley Cooper, Sessional Instructor
Neil Forbes, Assistant Professor
Doris Googoo, Lecturer
Karla Green, Assistant Professor
Dawne Knockwood, Sessional Instructor
Alicia Muttart, Administrative Assistant
Erin Reid, Assistant Professor
Alaina Roach-O'Keefe, Sessional Instructor
Elder Tiffany Sark, Sessional Instructor
Barbara Smith, Sessional Instructor
Lori St. Onge, Sessional Instructor
David Varis, Assistant Professor
Morgan Varis, Sessional Instructor

The Bachelor of Arts with a Major in Indigenous Studies is distinguished by its focus on land-based education and traditional in-person learning. Students will gain new skills and knowledge which will support greater levels of proficiency in addressing Indigenization, decolonization, and reconciliation. The program responds to the need to learn about the diverse cultures and societies of Indigenous peoples, their histories, languages, and cultures. It supports the TRC Call to Action #63 which refers to "Building student capacity for intercultural understanding, empathy, and mutual respect." Article 13 of the United Nations Declaration on the Rights of Indigenous Peoples, states, "Indigenous peoples have the right to revitalize, use, develop, and transmit to future generations their histories, languages, oral traditions, philosophies, writing systems, and literatures." This program aims to teach critical aspects of Indigeneity and provides opportunity for UPEI students to engage with a Major in Indigenous Studies, or a minor in Indigenous Studies.

***Note: New Major Approved as of Winter 2026.***

**REQUIREMENTS FOR A MAJOR IN INDIGENOUS STUDIES**

A major is complete when a student has successfully completed a minimum of 42 hours of credit in Indigenous Studies (14 courses) of which a minimum of 9 hours (3 courses) must be at least at the 3000 level, and 9 hours (3 courses) must be at the 4000 level.

15 credit hours/5 core courses that must be taken to achieve a major include:

- IKE 1040 Indigenous Teachings of Turtle Island
- IKE 2000 IKERAS Foundations
- IKE 2020 Indigenous Peoples of Canada
- IKE 3062 Introduction to Indigenous Knowledge and Worldviews
- IKE 3066 Introduction to Indigenous Research Methodologies

At least one of the following 4th year land-based or experiential learning courses, which would serve as a capstone course:

- IKE 4096 Applied Indigenous Justice
- IKE4210 Gijituaqasin: On the Land

• IKE 4240 Ika'taquey: Indigenous Gardening and Meditative Practices
• IKE 4410 Indigenous Territories Use-and- Occupancy Research Methods

Minimum 9 credit hours/3 courses from Indigenous Languages and Cultures:

• IKE 2010 Mi'kmaq Language I
• IKE 2042 Introduction to Music, Film and Art
• IKE 2046 Indigenous Literature
• IKE 2110 Métis Culture, History, and Governance
• IKE 2220 Beadwork: The Symbols of Indigenous Cultural Resilience and Value
• IKE 2230 Mi'kmaq of Eastern Canada
• IKE 3010 Mi'kmaw Language II
• IKE 3221 Mi'kmaq Spiritualities
• IKE 3350 Storytelling and Wabanaki Legends

Minimum 9 credit hours/3 courses from Colonialism, Decolonization, and Indigenous Self- Governance:

• IKE 2052 Indigenous Resistance and Decolonizing
• IKE 2055 Introduction to the Indian Act
• IKE 2320 Wabanaki Confederacy
• IKE 2800 Indigenous Laws in Contemporary Society
• IKE 3056 Indigenous Peoples and Justice
• IKE 3340 Wabanaki Peace and Friendship Treaties
• IKE 3410 Canadian treaties and Self Government Agreements
• IKE 4096 Applied Indigenous Justice

Minimum 6 credit hours/2 courses from Land, Water, and Environment:

• IKE 2030 Indigenous Knowledge and Climate Change
• IKE 2060 Mi'kmaq Foodways
• IKE 3065 Indigenous Health, Healing, and Wellness
• IKE 4210 Gijituaqasin: On the Land
• IKE 4240 Ika'taquey: Indigenous Gardening and Meditative Practices
• IKE 4520 Islands of Indigeneity

**REQUIREMENTS FOR A MINOR IN INDIGENOUS STUDIES**

A Minor in Indigenous Studies consists of twenty-one (21) semester hours of IKE credit.

The four core courses that must be taken to achieve a minor include:

- IKE 1040 Indigenous Teachings of Turtle Island
- IKE 2000 IKERAS Foundations
- IKE 2020 Indigenous Peoples of Canada
- IKE 3062 Introduction to Indigenous Knowledge and Worldviews

In addition, students must select three IKERAS elective courses. Not all elective courses are offered every year.

# COURSES

1040 INDIGENOUS TEACHINGS OF TURTLE ISLAND

With respect to the traditional and unceded territory of Epekwitk (PEI) and Mi'kma'ki, this course is an introduction to the three groups of Indigenous peoples recognized in Canada.. Anchored in Indigenous knowledges, students will learn about ceremonyies, protocols, traditionls and cultures.This course further introduces Canada's history of colonization and cultural assimilation policies. These will help to begin fostering an understanding of Indigenous worldviews and

fulfill the University of Prince Edward Island's commitment to the Truth and Reconciliation Commission's Calls to Action.
Three semester hours of credit

2000 IKERAS FOUNDATIONS

This course is based on the foundations that led to the creation of the IKERAS Faculty. The formation of the Faculty of Indigenous Knowledge, Education, Research and Applied Studies (IKERAS) is grounded in three prime documents; the 2015 Truth and Reconciliation Commissions (TRC) 94 Calls to action, the 2019 231 Calls to Justice by the National Inquiry into Missing and Murdered Indigenous Women and Girls (MMIWG) and the 2018 United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). Students will learn the importance of each document and why they represent the cornerstones to reconciliation.

PREREQUISITE: IKE 1040

Three semester hours of credit

2010 MI'KMAQ LANGUAGE I

This course is intended for students with no proficiency in the language. This course introduces the Mi'kmaq language, through the study of pronunciation, vocabulary and grammar. It includes numerous oral drills, frequent written exercises, short oral presentations and simple readings. The objectives are to improve listening comprehension and fundamental vocal expressiveness.

PREREQUISITE: None

Three semester hours of credit

2020 INDIGENOUS PEOPLES IN CANADA

Students will be introduced to the historical and contemporary social, economic, legal and political perspectives of First Nations, Inuit, and Métis peoples in Canada. Using anthropological and sociological theories and scholarly work, as well as 'experiencing' cultural practices through 'community connections' and visual culture, the primary focus will be to develop a student's understanding of and respect for Indigenous peoples in Canada.

Cross-listed with Sociology/Anthropology 2220.

PREREQUISITE: IKE 1040

Three semester hours of credit

2030 INDIGENOUS KNOWLEDGE AND CLIMATE CHANGE

Cross-listed with ACC2030.

PREREQUISITE: None

Three semester hours of credit

2042 INTRODUCTION TO INDIGENOUS MUSIC, FILM, AND ART

Students will be introduced to the evolution of Music, Film, and Art of Indigenous First Nations, Inuit, and Métis peoples in Canada. Students will develop an understanding of how these works represent spiritual and living narratives, how these were shaped, and continue to be shaped, thus defining the lives of Indigenous peoples in Canada.

PREREQUISITE: None

Three semester hours of credit

2046 INDIGENOUS LITERATURE

This course is a survey of Indigenous literatures, written by Indigenous people. This course begins with a brief examination of the period commonly referred to as Native Literary Renaissance, followed by an exploration of modern literature from a variety of 21st century Indigenous authors. The course is designed to introduce storytelling rooted in Indigenous perspectives and traditions of a diverse array of First Nations, Métis and Inuit authorships. Students will analyze recent works which have reached a mainstream literary audience for both Indigenous and non-Indigenous readers, academic and non-academic readers alike, and why this is significant to Canadian society.

PREREQUISITE: IKE 1040

Three semester hours of credit

2052 INDIGENOUS RESISTANCE AND DECOLONIZING

Students will be introduced to how colonialism has caused and continues to cause irreparable harm to Indigenous and non-Indigenous peoples in Canada and throughout the world. The harm permeates all relations including our

animals and plants, our planet (Mother Earth), and those elements that sustain life. Students learn about the Indigenous warrior spirit which has risen to resist the on-going colonial and post-colonial hegemony. Students will understand the complexities and work of decolonizing by which resistance takes shape and hold in a time when all relations need it most.

PREREQUISITE: IKE 1040

Three semester hours of credit

2055 INTRODUCTION TO THE INDIAN ACT

Students will be introduced to the Indian Act which has dominated, impacted and shaped the lives of Indigenous peoples in Canada since its inception in 1876. Students will develop an understanding of the purpose of the Act, and how through its many amendments it continues to serve as an apparatus of power and control over all aspects of Indigenous peoples' lives. This course will examine why this discriminatory framework is not so easily abolished and will challenge students thinking about broader issues of much needed change within colonial institutions.

PREREQUISITE: None

Three semester hours of credit

2060 MI'KMAQ FOODWAYS

Food is a central element in Indigenous livelihoods. The storage, processing, preparation, and transportation of Mi'kmaq food is a critical component of this course. There will be a hands-on opportunity to prepare contemporary Mi'kmaq recipes and concurrently learn cultural teachings about food and its use in ceremonies.

PREREQUISITE: None

Three semester hours of credit

2110 MÉTIS CULTURE, HISTORY AND GOVERNANCE

This course will provide an overview of Métis identity, culture, Language(s), history and governance. Métis ethnogenesis will be explored to build awareness that Métis does not simply mean, "mixed." Grounded in authentic teachings, students will be immersed in perspectives and understandings unique to Métis. Academic research will support accurate, authentic narratives of historical and contemporary issues that have shaped who Métis are, the distinct history and resilience as a people and a Nation.

PREREQUISITE: IKE 1040

Three semester hours of credit

2220 BEADWORK: THE SYMBOLS OF INDIGENOUS CULTURAL RESILIENCE AND VALUE

This course will explore how beadwork symbolized Indigenous perseverance in the aftermath of colonization and the residential school system. The course will examine the importance of beadwork both before and after European contact. The course will investigate how beading plays a vital role in restoring cultural ties and spiritual belief and how it continues to be significant in demonstrating Indigenous resiliency as well as highlighting the diverse cultural value of Indigenous peoples. The student will learn beading techniques along with the histories of Mi'kmaq beading and storytelling across Turtle Island.

PREREQUISITE: IKE 1040

Three semester hours of credit

2230 THE MI'KMAQ OF EASTERN CANADA

This is an ethnological-style course examining traditional Mi'Kmaq culture and how it has evolved historically. It introduces students to L'nu cultural practices about the body, food, traditional medicines, religion, politics, and the natural world.

PREREQUISITE: IKE 1040

Three semester hours of credit

2320 WABANAKI CONFEDERACY

This course covers the Tribes of the East Coast of the United States and Canada that formed a political/military alliance to support each other during the French Indian Wars. It situates them in their tribal lands and examines some notable individuals and their accomplishments. Relevant legislation that affects them will be covered.

PREREQUISITE: IKE 1040

Three semester hours of credit

2800 INDIGENOUS LAWS IN CONTEMPORARY SOCIETY

This course explores Indigenous law and constitutionalism, the impacts of colonization on Indigenous laws and its ongoing legitimization in contemporary society. This course will examine how Indigenous legal traditions are articulated through decolonizing approaches such as drawing out of Indigenous historic knowledge systems based on Indigenous worldviews. It also examines how these laws can be applied at a time of transitioning to self-governance and practicing self-determination. What will be learned is how Indigenous laws
differ from western laws; how to understand the Indigenous constitutionalism as an Indigenous governance framework; how to engage with Indigenous stories and articulate their legal principles; and how Indigenous laws can be applied in Indigenous contemporary settings by examining their spaces for their ongoing
application and practices.

PREREQUISITE: IKE 1040

Three semester hours of credit

3010 MI'KMAW LANGUAGE II

This course continues learning from IKE 2010 allowing the student to build on both their vocabulary and understanding both written and oral. This course requires a significant amount of time dedicated to assignments and application of the language.

PREREQUISITE: IKE 2010

Three semester hours of credit

3020 Indigenous Child Welfare

This course will explore: the history of Indigenous child welfare in Canada; the transfer of Federal responsibility to provinces in 1951; the reasoning for the 60's Scoop, Millennial Scoop, and overrepresentation in the child welfare system; the TRC's first five "Calls to Action"; Bill C-92; western perspectives that have been forced upon Indigenous families; the importance of ceremony and the connection to Indigenous values and; returning to the circle of Indigenous ways of being

PREREQUISITE: IKE 1040

Three semester hours of credit

3030 The Fur Trade

This course will explore the two major Fur Trading companies (the Northwest Company and the Hudson's Bay Company) and their impact on Métis, First Nations, and Inuit. Students will examine how Rupert's Land evolved, contributing to the ethnogenesis of the Métis

PREREQUISITE: 1040

Three semester hours of credit

3056 INDIGENOUS PEOPLES AND JUSTICE

Students will be introduced to how colonialism perpetuates inequality of Indigenous peoples and results in their over-representation in the criminal justice system, now referred to as 'the new residential schools in contemporary Canadian society' and other unjust systems in Canada. Students will understand the systemic issues that prevent the fair and equitable treatment of Indigenous peoples despite measures that are intended to curb the rise of their incarceration. An examination of social justice and criminological theories will be of benefit to students interested in understanding inequities in larger systems beyond criminal justice, and potential pathways to end this disturbing reality.

PREREQUISITES: IKE 1040, and one 2000-level IKE course

Three semester hours of credit

3062 INTRODUCTION TO INDIGENOUS KNOWLEDGE AND WORLDVIEWS

This course introduces Indigenous ways of knowing through active participation. Students will be introduced to ceremonies, worldview, creation stories and other narrative forms of knowing. By taking part in basic ceremonies and related practices, students will obtain knowledge of how some Indigenous people connect to each other, the land, their relations and the world.

PREREQUISITE: IKE 1040

Three semester hours of credit

3065 INDIGENOUS HEALTH, HEALING, AND WELLNESS

Grounded in a post-colonial theory that examines historical and contemporary social, economic, legal, and political impacts of colonialism, students will be introduced to the determinants of Indigenous peoples' health in Canada, while cultivating a deeper understanding of the presence of coloniality in major institutions including health care, prisons, and the child welfare system. Students will further develop an understanding of approaches to health and healing that resonate with Indigenous peoples through the writings from Indigenous leaders, knowledge holders, artists, activists, clinicians, researchers, students, and youth while engaged in a collective examination of well-being from multiple perspectives. Students will be able to distill and articulate why health is one of the most significant issues that define the lives of First Nations, Inuit, and Métis peoples in Canada while gaining practical insights and applied knowledge about combating coloniality and transforming systems in Canada through a decolonizing lens.

PREREQUISITE: IKE 1040

Three semester hours of credit

3066 INTRODUCTION TO INDIGENOUS RESEARCH METHODOLOGIES

Students will be introduced to the foundations of Indigenous Research Methodologies which are grounded in the principles of 'for and by Indigenous Peoples', which emphasizes techniques and methods from traditional Indigenous knowledges and worldviews. Students will understand quantitative and qualitative research methodologies, and important concepts of ownership, control, access, and possession as well as duty to consult. Students will understand that Indigenous research methodologies are a powerful tool for social change as they are relational, inclusive and participatory in nature.

PREREQUISITES: IKE 2000

Three semester hours of credit

3090 SPECIAL TOPICS COURSE

Topics or issues explored outside of existing courses. Special topics offered by the Faculty of Indigenous, Knowledge, Education, Research and Applied Studies.

PREREQUISITE: None

Three semester hours of credit

3221 MI'KMAQ SPIRITUALITIES

This course provides insight into L'nu spiritualities by examining Mi'kmaq creation stories, including smudging, fasting, pipe ceremonies, sharing circles, and sweat lodges, powwow drumming and dancing. It will also examine evolution and modern-day manifestations of hybrid Mi'kmaq Catholicism.

PREREQUISITE: IKE 1040

Three semester hours of credit

3340 WABANAKI PEACE & FRIENDSHIP TREATIES

This course examines the chain of treaties commencing in the State of Maine between the Abenaki and English in Massachusetts, moving along the Eastern Seaboard into the Maritimes of Canada, involving Wabanaki Tribes and the British Crown. It will include the preceding conflicts, resolutions, and key players.

PREREQUISITE: IKE 1040

Three semester hours of credit

3350 STORYTELLING AND WABANAKI LEGENDS

Legends and oral traditions provide a deep connection to place and identity. One of the ways that Traditional Ecological Knowledges or Indigenous Territories are passed down is through oral tradition. This course is based on Wabanaki stories and legends about the land and its inhabitants.

PREREQUISITE: IKE 1040

Three semester hours of credit

3410 CANADIAN TREATIES AND SELF-GOVERNMENT AGREEMENTS

This course is a survey of Treaties in Canada. This includes pre-confederation treaties with First Nations, numbered

treaties with First Nations, modern treaties which include land claims and self-governing treaties or agreements with Inuit and the Métis.
PREREQUISITES: IKE 2000
Three semester hours of credit

IKE 4010 Louis Riel and the Red River and North-West Resistances

This course examines the life of Louis Riel and his involvement and leadership with the Red River Resistance and the North-West Resistance. Students will develop an understanding of the complexities of the life of Riel, his role in Canadian history, and his passion for the Métis.
PREREQUISITE: IKE 2110
Three semester hours of credit

4040 Urban Indigenous Peoples of Canada

This course will examine the systemic issues shaping the lives of Canada's urban Indigenous people. Students will develop an understanding of the complexities that are currently impacting urban Indigenous identity, language, culture, health, and rights.
PREREQUISITE: IKE 1040 or equivalent
Three semester hours of credit

4090 INDIGENOUS SPECIAL TOPICS

Indigenous issues in Canada. Students will undertake a thorough and independent examination of a topic of interest with an opportunity to present their research findings to stakeholders in ways that respond to the TRC Calls to Action and advance reconciliation in Canada.
PREREQUISITES: IKE 1040, One IKE 2000 level course and two IKE 3000 level courses
Three semester hours of credit

4096 APPLIED INDIGENOUS JUSTICE

Students will study various justice systems where Indigenous justice is being applied such as the Courts, federal and provincial corrections, and sentencing circles. This course will see students gain valuable and practical analytical and writing skills which can be applied to future careers in a variety of settings in ways that respond to the TRC Calls to Action and advance reconciliation in Canada. The format will be a combination of lecture and workshops.
PREREQUISITE: IKE 3056
Three semester hours of credit

4210 GIJITUAQASIN: ON THE LAND

This is an experiential land-based field course connecting students to Mother Earth utilizing a two-eyed seeing approach. Elders and Knowledge-keepers will provide guidance to the students during this intensive course.
PREREQUISITE: IKE 1040
Three semester hours of credit

4240 IKA'TAQUEY: INDIGENOUS GARDENING & MEDITATIVE PRACTICES

Being mindful on the land provides a deep connection to Mother Earth. This is a hands-on experiential course where students learn and practice being present and mindful while growing a summer Mi'Kmaq garden.
PREREQUISITES: IKE 1040 and permission of the instructor
Three semester hours of credit

4410 INDIGENOUS TERRITORIES USE-AND-OCCUPANCY RESEARCH METHODS

This course utilizes Indigenous Methodologies and Research Methods to design and collect data for projects based on a land use-and-occupancy method called Biographic Mapping. The course has a learning-experiential component in the field and instructors will coordinate the course with Elders and Knowledge-Keepers from the region.
PREREQUISITE: IKE 3066
Three semester hours of credit

4520 ISLANDS OF INDIGENEITY

Islands have traditionally been represented in a multitude of ways, for instance as warm-water tourism destinations, quiet retreats from the mainland and nature reserves, amongst others. This course examines

islandness utilizing Indigenous worldviews.
PREREQUISITE: IKE 1040
Three semester hours of credit

# 73. Integrated Studies

The Bachelor of Integrated Studies (BIS) program is a 90-credit degree designed to accommodate the personal, educational, and career goals of adult students, most of whom already possess diverse learning and who study part-time.

The structure is flexible while ensuring that students receive both depth and breadth of knowledge within their studies. The student achieves depth through choosing a concentration of at least 8 courses in an area of interest. Breadth comes through the completion of a required and recommended core of basic courses ranging from literature and communication skills to philosophy and leadership, and by pursuing a diversity of offerings to satisfy personal intellectual curiosity.

**DEGREE REQUIREMENTS**

**AREA OF CONCENTRATION (24 semester-hours)**
Students must complete an area of concentration totalling 8 courses or 24 semester-hours. One course at the 3000 level and one course at the 4000 level. A further 8 courses at the senior (3000 and 4000) level are required for graduation. Not more than 12 courses or 36 semester-hours can be at the introductory (1000) level. Several additional courses are recommended, depending on individual learning plans. At least 30 semester-hours must be at the 3000 level or above, with a grade of 65% in at least 7 of the 10 courses completed at the senior level.

**NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

**REQUIRED COURSES (12 semester hours)**
One of UPEI 1010, 1020, or 1030; And one writing intensive course, AND IKE 1040
Integrated Studies 1930: Creating a Career and Learning Portfolio

**ELECTIVES**
Students are required to explain and reflect on their course choices when they establish their learning plan. However, the need to ensure coherence in study should not restrict students from intellectual exploration, or from addressing conspicuous gaps in knowledge unrelated to their primary learning objectives. One of the primary roles of the BIS Coordinator is to help ensure that the course choices are balanced, and the overall outcomes of a well-rounded degree program are achieved.

A number of courses are identified as forming the foundation of a university career. These are recommended rather than required to allow flexibility in devising learning plans with students. Academic advisors give priority to these courses.

**SUMMARY**
The Bachelor of Integrated Studies requirements include:

- 24 semester-hours (8 courses) at the senior level: six 3000-4000 level courses in any subject, one 3000 level course in the concentration, and one 4000 level course in the concentration.
- A grade of 65% in at least 5 of the 8 courses completed at this senior level
- Not more than 36 semester-hours (12 courses) at the preparatory (1000) level
- 6 semester-hours in One of UPEI 1010, UPEI 1020, or UPEI 1030 and a writing intensive course
- Integrated Studies 1930: Creating a Career and Learning Portfolio

- IKE 1040 – Indigenous Teaching of Turtle Island

**PLAR PROCESSES IN THE BIS**

Program PLAR at the University of Prince Edward Island provides for assessment and recognition of prior learning (PLAR) through portfolio assessment. Learners must demonstrate equivalency of their learning from sources other than formal study to the outcomes expected of a student who is completing the degree through course work. For more information on the role of PLAR, contact the BIS Coordinator.

**COURSE DESCRIPTIONS**

Students may choose from a broad range of courses, according to their area of concentration and with academic advice.

1930 CAREER AND LEARNING PORTFOLIO DEVELOPMENT

This course is designed to review and clarify a student's learning and career objectives, and to document and demonstrate experiential learning. Learners understand the various purposes of portfolios; know the conventions of developing and professionally presenting a portfolio; and are capable of articulating acquired learning in job descriptions or degree requirements.

Cross-listed with Education 3190 and University 1930.

Three semester hours

# 74. International Studies

**Co-ordinator**
James Moran, History

**REQUIREMENTS FOR A MINOR IN INTERNATIONAL STUDIES**
Students wishing to minor in International Studies must complete twenty-one semester hours according to the program described below. All courses are valued at three semester hours.
There are two mandatory courses in the International Studies program:

INT 2010 – Introduction to International Development Studies
POLS 2820 – Introduction to International Politics

**Notes:**
All other courses taken to fulfill an International Studies minor should come from the list of elective courses indicated below; any exception must receive the permission of the program coordinator.
No more than two International Studies cross-listed courses (not counting the two core courses noted above) can be fulfilled with courses taken from any one department or program listed below.
At least 3 of the 7 courses required for the minor must be taken at the 3000 or 4000 level.

It is strongly recommended that students endeavour to gain proficiency in a second language. Recommended language courses:
FR 2520 – Le Français Des Affaires
FR 4460 – Traduction: Anglais—Français
FR 4470 – Traduction: Français—Anglais
SPAN 1010-1020 – Introductory Spanish
SPAN 2030 – Intensive Study Abroad (Salamanca)

Whenever circumstances warrant it, the Modern Languages Department offers courses in languages other than French, German or Spanish. In the past introductory courses have been offered in Chinese, Irish, Italian, Japanese, Russian, Mi'kmaq and Scottish Gaelic. For Japanese or other Asian languages see Asian Studies.

1010 Introduction to [A Selected Modern Language] I
1020 Introduction to [A Selected Modern Language] II

**Asian Studies**
AST 2010 – Introduction to West Asia
AST 2020 – Introduction to East Asia

**Business**
BUS 2870 – Introduction to International Business
BUS 4770 – International Marketing

**Economics**
EC 3310 – International Trade
EC 3320 – International Monetary Economics
EC 3410 – Economic Development Theory
EC 3420 – Economic Development Policy

**Environmental Studies**

ENV 3420 – Environment and Development
ENV 4410 – Environment and International Relations

**History**
HIST 1140 – Plague: Historical Themes
HIST 2150 – Foreign Foods: Eating in the Age of Empires
HIST 3280 – Migrations To Canada II
HIST 3760 – The History of Genocide
HIST 4150 – Canada Apologizes: Studies In Historical Apologies
HIST 4320 – Britain and the Imperial Experience
HIST 4420 – United States Foreign Policy Since World War I
HIST 4550 – War and Revolution in the 20th Century World

**International Studies**
INT 2020 – International Development Problems and Policies
INT 2090 – Special Topics in International Development Studies
INT 3090 – Special Topics in International Development Studies
INT 4090 – Special Topics in International Development Studies
INT 4210-4220 – Directed Studies in International Development Studies

**Island Studies**
IST 2010 – Introduction to Island Studies
IST 2110 – Island Tourism: The Search for Paradise

**Modern Languages**
FR 2520 – Le Français Des Affaires
FR 4460 – Traduction: Anglais—Français
FR 4470 – Traduction: Français—Anglais
SPAN 2010-2020 – Intermediate Spanish
SPAN 2030 – Intensive Study Abroad (Salamanca)
SPAN 2110 – Latin American Studies: South America
SPAN 2120 – Latin American Studies: Mexico and the Caribbean

**Music**
MUS 1230 – Introduction to Music and Culture
MUS 1240 – Perspectives in Music and Culture I
MUS 2230 – Perspectives in Music and Culture II

**Political Science**
POLS 2210 – Political Economy and Social Change in the Developing World
POLS 2310 – War and Peace
POLS 2820 – Introduction to International Politics
POLS 3430 – Comparative Politics of South Asia
POLS 3610 – Comparative Politics of Africa
POLS 3620 – Comparative Politics of Latin America and the Caribbean
POLS 3630 – Comparative Politics of the Middle East
POLS 3710 – Political Transition in Central and Eastern Europe
POLS 3720 – The Politics of Russia and Its Borderlands
POLS 3930 – International Theory
POLS 4350 – The Globalization Debate

POLS 4710 – International Organizations
POLS 4720 – International Law
POLS 4750 – International Human Rights

**Religious Studies**
RS 1050 – World Religions
RS 2210 – Buddhism East and West
RS 2420 – Hinduism
RS 2430 – Judaism
RS 2440 – Islam
RS 2510 – Japanese Religion and Culture
RS 2610 – Chinese Religion and Philosophy
RS 2790 – Catholicism, Christian Unity, and World Religions
RS 3220 – Religious Ethics East and West
RS 3230 – Interreligious Dialogue
RS 3520 – Mysticism In Buddhism and Christianity

**Sociology/Anthropology**
SAN 2120 – Peoples of South Asia
SAN 2420 – Peoples of Oceania
SAN 2510 – Peoples of Africa
SAN 3030 – International Migration, Transnationalism, and the Canadian Mosaic
SAN 3550 – Globalization
ANTH 4010 – Medical Anthropology
ANTH 4040 – Applied and Public Interest Anthropology
SAN 4420 – Social and Cultural Change

Special topics courses (usually designated by a 2090 or 3090 course number) may be counted towards the International Studies minor. Likewise, courses taken during an international exchange program may be permitted. Check with the program director concerning course eligibility.

# INTERNATIONAL STUDIES COURSES

2010 INTRODUCTION TO INTERNATIONAL DEVELOPMENT STUDIES
This course examines important theoretical and empirical issues of international development using an interdisciplinary approach. The course focuses on a critical analysis of comparative development experience of developing and developed countries, various theories, policy alternatives and strategies of development, and the role of national and international organizations in international development.

2020 INTERNATIONAL DEVELOPMENT PROBLEMS AND POLICIES
This course examines a set of important international development problems and policies theoretically and empirically using an interdisciplinary approach. The course focuses on a critical analysis of the experience of developing and developed countries in relation to the problems of poverty and income distribution, agricultural and rural development, the environment, education, health, gender, population, migration, international trade and finance, international debt and foreign aid, and multinationals and foreign direct investment. A variety of policy alternatives and strategies suggested as solutions for these problems, and the role of national and international organizations in the application of those policies and strategies are also examined.
Three semester hours

2090 SPECIAL TOPICS
To create a category for Special Topics in INT (International Studies)

3090 SPECIAL TOPICS
To create a category for Special Topics in INT (International Studies)

4090 SPECIAL TOPICS
To create a category for Special Topics in INT (International Studies)

4210-4220 DIRECTED STUDIES

# 75. Island Studies

http://www.upei.ca/arts/island-studies

Nicholas Mercer, Assistant Professor

Island Studies is an interdisciplinary program designed to promote an understanding of selected features of the world's small islands, including their geographies, ecologies, cultures, political systems, histories, and societies.

The Island Studies program has three primary goals:
first, to engage students in an emerging, international academic discussion of islands' distinctive characteristics, challenges, and opportunities;
second, to study Prince Edward Island as a specific example of an island bearing these characteristics and playing out these challenges and opportunities; and
third to study islands in a comparative and international framework.

**REQUIREMENTS FOR A MINOR IN ISLAND STUDIES**
A minor in Island Studies consists of twenty-one (21) semester hours of credit taken from the list of approved courses, and including Island Studies 2010. Among the elective courses, students must complete at least two courses (six semester hours) specific to Prince Edward Island and at least two courses (six semester hours) which are comparative. Students intending to complete a minor in Island Studies are encouraged to complete Island Studies 2010 early in their course of studies. Students minoring in Island Studies must choose at least 4 courses in subject areas other than those in which they are majoring.

## ISLAND STUDIES CORE COURSES

2010 INTRODUCTION TO ISLAND STUDIES
This course introduces students to the emerging interdisciplinary and comparative study of islands and archipelagoes. It examines their cultures, geography, economies, historical development, environmental concerns, and systems of governance. It focuses on jurisdictions with varying degrees of self-government such as Barbados, the Faroe Islands, Iceland, the Isle of Man, Malta, and Prince Edward Island.

2090 SPECIAL TOPICS
Creation of a course code for special topics offered by Island Studies at the 2000 level.

2110 ISLAND TOURISM: THE SEARCH FOR PARADISE
This course will provide a cross-disciplinary analysis of the nature of island tourism, looking at contrasts between warm-water and cold-water islands; supply and demand considerations; cycles and challenges of the industry; the cultural positioning of hosts and guests; the transformation of land and seascapes; pros and cons of mass versus niche tourism; environmental downsides; and future challenges, including prospects for 'sustainable development'.
Cross-listed with Sociology/Anthropology 2110.

2910 DIRECTED STUDIES
This course provides an opportunity for students to study a current topic relevant to islands, under the supervision of a faculty member. Alternatively, credit for this course may be claimed by fulfilling an overseas assignment with a recognized volunteer-sending agency (e.g., CUSO) on a small island in the developing world.
Three hours per week

3090 SPECIAL TOPICS
Creation of a course code for special topics offered by Island Studies at the 3000 level.

4090 SPECIAL TOPICS
Creation of a course code for special topics offered by Island Studies at the 4000 level.

4910-4920 DIRECTED STUDIES
In response to individual student needs, Directed Studies courses will be designed in the areas of directed readings or directed research. In addition, "Special topics" courses will be offered from time to time by members of the faculty or visiting instructors.

ELECTIVES
Prince Edward Island Courses:
Biology 2220 – General Ecology
Biology 3270 – Field Coastal Ecology
Biology 3910 – Marine Biology
Economics 2420 – The Economics of Tourism
English 3310 – Literature of Atlantic Canada
Environmental Studies 1010 – Introduction to Environmental Studies
Environmental Studies 2310- Island Environmental Histories
History 3310 – History of PEI – Pre-Confederation
History 3320 – History of PEI – Post Confederation
History 4890 – Postwar Prince Edward Island
IST 6280- Tourism and Hospitality Management on Islands
Modern Languages 4430 – Culture et litterateur Acadiennes I
Philosophy 3710 – Community-based Inquiry in Agriculture and Globalization
Political Science 2020 – The Politics and Government of Prince Edward Island

Comparative Courses:
Acadian Studies 2010 – Introduction to Acadian Studies
Anthropology 3320- Knowledge and Culture
Biology 4520 – Biogeography and Macroecology
Business 3730 – Tourism Management
Business 4550 – Sustainable Tourism Development
Economics 2120 – Regional Economics
Economics 3310 – International Trade
Economics 3410 – Economic Development Theory
Education 4630 – Culture and Society in Education
English 3420 – Fiction from Ireland
Environmental Studies 3340 – Environmental Stresses on Island Communities
Environmental Studies 4110 – Environmental Governance and International Relations
History 2310-2320 – The Atlantic Region
Latin American Studies 2120 – Mexico and the Caribbean
Philosophy 2030 – Environmental Philosophy
Political Science 2820 – Introduction to International Politics
Political Science 2330 – Political Geography
Political Science 3620 – Comparative Politics of Latin America and the Caribbean
Political Science 4140 – Public Policy in small Island Jurisdictions

Political Science 4450 – Political Economy of East and Southeast Asia
Sociology/Anthropology 2420 – Peoples of Oceania

NOTE 1
Other courses not specifically focused on islands may, with prior approval of the instructor, the Coordinator of Island Studies, and the Dean of Arts, be credited toward an Island Studies minor. In such a case, the students will complete substantial individual work on topics related to islands.

NOTE 2
Students minoring in Island Studies must choose at least 4 courses in subject areas other than those in which they are majoring.

NOTE 3
Students who have taken ENV-4110 for credit cannot take IST-6190 for credit.

# 76. Bachelor of Applied Arts in Journalism

**Coordinating Committee**
Donald Desserud, Coordinator – Arts
Wendy Shilton – Arts
Geoff Lindsay – Arts
Greg Doran – Arts
Anne Furlong – Arts

The Bachelor of Applied Arts in Journalism is an articulated degree offered by the University of Prince Edward Island in cooperation with Holland College. Students acquire technical training and practical experience in Journalism (primarily during study at Holland College) and also acquire breadth of knowledge, content exposure, and skills in research, problem-solving, and critical thinking associated with a liberal arts education (primarily during study at UPEI).

Students normally undertake one year of study at the University, then complete the two-year Journalism program at Holland College (earning a Holland College diploma), before undertaking a final year of study at the University. The final year of study normally includes an opportunity for journalistic writing either at the University or arranged through Holland College. Deviations from the normal sequence of study between the University and Holland College are permitted. In such cases, at least five courses (15 semester-hours) of study must be completed after the Holland College diploma is earned.

*Note: applicants will be placed into the General Journalism specialization until they declare another specialization.*

**(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

**COURSE REQUIREMENTS**

Students complete 20 courses (60 semester hours) at the University. The program is designed to ensure breadth of exposure to areas of knowledge important to journalistic practice. All students will be required to complete a minimum of 6 (18 semester hours) 3000/4000 level courses.

The 20 courses must include:

1) ENG 1010 (UPEI 1010)
2) IKE 1040
3) JOUR 1010
4) ENG 3810
5) ONE of: ANY MATH, PSY 2510, 2710
6) WRIT 4040
7) ANY CST or DSJS course

IN ADDITION to completing the common core courses, students **must** choose one of the following specializations upon which to focus:
I. General Journalism
II. Law and Politics
III. International Affairs
IV. Business and Economics
V. Environment and Health

VI. Science and Technology
VII. Arts and Entertainment

The courses required to complete these specializations are as follows:

**I. General Journalism:**
ONE of: BIO 1010, CHEM 1110, PHYS 1110
ONE of: HIST 1010 or 1020
ONE of: POLS 2010 or 2620
ONE of: PHIL 1020 or 2020
ONE of: HIST 3310, 3320, IST 2010
ANY course in: Anthropology, Sociology, Sociology/Anthropology, Asian Studies
One Economics course at the 1000 level
ANY course in English, Modern Languages or Fine Arts
ANY FIVE electives

**II. Law and Politics:**
POLS 2010 or 2020
HIST 1010 or 1020
THREE of POLS: 2110, 2120, 3110, 3140, 4010 or 4020
TWO of: DSJS 3060, 4040, ENG 2260, PHIL 2020, 2040, 2060, 2510, SOC 1010, 1020, 1050, ANTH 1050, 1070
TWO of: BUS 3010, 3020, DSJS 3020, PHIL 3030, 3510, 4270
POLS 4320 or PHIL 3530
ANY Modern Language
ANY TWO electives

**III. International Affairs:**
TWO of: POLS 2210, 2220, 2310, 2330, 2820
ONE of: INT 2010, 2020, PHIL 2070
TWO of: POLS 3150, 3530, 3900, 3910, 4710, 4830
ONE of: POLS 3510, 3520, 3540, 4350, 4410, 4420, 4820
ONE of: POLS 3610, 3620, 3630, 3710, 3720, 4220, 4810
ONE of: POLS 3920, 3930, 4450, 4510, 4720, 4750, EC 3310, 3320, 3410, 3420
TWO courses in a Modern Language
ONE of: POLS 4320 or PHIL 3530
ANY TWO electives

**IV. Business and Economics:**
EC 1010, EC 1020
ONE of EC 2030 or 2040
TWO other EC courses, 2000 level or above
BUS 1010
BUS 1710
BUS 2410
BUS 2650
ACCT 1010
ONE of PHIL 1020, 1050, 1110, 2020, 2210 or 3530
ANY TWO electives

**V. Environment and Health:**
BIO 1010

ONE of ENV 2020 or BIO 1020
ANY THREE other ENV courses
TWO of: POLS 2010, 2020, 2620, PHIL 1050, 2040, 2060, HIST 1010, 1020, IST 2010, EC 1010, FN 1010, PSY 2220
TWO Science courses or ONE Science course AND PSY 3330
ONE of EC 2150, HIST 2220, PHIL 2030, 3010 or 3530
ANY TWO electives

**VI. Science and Technology:**
BIO 1010
CHEM 1110 and CHEM 1120
PHYS 1210 and PHYS 1220, CS 1510 and CS 1520
ANY TWO of PHIL 2030, 2040, 3010, 3630, ENG 2240, HIST 2220, 4340, 3110, 3330, DSJS 4120
ANY TWO Science courses
ANY TWO electives

**VII. Arts and Entertainment:**
ENG 1950, TST 2440, TST 3440
TWO of: MUS 1230, 1240, 2010, 2020
THREE of: FAH 1010, 1020, ENG 2220, 3030, 3040, DSJS 3110
BUS 1010 or 1710
PHIL 2140 or 3530
ONE of IT 1320, ENG 3140, 3150, 3410
ANY TWO electives

# JOURNALISM COURSES

1010 INTRODUCTION TO JOURNALISM AND MEDIA STUDIES
This course introduces students to the key concepts in media studies. The economic, social, political, and cultural contexts of modern media will be examined and analyzed. It will also consider the relationship between power, information and identity. Finally, this course will provide students with practical skills in news reporting, using the experiential learning model.
3 credit hours

3010 THE LONG FORM
The Long Form provides students with the opportunity to improve their reporting skills and to broaden their perspective by taking the long view of contemporary issues and events. In addition to developing their expertise with enterprise journalism, narrative journalism, and documentary storytelling, students will complete a final project that reflects best practices in the long form.
PREREQUISITE: Journalism 1010, English 1010, or permission of the instructor
3 credit hours

# 77. School of Mathematical & Computational Sciences

http://upei.ca/mathcompsci

**Mathematics and Computational Sciences Faculty**
Shannon Fitzpatrick, Professor, Associate Dean
Maxim Burke, Professor
Cezar Câmpeanu, Professor
Shafiqul Islam, Professor
Nasser Saad, Professor
David Horrocks, Associate Professor
Sami Khedhiri, Associate Professor
David LeBlanc, Associate Professor
Gordon MacDonald, Professor
Michael McIsaac, Associate Professor
Christopher Power, Associate Professor
Yingwei Wang, Associate Professor
Alexander Alvarez, Assistant Professor
Antonio Bolufe-Rohler, Assistant Professor
Andrew Godbout, Assistant Professor
Jay Adamsson, Adjunct Professor
Qiang Ye, Adjunct Professor

The School of Mathematical and Computational Sciences at UPEI provides students with a strong foundation in Mathematics, Statistics and Computer Science, and offers a comprehensive suite of applied programs which meet market demand and lead to fulfilling careers in areas such as: Financial Mathematics, Actuarial Science, Data Analytics, Business Analytics and Video Game Programming.

Faculty members in the School of Mathematical and Computational Sciences are focused on providing quality instruction in a friendly learning community. Small class sizes, active-learning opportunities and accessible professors are features of all programs in the School of Mathematical and Computational Sciences.

**The School of Mathematical and Computational Sciences offers degrees in:**
Mathematics Major and Honours
Statistics Major and Honours
Computer Science Major and Honours
Computer Science Major, specializing in Video Game Programming
Actuarial Science Major
Financial Mathematics Major
Analytics Major, specializing in Data Analytics
Analytics Major, specializing in Business Analytics

**Mathematics**
Mathematics is the study of number, quantity and space. Mathematics can be studied for its own sake (usually called pure mathematics) or as it is applied to other disciplines. The Bachelor of Science with a Major in Mathematics provides students with a solid foundation in both pure and applied mathematics, without any particular applied

specialization. Graduates of this program are well situated for graduate programs in Mathematics, post-Bachelor professional programs (Education, Law, Medicine, Business, etc.), or applied Mathematical Sciences programs. Students interested in continuing on to work in mathematics research should consider the Bachelor of Science with Honours in Mathematics.

**Statistics**
Statistics is the practice of collecting and analyzing numerical data, and inferring properties of the whole from a representative sample. The Bachelor of Science with a Major in Statistics provides students with the solid foundation in both statistical theory and applied statistics necessary to become a Statistician or to proceed to more specialized Statistical study at the graduate level. Students interested in continuing to work in statistics research should consider the Bachelor of Science with Honours in Statistics.

**Computer Science**
Computer Science is the practice of understanding, designing, and automating algorithmic processes. The Bachelor of Science with a Major in Computer Science provides students with a solid foundation in both the principles and practice of computing. Graduates of this program are well situated for graduate programs in Computer Science or entering the workforce. Students interested in continuing on to work in computer Science research should consider the Bachelor of Science with Honours in Computer Science.

**Actuarial Science**
Actuarial Science is the study of risk, usually risk associated with insurance, pension and investment plans. Actuarial Science uses techniques from mathematics, statistics and finance. The Bachelor of Science with a Major in Actuarial Science provides students with the education required to become an Actuary.

**Financial Mathematics**
Financial Mathematics is the application of mathematical models to finance, usually to analyze markets and pricing. Financial Mathematics uses techniques from Mathematics, Statistics, Business and Economics. The Bachelor of Science in Financial Mathematics provides a solid foundation in Financial Mathematics, leading either to a career in the financial sector or to further training in advanced Financial Mathematics.

**Analytics**
Analytics is the application of techniques from Mathematical and Computational Sciences to discover meaningful patterns in data. The Bachelor of Science in Analytics has two specializations: Business Analytics, which focuses particularly on business data, and using analytics to improve business performance, and Data Analytics, which focuses on the examining large amounts of raw for the purpose of drawing conclusions about that information.

**Computer Science specializing in Video Game Programming**
Video Game Programming involves mathematical and problem solving skills in addition to programming and design of video games on traditional and non-traditional platforms. The Bachelor of Science in Computer Science with a specialization in Video Game Programming provides students with the specialized skills to enter this growing field.

**Course code prefixes**
In the School of Mathematical and Computational Sciences, there are five course prefixes:
MATH – for Mathematics courses
STAT – for Statistics courses
CS – for Computer Science courses
AMS – for Applied Mathematical Sciences courses (mainly Actuarial Science and Financial Mathematics)
MCS – for common or interdisciplinary courses in Mathematical and Computational Science

**COMMON REQUIREMENTS ACROSS ALL DEGREE PROGRAMS IN THE SCHOOL OF MATHEMATICAL AND COMPUTATIONAL SCIENCES**

# COMMON CORE

All degree programs in the School of Mathematical and Computational Sciences are built on a common core of courses that should be completed in the first two years of study. This common core consists of the following courses: **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

| | | Credits |
|---|---|---|
| MATH 1910 | Single Variable Calculus I | 4 |
| MATH 1920 | Single Variable Calculus II | 4 |
| MATH 2610 | Linear Algebra I | 3 |
| STAT 1910 | Introduction to Statistics | 3 |
| CS 1910 | Computer Science I | 3 |
| One of... | UPEI 1010 Writing Studies;<br>UPEI 1020 Inquiry Studies<br>UPEI 1030 University Studies<br>IKE 1040 Indigenous Teachings of Turtle Island | <br>3<br>3<br> |
| **Total Semester Hours of Credit** | | **23** |

**ADVANCED COMMON CORE COURSES**

Students in all degree programs in the School of Mathematical and Computational Sciences must complete:

| | | Credits |
|---|---|---|
| MCS 4210 | Professional Communication and Practice (writing-intensive) | 3 |
| MCS 3050 | Tutoring in Mathematical and Computational Sciences | 1 |

**COMMON BREADTH REQUIREMENT**

Students must take at least 15 semester hours of credit in courses outside the School of Mathematical and Computational Sciences (excluding one of the UPEI courses listed above), and of these 15 semester hours of credit at least 6 must be from outside the Faculty of Science.

# MATHEMATICS

**REQUIREMENTS FOR A MAJOR IN MATHEMATICS**

The Major in Mathematics requires a total of 120 semester hours of credit, as described below: **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

**REQUIREMENTS FOR A MAJOR IN MATHEMATICS**

The Major in Mathematics requires a total of 120 semester hours of credit, as described below: **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

| | | Credits |
|---|---|---|
| The Common Core | | 23 |
| CS 1920 | Computer Science II | 3 |
| MATH 2910 | Multivariable and Vector Calculus | 4 |
| MATH 2620 | Linear Algebra II | 3 |
| MATH 2720 | Mathematical Reasoning | 3 |
| At least one of… | MCS 2010 MAPLE Technology Lab **OR** MCS 2020 Matlab Technology Lab | 1 |
| MATH 2420 | Combinatorics I | 3 |
| MATH 3510 | Real Analysis | 3 |
| MATH 3610 | Group Theory | 3 |
| At least one of… | MATH 3010 Differential Equations<br>STAT 2910 Probability and Mathematical Statistics I **OR**<br>MATH 3310 Complex Variables | 3 |
| Five electives in the Mathematical and Computational Sciences | (at the 2000 level or higher with at least two at the 3000 level or higher) | 15 |
| MCS 3050 | Tutoring in Mathematical and Computational Sciences | 1 |
| MCS 4210 | Professional Communication and Practice | 3 |
| Additional general electives | | 52 |
| **Total Semester Hours of Credit** | | **120** |

# Statistics

**REQUIREMENTS FOR A MAJOR IN STATISTICS**

The Major in Statistics requires a total of 120 semester hours of credit, as described below: **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

| | | Credits |
|---|---|---|
| The Common Core | | 23 |
| AMS 1910<br>CS 1910 | Introduction to Data Science<br>Computer Science II | 3<br>3 |
| MATH 2910 | Multivariable and Vector Calculus | 4 |
| MATH 2620 | Linear Algebra II | 3 |
| MATH 2720 | Mathematical Reasoning | 3 |
| MCS 2030 | R Technology Lab | 1 |
| STAT 2910 | Probability and Mathematical Statistics I | 3 |
| STAT 3910 | Probability and Mathematical Statistics II | 3 |
| STAT 2240 | Applied Regression Analysis | 3 |
| STAT 4550 | Data Analysis and Inference | 3 |
| STAT 3340 | Experimental Design | 3 |
| STAT 3330 | Time Series I | 3 |
| STAT 4110 | Statistical Simulation | 3 |
| STAT 4410 | Stochastic Processes | 3 |
| Two electives in the Mathematical and Computational Sciences | (at the 2000 level or higher) | 6 |
| MCS 3050 | Tutoring in Mathematical and Computational Sciences | 1 |
| MCS 4210 | Professional Communication and Practice | 3 |
| Additional general electives | | 46 |
| **Total Semester Hours of Credit** | | **120** |

# Computer Science

**REQUIREMENTS FOR A MAJOR IN COMPUTER SCIENCE**

The Major in Computer Science requires a total of 120 semester hours of credit, as described below: **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

| | Credits |
|---|---|
| The Common Core | 23 |
| CS 1920 Computer Science II | 3 |
| CS 2520 Computer Organization and Architecture | 3 |
| CS 2910 Computer Science III | 3 |
| CS 2620 Comparative Programming Languages | 3 |
| CS 2920 Data Structures and Algorithms | 3 |
| CS 2820 Programming Practices | 3 |
| MATH 2420 Combinatorics I | 3 |
| MCS 3320 Theory of Computing | 3 |
| CS 3420 Computer Communications | 3 |
| CS 3520 Operating Systems | 3 |
| CS 3610 Analysis and Design of Algorithms | 3 |
| CS 3620 Software Design | 3 |
| CS 3710 Database Systems | 3 |
| CS 4810 Software Engineering | 3 |
| CS 4820 Software Systems Development Project | 3 |
| One elective in Mathematical and Computational Sciences (at the 2000 level or higher) | 3 |
| MCS 3050 Tutoring in Mathematical and Computational Sciences | 1 |
| MCS 4210 Professional Communication and Practice | 3 |
| Additional general electives | 45 |
| **Total Semester Hours of Credit** | **120** |

# Actuarial Science

**REQUIREMENTS FOR A MAJOR IN ACTUARIAL SCIENCE**

The Major in Actuarial Science requires a total of 120 semester hours of credit, as described below:**(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

| | | Credits |
|---|---|---|
| The Common Core | | 23 |
| CS 1920 | Computer Science II | 3 |
| MATH 2910 | Multivariable and Vector Calculus | 4 |
| STAT 2910 | Probability and Mathematical Statistics I | 3 |
| STAT 3910 | Probability and Mathematical Statistics II | 3 |
| STAT 2240 | Applied Regression Analysis | 3 |
| MATH 3010 | Differential Equations | 3 |
| At least one of… | MCS 2040 Visual Basic in Excel Technology Lab<br>**OR** AMS 3040 Introduction to GGY Axis Lab | 1 |
| MCS 2030 | R Technology Lab | 1 |
| AMS 2160 | Financial Mathematics | 3 |
| AMS 2510 | Long Term Actuarial Mathematics I | 3 |
| AMS 3420 | Introduction to Financial Derivatives | 3 |
| AMS 3510 | Long Term Actuarial Mathematics II | 3 |
| AMS 3310 | Advanced Corporate Finance | 3 |
| AMS 4450 | Statistics for Risk Modelling | 3 |
| AMS 4540 | Loss Models I | 3 |
| AMS 4550 | Loss Models II | 3 |
| AMS 4700 | Short-term Insurance Pricing and Reserving | 3 |
| AMS 4580 | Credibility Theory | 3 |
| STAT 3330 | Time Series I | 3 |
| STAT 4280 | -++Generalized Linear Models | 3 |
| AMS 2030 | Intermediate Microeconomics I | 3 |
| AMS 2040 | Intermediate Macroeconomics I | 3 |
| ACCT 1010 | Introduction to Accounting | 3 |
| BUS 2310 | Corporate Finance | 3 |
| MCS 3050 | Tutoring in Mathematical and Computational Sciences | 1 |
| MCS 4210 | Professional Communication and Practice | 3 |
| Additional general electives | | 24 |
| **Total Semester Hours of Credit** | | **120** |

**MAJOR IN ACTUARIAL SCIENCE WITH PRE-PROFESSIONAL SPECIALIZATION STREAM**

This specialization is designed for those students who plan to complete all the professional exams required to apply for the Associate status from the Canadian Institute of Actuaries or the Society of Actuaries or the Casualty Actuarial Society. The specialization contains several additional courses compared with the major and students enrolled in the specialization would receive most courses related to the exams needed to obtain the designation of Associate from the Canadian Institute of Actuaries (CIA), as well as the Society of Actuaries (SOA) or the Casualty Actuarial Society.

**(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

| | | Credits |
|---|---|---|
| The Common Core | | 23 |
| CS 1920 | Computer Science II | 3 |
| MATH 2910 | Multivariable and Vector Calculus | 4 |
| STAT 2910 | Probability and Mathematical Statistics I | 3 |
| STAT 3910 | Probability and Mathematical Statistics II | 3 |
| STAT 2240 | Applied Regression Analysis | 3 |
| MATH 2620 | Linear Algebra II | 3 |
| MATH 3010 | Differential Equations | 3 |
| At least one of… | MCS 2040 Visual Basic in Excel Technology Lab **OR**<br>AMS 3040 Introduction to GGY Axis Lab | 1 |
| MCS 2030 | R Technology Lab | 1 |
| AMS 2160 | Financial Mathematics I | 3 |
| AMS 3420 | Introduction to Financial Derivatives | 3 |
| AMS 2510 | Long Term Actuarial Mathematics I | 3 |
| AMS 4450 | Statistics for Risk Modelling | 3 |
| AMS 3510 | Long Term Actuarial Mathematics II | 3 |
| AMS 3310 | Advanced Corporate Finance | 3 |
| AMS 4540 | Loss Models I | 3 |
| AMS 4550 | Loss Models II | 3 |
| AMS 4600 | Predictive Analytics | 3 |
| AMS 4610 | Predictive Analytics for Actuaries | 3 |
| AMS 4700 | Short-term Insurance Pricing and Reserving | 3 |
| AMS 4580 | Credibility Theory | 3 |
| STAT 3330 | Time Series I | 3 |
| STAT 4410 | Stochastic Processes | 3 |
| STAT 4280 | Generalized Linear Models | 3 |
| MCS 3920 | Numerical Analysis | 3 |
| AMS 2030 | Intermediate Microeconomics I | 3 |
| AMS 2040 | Intermediate Macroeconomics I | 3 |
| ACCT 1010 | Introduction to Accounting | 3 |
| BUS 2310 | Corporate Finance | 3 |
| MCS 3050 | Tutoring in Mathematical and Computational Sciences | 1 |
| MCS 4210 | Professional Communication and Practice | 3 |
| Additional general electives | | 9 |
| | **Total Semester Hours of Credit** | **120** |

# Financial Mathematics

### REQUIREMENTS FOR A MAJOR IN FINANCIAL MATHEMATICS

The Major in Financial Mathematics requires a total of 120 semester hours of credit, as described below: **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

| | | Credits |
|---|---|---|
| The Common Core | | 23 |
| CS 1920 | Computer Science II | 3 |
| MATH 2910 | Multivariable and Vector Calculus | 4 |
| MATH 2620 | Linear Algebra II | 3 |
| MATH 2720 | Mathematical Reasoning | 3 |
| STAT 2910 | Probability and Mathematical Statistics I | 3 |
| STAT 3910 | Probability and Mathematical Statistics II | 3 |
| STAT 2240 | Applied Regression Analysis | 3 |
| MCS 2040 | Visual Basic in Excel Technology Lab | 1 |
| MCS 2030 | R Technology Lab | 1 |
| AMS 2160 | Financial Mathematics I | 3 |
| At least one of | AMS 4450 Statistics for Risk Modeling OR<br>STAT 4110 | 3 |
| STAT 4280 | Generalized Linear Models | 3 |
| AMS 3420 | Introduction to Financial Derivatives | 3 |
| AMS 4080 | Financial Mathematics II | 3 |
| AMS 4090 | Financial Mathematics III | 3 |
| AMS 3910 | Mathematical Modelling | 3 |
| AMS 3310 | Advanced Corporate Finance | 3 |
| MATH 3010 | Differential Equations | 3 |
| MATH 3510 | Real Analysis | 3 |
| STAT 3330 | Time Series I | 3 |
| STAT 4410 | Stochastic Processes | 3 |
| MCS 3920 | Numerical Analysis | 3 |
| EC 1010 | Introductory Microeconomics | 3 |
| EC 1020 | Introductory Macroeconomics | 3 |
| ACCT 1010 | Introduction to Accounting | 3 |
| BUS 2310 | Corporate Finance | 3 |
| At least one of… | ECON 2510 Money and Financial Institutions | |
| | BUS 3330 Integrated Cases in Corporate Finance | |
| | BUS 3660 Entrepreneurial Finance | |
| | OR BUS 3340 Personal Finance | 3 |
| MCS 3050 | Tutoring in Mathematical and Computational Sciences | 1 |
| MCS 4210 | Professional Communication and Practice | 3 |
| Additional general electives | | 15 |
| **Total Semester Hours of Credit** | | **120** |

# Analytics

**REQUIREMENTS FOR A MAJOR IN ANALYTICS (Specialization in Data Analytics)**

The Major in Analytics with a specialization in Data Analytics requires a total of 120 semester hours of credit, as described below: **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

| | Credits |
|---|---|
| The Common Core | 23 |
| CS 1920 Computer Science II<br>AMS 1910 Introduction to Data Science | 3<br>3 |
| MATH 2910 Multivariable and Vector Calculus | 4 |
| MATH 2620 Linear Algebra II | 3 |
| At least one of… MCS 2010 MAPLE Technology Lab, MCS 2020 Matlab Technology Lab OR MCS 2030 R Technology Lab | 1 |
| MATH 2420 Combinatorics I | 3 |
| AMS 2940 Optimization | 3 |
| AMS 3770 Combinatorial Optimization 3 | 3 |
| AMS 3910 Mathematical Modelling | 3 |
| MATH 3010 Differential Equations | 3 |
| STAT 2910 Probability and Mathematical Statistics I | 3 |
| STAT 3910 Probability and Mathematical Statistics II | 3 |
| STAT 2240 Applied Regression Analysis | 3 |
| STAT 4550 Data Analysis and Inference | 3 |
| STAT 3660 High-Dimensional Data Analytics | 3 |
| CS 2910 Computer Science III | 3 |
| CS 2920 Data Structures and Algorithms | 3 |
| CS 3710 Database Systems | 3 |
| CS 3610 Analysis and Design of Algorithms | 3 |
| CS 4120 Machine Learning | 3 |
| CS 4140 Deep Learning | 3 |
| CS 4440 Data Science | 3 |
| Two electives in Mathematical or Computational Sciences (at the 2000 level or higher) | 6 |
| MCS 3050 Tutoring in Mathematical and Computational Sciences | 1 |
| MCS 4210 Professional Communication and Practice | 3 |
| Additional general electives | 22 |
| **Total Semester Hours of Credit** | **120** |

**REQUIREMENTS FOR A MAJOR IN ANALYTICS (Specialization in Business Analytics)**

The Major in Analytics with a specialization in Business Analytics requires a total of 120 semester hours of credit, as described below: **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

| | Credits |
|---|---|
| The Common Core | 23 |
| CS 1920 Computer Science II | 3 |
| AMS 1910 Introduction to Data Science | 3 |
| MATH 2910 Multivariable and Vector Calculus | 4 |
| MATH 2620 Linear Algebra II | 3 |
| At least one of MCS 2010 MAPLE Technology Lab, MCS 2020 Matlab Technology Lab OR MCS 2030 R Technology Lab | 1 |
| MATH 2420 Combinatorics I | 3 |
| AMS 2940 Optimization | 3 |
| AMS 3770 Combinatorial Optimization | 3 |
| AMS 3910 Mathematical Modelling | 3 |
| MATH 3010 Differential Equations | 3 |
| STAT 2910 Probability and Mathematical Statistics I | 3 |
| STAT 3910 Probability and Mathematical Statistics II | 3 |
| STAT 2240 Applied Regression Analysis | 3 |
| STAT 3660 High-Dimensional Data Analytics | 3 |
| CS 2910 Computer Science III | 3 |
| CS 2920 Data Structures and Algorithms | 3 |
| CS 3710 Database Systems | 3 |
| CS 4120 Machine Learning | 3 |
| CS 4140 Deep Learning | 3 |
| CS 4440 Data Science | 3 |
| ACCT 1010 Introduction to Financial Accounting | 3 |
| BUS 1410 Marketing | 3 |
| BUS 1710 Organizational Behaviour | 3 |
| At least five of...<br>ACCT 2210 Managerial Accounting<br>BUS 2650 Introduction to Entrepreneurship ...<br>BUS 2880 Research and Evidence-Based Management<br>BUS 2720 Human Resource Management<br>BUS 3010 Business Law<br>BUS 3330 Integrated Cases in Corporate Finance<br>BUS 3510 Operations Management<br>BUS 3710 Entrepreneurship and New Ventures<br>BUS 4650 Project Management OR BUS 4880 Developing Management Skills | 15 |
| MCS 3050 Tutoring in Mathematical and Computational Sciences | 1 |
| MCS 4210 Professional Communication and Practice | 3 |
| Additional general electives | 7 |
| **Total Semester Hours of Credit** | **120** |

**REQUIREMENTS FOR A MAJOR IN COMPUTER SCIENCE (Specialization in Video Game Programming)**

The Major in Computer Science with a specialization in Video Game Programming requires a total of 120 semester hours of credit, as described below: **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

| | Credits |
|---|---|
| The Common Core | 23 |
| CS 1920 Computer Science II | 3 |
| CS 3130 Mobile Device Development- Android | 3 |
| CS 2520 Computer Organization and Architecture | 3 |
| CS 2910 Computer Science III | 3 |
| CS 2920 Data Structures and Algorithms | 3 |
| CS 2820 Programming Practices | 3 |
| CS 2620 Comparative Programming Languages | 3 |
| MATH 2420 Combinatorics I | 3 |
| MCS 2050 C++ Technology Lab | 1 |
| CS 3110 Video Game Design | 3 |
| MCS 3320 Theory of Computing | 3 |
| CS 3420 Computer Communications | 3 |
| CS 3520 Operating Systems | 3 |
| CS 3610 Analysis and Design of Algorithms | 3 |
| CS 3620 Software Design | 3 |
| CS 3710 Database Systems | 3 |
| CS 4350 Computer Graphics Programming | 3 |
| CS 4360 Advanced Computer Graphics Programming | 3 |
| At least two of…CS 4060 – Cloud Computing, CS 4120 Machine Learning, CS 4440 – Data Science OR CS 4610 Wireless Sensor Networks | 6 |
| CS 4650 Video Game Architecture | 3 |
| CS 4810 Software Engineering | 3 |
| CS 4830 Video Game Programming Project | 6 |
| One elective in the Mathematical and Computational Sciences (at the 2000 level or higher) | 3 |
| MCS 3050 Tutoring in Mathematical and Computational Sciences | 1 |
| MCS 4210 Professional Communication and Practice | 3 |
| Additional general electives | 20 |
| **Total Semester Hours of Credit** | **120** |

**ACCEPTANCE TO AN HONOURS PROGRAM**

Students in the Mathematics, Statistics and Computer Science programs have an Honours option. Permission of the School of Mathematical and Computational Sciences is required for admission to an Honours program. Students must normally have a minimum average of 70% in all previous courses. Normally, the School expects an average of 75% in all previous Mathematical and Computational Sciences courses. Admission is contingent upon the student finding a project advisor and acceptance by the School of the topic for the Honours project. Students interested in doing Honours are strongly encouraged to consult with the Associate Dean of the School of Mathematical and Computational Sciences as soon as possible, and no later than January 31 of the student's third year. To receive the Honours designation, in addition to successful completion of the Honours project, normally students must maintain an average of at least 75% in all courses in the School of Mathematical and Computational Sciences.

**REQUIREMENTS FOR HONOURS IN MATHEMATICS**

The Honours in Mathematics program requires a total of 126 semester hours of credit, as described below: **(NOTE: As**

**per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

| | Credits |
|---|---|
| The Common Core | 23 |
| CS 1920 Computer Science II | 3 |
| MATH 2910 Multivariable and Vector Calculus | 4 |
| MATH 2620 Linear Algebra II | 3 |
| MATH 2720 Mathematical Reasoning | 3 |
| At least one of MCS 2010 MAPLE Technology Lab OR MCS 2020 Matlab Technology Lab | 1 |
| MATH 2420 Combinatorics I | 3 |
| MATH 3510 Real Analysis | 3 |
| MATH 3610 Group Theory | 3 |
| MATH 3010 Differential Equations | 3 |
| STAT 3210 Probability and Mathematical Statistics I | 3 |
| MATH 3310 Complex Variables | 3 |
| MCS 4901 Honours Project I: Research | 3 |
| MCS 4902 Honours Project II: Thesis | 3 |
| Four electives in the Mathematical and Computational Sciences (at the 2000 level or higher, with at least two at the 4000 level or higher) | 12 |
| MCS 3050 Tutoring in Mathematical and Computational Sciences | 1 |
| MCS 4210 Professional Communication and Practice | 3 |
| Additional general electives | 49 |
| **Total Semester Hours of Credit** | **126** |

**REQUIREMENTS FOR HONOURS IN STATISTICS**

The Honours in Statistics program requires a total of 126 semester hours of credit, as described below: **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

| | Credits |
|---|---|
| The Common Core | 23 |
| AMS 1910 Introduction to Data Science | 3 |
| CS 1920 Computer Science II | 3 |
| MATH 2910 Multivariable and Vector Calculus | 4 |
| MATH 2620 Linear Algebra II | 3 |
| MATH 2720 Mathematical Reasoning | 3 |
| MCS 2030 R Technology Lab | 1 |
| STAT 2910 Probability and Mathematical Statistics I | 3 |
| STAT 3910 Probability and Mathematical Statistics II | 3 |
| STAT 2240 Applied Regression Analysis | 3 |
| STAT 4550 Data Analysis and Inference | 3 |
| STAT 3340 Experimental Design | 3 |
| STAT 3330 Time Series I | 3 |
| STAT 4110 Statistical Simulation | 3 |
| STAT 4410 Stochastic Processes | 3 |
| MCS 4901 Honours Project I: Research | 3 |
| MCS 4902 Honours Project II: Thesis | 3 |
| Two electives in the Mathematical and Computational Science (at the 3000 level or higher) | 6 |
| MCS 3050 Tutoring in Mathematical and Computational Sciences | 1 |
| MCS 4210 Professional Communication and Practice | 3 |
| Additional general electives | 46 |
| **Total Semester Hours of Credit** | **126** |

**REQUIREMENTS FOR HONOURS IN COMPUTER SCIENCE**

The Honours in Computer Science requires a total of 126 semester hours of credit, as described below: **(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

| | Credits |
|---|---|
| The Common Core | 23 |
| CS 1920 Computer Science II | 3 |
| CS 2520 Computer Organization and Architecture | 3 |
| CS 2620 Comparative Programming Languages | 3 |
| CS 2910 Computer Science III | 3 |
| CS 2920 Data Structures and Algorithms | 3 |
| CS 2820 Programming Practices | 3 |
| MATH 2420 Combinatorics I | 3 |
| MATH 2910 Multivariable Calculus | 4 |
| MCS 3320 Theory of Computing | 3 |
| CS 3420 Computer Communications | 3 |
| CS 3520 Operating Systems | 3 |
| CS 3610 Analysis and Design of Algorithms | 3 |
| CS 3620 Software Design | 3 |
| CS 3710 Database Systems | 3 |
| At least one of CS 4110 Artificial Intelligence and Automated Reasoning OR CS 4120 Machine Learning | 3 |
| CS 4810 Software Engineering | 3 |
| MCS 4901 Honours Project I: Research | 3 |
| MCS 4902 Honours Project II: Thesis | 3 |
| Three electives in the Mathematical and Computational Sciences (at the 2000 level or higher) | 9 |
| MCS 3050 Tutoring in Mathematical and Computational Sciences | 1 |
| MCS 4210 Professional Communication and Practice | 3 |
| Additional general electives | 32 |
| **Total Semester Hours of Credit** | **126** |

**REQUIREMENTS FOR A MINOR IN MATHEMATICS**

Students may obtain a Minor in Mathematics by completing at least 24 semester hours of credit in Mathematics defined as follows:

MATH 1910-1920 Single Variable Calculus I & II (8 credits)
MATH 2610 Linear Algebra I (3 credits)
MATH 2910 Multivariable and Vector Calculus (4 credits)

Plus 3 semester hours of credit in Mathematics at the 3000 level or higher, and an additional 6 semester hours of credit of Mathematics at the 2000 level or above. (9 credits)

**Total Semester Hours of Credit = 24**

**REQUIREMENTS FOR A MINOR IN STATISTICS**

Students may obtain a Minor in Statistics by completing at least 23 semester hours of credit in Mathematics and Statistics defined as follows:

MATH 1910-1920 Single Variable Calculus I & II (8 credits)
STAT 1910 Introduction to Statistics (3 credits)
MATH 2610 Linear Algebra I (3 credits)

STAT 2910 Probability and Mathematical Statistics I (3 credits)
Plus 6 semester hours of credit in Statistics at the 3000 level or higher (6 credits)

**Total Semester Hours of Credit = 23**

**REQUIREMENTS FOR A MINOR IN COMPUTER SCIENCE**
Students may obtain a Minor in Computer Science by completing at least 21 semester hours of credit in Computer Science defined as follows:
CS 1910-1920 Computer Science I & II (6 credits)
CS 2520 Computer Organization and Architecture (3 credits)
CS 2920 Data Structures and Algorithms (3 credits)

Plus 3 semester hours of credit in Computer Science at the 3000 level or higher, and an additional 6 semester hours of credit in Computer Science at the 2000 level or higher. (9 credits)

**Total Semester Hours of Credit = 21**

# CO-OP EDUCATION IN MATHEMATICAL AND COMPUTATIONAL SCIENCES

The UPEI Co-operative Program is an integrated approach to university education which enables students to alternate academic terms on campus with work terms in suitable employment. The success of such programs is founded on the principle that students are able to apply theoretical knowledge from course studies in the workplace and return to the classroom with practical workplace experience. Students who successfully complete all the requirements of the program will have the notation entered on their transcripts and on the graduation parchment.

Students accepted into the program complete at least three paid work terms of normally 14 weeks duration, and three professional development courses. Credits earned through completion of work terms are counted as general electives.

The Co-operative option is available to full-time students in any MCS Major or Honours program. Applications to the Co-operative Education Program are normally made after completion of the first year of study. MCS students must complete 126 semester hours of credit in order to graduate with the Co-operative designation.

See the Co-operative Education Program section of the UPEI Academic Calendar for more information.

**ADMISSION TO SCIENCE CALCULUS**
The first-year Calculus courses for most science students are MATH 1910 and MATH 1920. The prerequisite for MATH 1910 is Grade XII Academic Mathematics. When fulfilling this prerequisite, we highly recommend that students complete a Pre-calculus course equivalent to PEI's MATH 621B before enrolling in MATH 1910. We expect students entering MATH 1910 to have a firm grasp of pre-calculus topics including (arithmetic, algebra, trigonometry, analytic geometry and the basic theory of functions). Please visit the School of Mathematical and Computational Sciences website for more information.

**SELECTION OF COURSES**
Students majoring in a program in the School of Mathematical and Computational Sciences may not use Math 1010, Math 1110 or Math 1120 for credit towards the degree.

Students majoring in a program in the School of Mathematical and Computational Sciences may count a maximum of three semester hours of credit from Technology Labs towards their degree.

**COURSE CREDIT**

Unless otherwise noted in the course description below, a course in the School of Mathematical and Computational Sciences gives three semester hours of credit.

# MATHEMATICS COURSES (MATH PREFIX)

1010 ELEMENTS OF MATHEMATICS
This course provides an introduction to several mathematical topics at the university level, and is intended for students majoring in a discipline other than Mathematical and Computational Sciences, or the Natural Sciences. The course consists of four modules: (1) Sets and Logic, (2) Number Theory, (3) Geometry, (4) Mathematical Systems.
PREREQUISITE: Grade XII academic Mathematics
Three lecture hours a week
NOTE: Credit will not be given jointly for this course and any other 1000-level Mathematics course.

1110 FINITE MATHEMATICS
This course introduces students to finite mathematical techniques and to mathematical models in business, life and the social sciences. The course begins with an introduction to mathematical models, types of models, and conversion of verbal models to mathematical models. Topics covered include systems of linear equations and matrices, linear inequalities and linear programming, sets, counting and probability.
PREREQUISITE: Grade XII academic Mathematics
Three lecture hours a week
NOTE: Credit for Mathematics 1110 will not be allowed if taken concurrent with or subsequent to Mathematics 2610.

1120 CALCULUS FOR THE MANAGERIAL, SOCIAL AND LIFE SCIENCES
This course provides an introduction to calculus for students in the managerial, social and life sciences. The main emphasis of the course is the development of techniques of differentiation and integration of algebraic, exponential and logarithmic functions. Applications of derivatives and integrals are also discussed.
PREREQUISITE: Grade XII academic Mathematics
Three lecture hours a week
NOTE: Credit will not be given jointly for this course and MATH 1910.

1910 SINGLE VARIABLE CALCULUS I
This course is an introduction to differential and integral calculus of functions of a single variable. The course is intended primarily for majors in the Mathematical and Computational Sciences, Engineering and the Physical Sciences, as well as those planning to continue with further Mathematics courses. The concepts of limits, continuity and derivatives are introduced and explored numerically, graphically and analytically. The tools of differential calculus are applied to problems in: related rates; velocity and acceleration; extrema of functions; optimization; curve sketching; and indeterminate forms. The concepts of definite and indefinite integrals are introduced, and the relation between the two integrals is discovered via the Fundamental Theorem of Calculus.
PREREQUISITE: Grade XII academic Mathematics
Four lecture hours and one tutorial hour per week
Semester hours of credit: 4
NOTE: Credit will not be given jointly for this course and MATH 1120.

1920 SINGLE VARIABLE CALCULUS II
This course is a continuation of integral calculus of functions of a single variable and an introduction to sequences and series. Techniques of integration are studied, including improper integrals and numerical integration, and the tools of integral calculus are used to compute areas, volumes and arc lengths; and are applied to problems in physics and differential equations. Sequences, series, tests for convergence, Taylor series and Taylor polynomials are studied.

PREREQUISITE: MATH 1910
Four lecture hours and one tutorial hour per week
Semester hours of credit: 4

2420 COMBINATORICS I
This course offers a survey of topics in combinatorics that are essential for students majoring in the Mathematical or Computational Sciences. Topics include: logic, proof techniques such as mathematical induction, recursion, counting methods, and introductory graph theory.
PREREQUISITE: MATH 1920
Three lecture hours per week

2610 LINEAR ALGEBRA I
This course introduces some of the basic concepts and techniques of linear algebra to students of any major. The emphasis is on the interpretation and development of computational tools. Theory is explained mainly on the basis of two or three-dimensional models. Topics covered are: matrices; determinants; systems of equations; vectors in two and three-dimensional space including dot and cross products, lines, and planes; concepts of linear independence, basis, and dimension explained with examples; linear transformations and their matrices; eigenvectors and eigenvalues.
PREREQUISITE: Grade XII academic Mathematics
Three lecture hours per week

2620 LINEAR ALGEBRA II
This course continues MATH 261 with further concepts and theory of linear algebra. Topics include real and complex vector spaces, orthogonality, Gram-Schmidt Process, canonical forms, spectral decompositions, inner product spaces and the projection theorem.
PREREQUISITE: MATH 1910, MATH 2610
Three lecture hours a week

2720 MATHEMATICAL REASONING
This course provides students with experience in writing mathematical arguments. It covers first-order logic, set theory, relations, and functions. The ideas and proof techniques are considered in the context of various mathematical structures such as partial orders, graphs, number systems, and finite groups.
PREREQUISITE: None
Three lecture hours per week

2810 FOUNDATIONS OF GEOMETRY
This course presents an axiomatic base for Euclidean geometry and an insight into the interdependence of the various theorems and axioms of that geometry and non-Euclidean geometries. Topics include: incidence and separation properties for points, lines, planes and space; congruence properties; geometric inequalities; similarity properties; and geometric constructions.
PREREQUISITE: Six semester hours of First Year Mathematics
Three lecture hours per week

2820 MATHEMATICAL PHYSICS
(See Physics 2820).
PREREQUISITE: MATH 2910 and either PHYS 1120 or PHYS 1220

2910 MULTIVARIABLE AND VECTOR CALCULUS
This course continues from Math 1920 and is an introduction to multivariable differentiation and integration and vector calculus. Topics include parametric representation of curves; polar coordinates; vectors; dot and cross products; curves and surfaces in space; calculus of vector-valued functions; functions of several variables; partial differentiation;

directional derivatives; tangent planes; local and constrained maxima and minima; double and triple integrals; changes of variables in multiple integrals; vector fields; line and surface integrals; gradient, divergence and curl; Green's, Stokes' and Divergence Theorems.
PREREQUISITE: MATH 1920
Four lecture hours per week
Semester hours of credit: 4

3010 DIFFERENTIAL EQUATIONS
This course introduces the basic theory of differential equations, considers various techniques for their solution, and provides elementary applications. Topics include linear equations; separable equations; linear independence and Wronskian; second-order equations with constant coefficients; nonhomogeneous equations; applications of first- and second-order equations; Laplace and inverse Laplace transforms, and their application to initial-value problems; series solutions about ordinary and singular points; and Fourier series.
PREREQUISITE: MATH 1920
Three lecture hours per week

3310 COMPLEX VARIABLES
This is a first course in complex variables. The aim is to acquaint students with the elementary complex functions, their properties and derivatives, and with methods of integration. Topics covered include: definition and development of complex numbers as ordered pairs; geometric representation; basic formulas and inequalities involving argument and conjugates; roots of complex numbers, limit, continuity, and derivative; Cauchy Riemann conditions; harmonic functions; properties of trigonometric, hyperbolic, logarithmic, exponential, and inverse trigonometric functions; bilinear transformation; integration; Cauchy Integral Theorem and Formula; residues and poles; Laurent and Taylor's series; and improper integrals.
PREREQUISITE: MATH 2910
Three lecture hours per week

3420 NUMBER THEORY
This first course in number theory will include the following topics: equivalence of the principles of induction and the well-ordering principle; division algorithm; positional notation and repeating decimals; greatest common divisor; Euclidean Algorithm; Fundamental Theorem of Arithmetic; Pythagorean Triplets; Prime Numbers Theorem; Mersenne and Fermat Numbers; congruences; Euler's Phi-function; Chinese Remainder Theorem; Diophantine Equations; Theorems of Lagrange and Wilson; Quadratic Reciprocity Law of Gauss; Legendre symbol and primitive roots; perfect numbers; multiplicative number- theoretic functions; Moebius inversion.
PREREQUISITE: Six semester hours of Mathematics at the 2000 level or higher
Three lecture hours per week

3430 COMBINATORICS II
This course continues MATH 2420, with the examination of advanced counting techniques, binomial coefficients, and generating functions. Other topics include relations, partial orders, and Steiner Triple systems.
PREREQUISITE: MATH 2420
Three lecture hours per week

3510 REAL ANALYSIS
This is a first course in real analysis. Topics include: the reals as a complete ordered field; closed and open sets; Bolzano-Weierstrass and Heine-Borel Theorems; Cauchy Sequences; limits and continuity; derivative; Mean Value Theorem; Riemann Integral; and the Fundamental Theorem of Calculus.
PREREQUISITE: MATH 1920 and MATH 2720
Three lecture hours per week

3610 GROUP THEORY

An introduction to group theory, including: cyclic groups, symmetric groups, subgroups and normal subgroups, Lagrange's theorem, quotient groups and homomorphisms, isomorphism theorems, group actions, Sylow's theorem, simple groups, direct and semidirect products, fundamental theorem on finitely generated Abelian groups.

PREREQUISITE: MATH 2720

Three lecture hours per week

3710 GRAPH THEORY

This course is an introduction to the ideas, methods, and applications of graph theory. Topics include graph connectivity, graph factors and factorizations, planar graphs, and colourings.

PREREQUISITE: MATH 2420 or MATH 2720

Three lecture hours per week

4020 POINT-SET TOPOLOGY

A first course in topology, covering some review of set theory; cardinal numbers; binary relations; metric spaces, convergence and continuity in metric spaces; topological spaces, bases, sub-spaces; continuity in general; homeomorphism; product spaces; separation axioms; compactness; connectedness.

PREREQUISITE: MATH 3510

Three lecture hours per week

4520 MEASURE THEORY AND INTEGRATION

A first course in measure theory, covering measure as a generalization of length, outer measure, sigma-algebras, measurability, construction of measures, Lebesgue measure on the real line, measurable functions and the Lebesgue integral. Additional topics may include and convergence theorems, product measures and Fubini Theorem.

PREREQUISITE: MATH 3510

Three lecture hours per week

4530 FUNCTIONAL ANALYSIS

This first course in functional analysis covers topics like: metric spaces, Banach spaces, function spaces, Hilbert spaces, generalized Fourier series and linear operators.

PREREQUISITE: MATH 2620 and MATH 3510

Three lecture hours per week

4620 RING AND FIELD THEORY

Introduction to ring and field theory, including: polynomial rings, matrix rings, ideals and homomorphisms, quotient rings, Chinese remainder theorem, Euclidean domains, principal ideal domains, unique factorization domains, introduction to module theory, basic theory of field extensions, splitting fields and algebraic closures, finite fields, introduction to Galois theory.

PREREQUISITE: MATH 3610

Three lecture hours per week

4710 PARTIAL DIFFERENTIAL EQUATIONS

This course is an introduction to the theory and application of partial differential equations. Topics include: first-order equations and characteristic curves; classification of second-order equations as parabolic, hyperbolic or elliptic; Laplace, wave and diffusion equations, and their physical origins; solution using Fourier series; and separation of variables.

PREREQUISITE: MATH 2910 and MATH 3010

Three lecture hours per week

4720 DYNAMICAL SYSTEMS

This course is a study of the long-term qualitative behaviour of solutions of systems of differential or difference equations. Topics include: non-linear systems, linearization, numerical and graphical methods, equilibria, phase space, stability, bifurcations, strange attractors, and chaos. Applications to physics, biology and other sciences are studied.
PREREQUISITE: MATH 2610, MATH 2910 and MATH 3010
Three lecture hours per week

# STATISTICS COURSES (STAT PREFIX)

1210 INTRODUCTION TO STATISTICS FOR THE LIFE AND SOCIAL SCIENCES
The main objective of this course is to introduce the basic concepts of descriptive statistics, and statistical inference, to students outside of SMCS. Topics include frequency distributions, descriptive statistics, rules of probability, discrete and continuous probability distributions, random sampling and sampling distributions, confidence intervals, one- and two-tail tests of hypotheses, and correlation and linear regression.
PREREQUISITE: Grade XII academic Mathematics.
Three lecture hours per week
NOTE: Credit will not be allowed for Statistics 1210 if a student has received credit for any of the following courses: Business 2510, Education 4810, Psychology 2710 and Sociology 3320. Credit for Statistics 1210 will not be allowed if taken concurrent with or subsequent to Statistics 1910.

1910 INTRODUCTION TO STATISTICS
This course introduces students to statistical reasoning and data analysis using R. Emphasizing modern computational approaches, students will learn to summarize and visualize data, apply inferential techniques (e.g., confidence intervals, hypothesis tests, and ANOVA), and model relationships (e.g., regression). Core statistical concepts, including randomization tests, boot- strapping, and the Central Limit Theorem, will be explored through theoretical and applied perspectives. Designed for students with a strong foundation in grade 12 mathematics, this course focuses on interpreting results, making data-driven decisions, and preparing for advanced studies in statistics.
PREREQUISITE: Grade XII academic Mathematics.
Three lecture hours plus a 1.5 hour lab per week

2240 (Previously 3240) APPLIED REGRESSION ANALYSIS
This course builds upon the basis of inference studied in Statistics 1910 and provides students with an advanced knowledge of regression techniques. Topics covered are simple and multiple linear regression techniques, matrix notation, the design matrix, model building techniques, residual analysis, and non-linear regression.
PREREQUISITE: STAT 1910
COREQUISITE: MATH 2610 must be completed or taken concurrently.
Three lecture hours per week

2910 PROBABILITY AND MATHEMATICAL STATISTICS I
This course is an introduction to the theoretical basis of statistics for students who have completed STAT 1910. The study concentrates on the mathematical tools required to develop statistical methodology. Topics covered include: probability, continuous and discrete random variables, moment generating functions, multivariate probability distributions and functions of random variables, and the Central Limit Theorem.
PREREQUISITE: STAT 1910 and MATH 1920
Three lecture hours per week

3330 (Previously 4330) TIME SERIES I
This course is an introduction to Time Series methods, including: stationary models, trends and seasonality, stochastic Time Series models, autoregressive and moving average processes and an introduction to Time Series forecasting. ARIMA models. Seasonal Time Series and Spectral Analysis are also covered.

PREREQUISITE: STAT 2240 (Previously STAT 3240)
Three lecture hours per week

3340 (Previously 4240) EXPERIMENTAL DESIGN
This course builds upon the basis of inference studied in Statistics 1910 and Statistics 2240 to include statistical techniques commonly used in experimental studies. Students will study topics such as analysis of variance models, hypothesis testing in ANOVA models, randomization, and blocking techniques.
PREREQUISITE: STAT 2240
Three lecture hours per week

3660 HIGH-DIMENSIONAL DATA ANALYTICS
This course trains students to critically apply statistical and computational techniques to real-world data analysis problems, with an emphasis on high-dimensional data. Building on foundations from earlier courses, students will deepen their understanding of how to frame analytical objectives, preprocess complex datasets, and apply appropriate modeling approaches. Topics include exploratory data analysis (i.e., data acquisition, data preprocessing, data cleaning, visualization techniques, numerical summaries, data exploration), dimension reduction methods (linear and nonlinear) for simplifying and interpreting high-dimensional datasets, and supervised and unsupervised learning of both continuous and categorical outcomes. Algorithms may include clustering algorithms, multiple linear regression, logistic regression, decision trees, neural networks and pre-trained models. The course emphasizes not only technical skills but also critical reasoning about model assumptions, generalization, and the implications of statistical learning in applied contexts.
PREREQUISITE: CS 1910, STAT 2240 and STAT 2910
Three lecture hours per week

3910 PROBABILITY AND MATHEMATICAL STATISTICS II
This course builds on the mathematical foundation developed in Statistics 2910 and introduces the student to the theory of statistical inference. Topics covered include: sampling distributions and central limit theory, methods of estimation, hypothesis testing, least squares estimation of linear models, and an introduction to Bayesian inference.
PREREQUISITE: STAT 2910
Three lecture hours per week

4110 STATISTICAL SIMULATION
This course introduces statistical simulation, and its use as a tool to investigate stochastic phenomena and statistical methods. Topics include the building and validation of stochastic simulation models useful in computing, operations research, engineering and science; related design and estimation problems; variance reduction; and the implementation and the analysis of the results.
PREREQUISITE: STAT 3910
Three lecture hours per week

4280 GENERALIZED LINEAR MODELS
This course covers the basic theory, methodology and applications of generalized linear models. Topics include logistic regression, probit regression, binomial regression, Poisson regression, overdispersion, quasi-likelihood, and the exponential family.
PREREQUISITE: STAT 2240 and STAT 3910
Three lecture hours per week

4340 TIME SERIES II
This course includes topics from Time Series Econometrics, including Maximum Likelihood and Least Squares Estimation of ARIMA Models and GARCH Models, Wavelets and Financial Models. Non-stationary Time Series, multivariate Time Series and panel cointegration analysis are also covered.

PREREQUISITE: STAT 4330
Three lecture hours per week

4410 STOCHASTIC PROCESSES
This course is an introduction to the branch of probability theory that deals with the analysis of systems that evolve over time. Topics include random walks, Markov chains, Poisson processes, continuous time Markov chains, birth and death processes, exponential models, and applications of Markov chains.
PREREQUISITE: STAT 3910
Three lecture hours per week

4550 DATA ANALYSIS AND INFERENCE
This course is an introduction to data analysis with a focus on regression. Topics include: initial examination of data, correlation, and simple and multiple regression models using least squares. Inference for regression parameters, confidence and prediction intervals, diagnostics and remedial measures interactions and dummy variables, variable selection, least squares estimation and inference for non-linear regression will also be discussed.
PREREQUISITE: STAT 2240
Three lecture hours per week

4740 MULTIVARIATE ANALYSIS
This course deals with the statistics of observation and analysis of more than one output variable. Topics include estimation and hypothesis testing for multivariate normal data, principal component analysis and factor analysis, discriminant analysis, cluster analysis, and correspondence analysis.
PREREQUISITE: STAT 2240
Three lecture hours per week

## COMPUTER SCIENCE COURSES (CS PREFIX)

1610 DIGITAL SYSTEMS
This course provides an introduction to digital systems, beginning with elementary components such as logic gates, from which are constructed components such as adders and comparators, and progressing to more complex systems such as programmable logic devices, memory and processor units. Students acquire skills in the design and analysis of combinational and sequential digital systems, CAD design and simulation tools for complex systems, and construction of digital systems based upon a modular methodology.
PREREQUISITE: CS 1910 or ENGN 1310, and three semester hours of Mathematics
Three lecture hours and a three-hour laboratory session per week

1910 COMPUTER SCIENCE I
Students will be introduced to computational thinking. They will learn how abstraction and decomposition can be used to solve problems and how to create, analyse and trace their own algorithmic solutions. They will iterate and improve their solutions through pseudocode and through implementation in the procedural programming paradigm. They will learn the following programming constructs: data structures and types, decision structures, repetition structures, functions, exception handling, and ways to represent data in lists and strings. They will learn to test their code ensuring correctness of their programs.
PREREQUISITE: Grade XII academic Mathematics
Three lecture hours and 1.5 hours lab per week

1920 COMPUTER SCIENCE II
Students will learn and apply the object-oriented paradigm of programming to reinforce and extend their knowledge in computational thinking, data representation and algorithms. They will learn how encapsulation can be used to create

robust programs that perform a well-defined set of tasks, and how to extend and reuse this code through inheritance and polymorphism. They will learn searching and sorting algorithms, how to apply recursion, and objects for organizing data such as linked lists, stacks and queues.
PREREQUISITE: CS 1910
Three lecture hours and 1.5 hours lab per week

2060 WEB DEVELOPMENT AND PROGRAMMING
In this course, students learn to create websites that involve server-side scripting and database operations. While one specific scripting language is used to acquire web development and programming skills, students are exposed to a spectrum of scripting languages, enabling them to easily adapt to others.
PREREQUISITES: CS 1910
Three hours per week

2520 COMPUTER ORGANIZATION AND ARCHITECTURE
This course provides a basic understanding of the organization and architecture of modern computer systems. It examines the function and design of major hardware components both from a designer's perspective and through assembly language programming. Topics include components and their interconnection, internal/external memory, input/output subsystems, processors, computer arithmetic, instruction sets, addressing modes, and pipelining.
PREREQUISITE: CS 1920
Three hours per week

2620 COMPARATIVE PROGRAMMING LANGUAGES
This course examines the principal features of major types of programming languages, including procedural, logical, functional and object-oriented languages. Features include parameter-passing mechanisms, control structures, scope, and binding rules. Each language type is illustrated by considering a specific language.
PREREQUISITE: CS 1920
Three lecture hours per week

2710 PRACTICAL EMBEDDED SYSTEMS
This course introduces students to the concept of embedded systems architectures, the interconnection of sensors and actuators to such systems, and the usage of such platforms for data acquisition and control of automated systems. Popular microcontroller units and system-on-chip platforms will be examined.
PREREQUISITES: CS 1210 or CS 1410 or CS 1910 or ENGN 1310
Three lecture hours per week

2820 PROGRAMMING PRACTICES
This course introduces the student to development in the Unix/Linux environment. Topics include development tools, shell programming, common utility programs, processes, file/directory management, IDEs, testing/debugging, version control, and an introduction to software engineering.
PREREQUISITE: CS 1920 or permission of the instructor (based on completion of CS 1910 with first class standing)
Three lecture hours per week

2910 COMPUTER SCIENCE III
Students will learn and apply advanced programming concepts in an object-oriented language. They will be introduced to software engineering with test-driven design and the use of version control to maintain their codebase. Students will gain mastery of an object-oriented language and design and implement data structures. Students will be introduced to the functional programming paradigm and multi-threaded programs.
PREREQUISITE: CS 1920 and six credit hours of Mathematics
Three lecture hours and 1.5 hours lab per week

2920 DATA STRUCTURES AND ALGORITHMS

This course continues the study of data structures, recursive algorithms, searching and sorting techniques, and general strategies for problem solving. It also introduces complexity analysis and complexity classes.

PREREQUISITE: CS 2910 and six semester hours of Mathematics

Three lecture hours per week

3110 VIDEO GAME DESIGN

This course focuses on the process from initial idea to final design of a video game. Students will craft a game document from an original concept of their own creation and create a prototype of the game based on that document.

PREREQUISITE: CS 2910 and CS 2920

Three lecture hours per week

3130 MOBILE DEVICE DEVELOPMENT – ANDROID

This course introduces the student to programming for mobile devices that use the Android platform. The course will present a study of the architecture, operating system and programming language of these devices.

PREREQUISITE: CS 2910 and CS 2920

Three lecture hours per week

3210 USER EXPERIENCE DESIGN

This course introduces students to the processes and techniques for creating interactive technologies. Students will learn about a variety of topics relating to user centred design including: elicitation techniques, needs analysis, conceptual design, and prototyping. Students will learn how to evaluate their own designs through expert methods and with users. Students will be introduced to a variety of different qualities of interactive technologies including usability and user experience.

PREREQUISITES: CS 1920

Three lecture hours per week

3220 INTRODUCTION TO BIOINFORMATICS

This course is an introduction to bioinformatics, with a focus on a practical guide to the analysis of data on genes and proteins. It familiarizes students with the tools and principles of contemporary bioinformatics. Students acquire a working knowledge of a variety of publicly available data and computational tools important in bioinformatics, and a grasp of the underlying principles enabling them to evaluate and use novel techniques as they arise in the future.

Cross-listed with Biology 3220.

Cross-level listed with VPM 8850 and Human Biology 8850.

PREREQUISITE: CS 2920 or BIO 2230 or permission of instructor. If taken as VPM 8850 or HB 8850 – Admission to the graduate program and permission of the instructor.

Three lecture hours and a one-hour laboratory session per week

**Note:** No student can be awarded more than one course credit among HB 8850, VPM 8850, CS 3220 and BIO 3220.

3420 COMPUTER COMMUNICATIONS

This course introduces the basic principles of modern computer communication: protocols, architectures and standards. Topics include layered architectures, data transmission, error and flow control, medium access, routing, congestion control and common internet application protocols.

PREREQUISITE: CS 2520 and CS 2820

Three lecture hours per week

3520 OPERATING SYSTEMS

This course introduces the student to the major concepts of modern operating systems. Topics covered include: process management, memory management, file systems, device management and security.

PREREQUISITE: CS 2520, CS 2620, CS 2820, CS 2910 and CS 2920
Three lecture hours per week

3610 ANALYSIS AND DESIGN OF ALGORITHMS
This course, which introduces the study of algorithm design and measures of efficiency, is a continuation of CS 2920 Topics include algorithm complexity and analysis; techniques such as divide and conquer, greedy and dynamic programming; searching and sorting algorithms; graph algorithms; text processing; efficient algorithms for several common computer science problems and NP-completeness.
PREREQUISITE: CS 2910, CS 2920 and MATH 2420
Three lecture hours per week

3620 SOFTWARE DESIGN
This course examines the principles and best practices in object-oriented (OO) software design. Topics include a review of foundational OO concepts, OO design principles, and design patterns for good software design.
PREREQUISITE: CS 2910 and CS 2920
Three lecture hours per week

3710 DATABASE SYSTEMS
This course introduces the fundamental concepts necessary for the design, use and implementation of database systems. Topics discussed include logical and physical organization of data, database models, design theory, data definition and manipulation languages, constraints, views, and embedding database languages in general programming languages.
PREREQUISITES: CS 2910 and CS 2920
Three lecture hours per week

3840 TECHNOLOGY MANAGEMENT & ENTREPRENEURSHIP
This course provides an overview on how to start and sustain a technology-oriented company. Topics discussed will include the role of technology in society, intellectual property, patents, business plans, financial planning, sources of capital, business structure, liability, tax implications, sales, marketing, operational and human resource management. This course will be taught using problem-based and experiential learning strategies with involvement from real life entrepreneurs as motivators and facilitators.
Cross-listed with Engineering 4230.
PREREQUISITE: CS 2520, CS 2620 and CS 2820
Three lecture hours per week

4060 CLOUD COMPUTING
This course examines: the critical technology trends that are enabling cloud computing, the architecture and the design of existing deployments, the services and the applications they offer, and the challenges that need to be addressed to help cloud computing to reach its full potential. The format of this course will be a mix of lectures, seminar-style discussions, and student presentations.
PREREQUISITE: CS 2060
Three lecture hours per week

4110 ARTIFICIAL INTELLIGENCE AND AUTOMATED REASONING
This course introduces general problem-solving methods associated with automated reasoning and simulated intelligence. Topics include problem abstraction, state space heuristic search theory, pathfinding, flocking behaviour, knowledge representation, propositional logic, reasoning with uncertainty, machine learning and connectionism.
PREREQUISITE: CS 2910 and CS 2920
Three lecture hours per week

4120 MACHINE LEARNING

Machine learning is the study of mechanisms for acquiring knowledge from large data sets. This course examines techniques for detecting patterns in sets of uncategorized data. Supervised and unsupervised learning techniques are studied, with particular application to real-world data.

PREREQUISITE: CS 1920 and STAT 1910

Three lecture hours per week

4140 Deep Learning

This course explores the theoretical foundations and practical applications of deep learning in artificial intelligence (AI). Students will gain hands-on experience with neural network architectures, from basic feedforward networks to sophisticated transformer models, and will explore the concept of transfer learning to leverage pre-trained models for specialized tasks. Through project-based learning, students will design and conduct deep learning experiments, analyze results, and present findings in a conference-paper format. Emphasis is placed on understanding AI limitations, ethical considerations, and risk mitigation strategies. By course completion, students will be equipped to implement, evaluate, and critically assess deep learning solutions for real-world applications.

PREREQUISITE: CS 4120

Three lecture hours per week

4350 COMPUTER GRAPHICS PROGRAMMING

This course introduces the student to the principles and tools of applied graphics programming including graphical systems, input and interaction, object modeling, transformations, hidden surface removal, and shading and lighting models. Languages, graphics libraries and toolkits, and video game engines are introduced, as well as relevant graphics standards.

PREREQUISITE: CS 2620, CS 2910, MCS 2050 and MATH 2610

Three lecture hours per week

4360 ADVANCED COMPUTER GRAPHICS PROGRAMMING

This course builds on the computer graphics programming concepts introduced in CS 435. Students are given a deeper understanding of the components of the 3D graphics pipeline, and how they are used in modern graphical applications. Topics include advanced texture mapping, practical uses of vertex and pixel shaders, screen post-processing, particle systems, and graphics engine design.

PREREQUISITE: CS 4350

Three lecture hours per week

4440 DATA SCIENCE

Data science is an interdisciplinary and emerging field where techniques from several areas are used to solve problems using data. This course provides an overview and hands-on training in data science, where students will learn to combine tools and techniques from computer science, statistics, data visualization and the social sciences. The course will focus on: 1) the process of moving from data collection to product, 2) tools for preparing, manipulating and analyzing data sets (big and small), 3) statistical modelling and machine learning, and 4) real world challenges.

PREREQUISITE: CS 2910, CS 2920 and STAT 1910

Three lecture hours per week

4610 WIRELESS SENSOR NETWORKS

This course is an introduction to Wireless Sensor Networks. It includes the following topics: single-node architecture, wireless sensor network architecture, physical layer, MAC protocols, link-layer protocols, naming and addressing, time synchronization, localization and positioning, topology control, routing protocols, transport layer, and quality of service.

PREREQUISITE: CS 2520, CS 2910 and CS 2920

Three lecture hours per week

4650 VIDEO-GAME ARCHITECTURE

This programming-driven course aims to explore the various systems that comprise a typical video-game project, including event systems, state machines, rendering, scripting and AI programming. Students will implement these components throughout the course with the end goal of building a small game.
PREREQUISITE: CS 4350
CO-REQUISITE: CS 4360 (must be taken previously or concurrently)
Three lecture hours per week

4720 COMPILER DESIGN
This is a first course in compiler design. The course covers: compilation phases, lexical analysis, parsing, scope rules, block structure, symbol tables, run-time heap and stack management, code generation, pre-processing, compiler-compilers, and translation systems.
PREREQUISITE: CS 3320
Three lecture hours per week

4810 SOFTWARE ENGINEERING
This course emphasizes the theory, methods and tools employed in developing medium to large-scale software which is usable, efficient, maintainable, and dependable. Project planning and management are major foci. Topics include requirements modelling/specification, project costing, scheduling, software design, software architecture, traditional and agile process models, team management, and re-engineering. Students will develop a project plan for a major project to be undertaken in CS 4820 or CS 4830.
PREREQUISITE: CS 3620
Three lecture hours per week

4820 SOFTWARE SYSTEMS DEVELOPMENT PROJECT
In this course, students work in groups to complete and present a significant software project based on a project plan developed in CS 4810.
PREREQUISITE: CS 4810
One lecture hour per week plus significant project development time

4830 VIDEO GAME PROGRAMMING PROJECT
In this course, students work as a group to develop a single design into a fully functioning video game. This course applies the project management skills learned in CS 4810 to the development of a professional quality video game based upon the students' design.
Restricted to students enrolled in the Major in Computer Science with a Specialization in Video Game Programming.
PREREQUISITE: A minimum grade of 70% in CS 4360, 4650 and 4810
One lecture hour per week plus significant project time.
Semester hours of credit: 6

## APPLIED MATHEMATICAL SCIENCE COURSES (AMS PREFIX)

1910 Introduction to Data Science
This course provides an introduction to data analysis, artificial intelligence and business intelligence tools, equipping students with the skills to explore, analyze, and communicate data-driven insights effectively. Students will learn to manipulate datasets, perform basic exploratory data analysis, and build interactive dashboards using widely available platforms. The course emphasizes hands-on practice with real-world datasets, focusing on data cleaning, visualization, and predictive modelling. Students will develop the ability to tell compelling stories with data, create professional-grade reports, and communicate actionable insights to diverse audiences. No prior coding experience is required.
PREREQUISITES: Admission to a major in the School of Mathematical and Computational Sciences, or permission of the

instructor.
Three hours a week

2030 INTERMEDIATE MICROECONOMICS I
Initial reading will be provided to cover for some of the material normally covered in Economics 1010. The theories of consumer and producer behaviour are elaborated upon through the application of classical utility and indifference curve and production isoquant approaches. Choice under uncertainty and competitive market outcomes are also examined.
Cross-listed with Economics 2030.
PREREQUISITES: Enrolled in Bachelor of Science in Actuarial Science or Financial Mathematics
Three hours a week

2040 INTERMEDIATE MACROECONOMICS I
Initial reading will be provided to cover for some of the material normally covered in Economics 1020. This course explores the national economy in terms of the determination of national output, the general price level, the rate of interest, and employment. It then analyzes the effectiveness of monetary and fiscal policy in achieving specific goals and combination of goals.
Cross-listed with Economics 2040.
PREREQUISITES: Enrolled in Bachelor of Science in Actuarial Science or Financial Mathematics
Three hours a week

2160 FINANCIAL MATHEMATICS I
This first course in financial mathematics includes topics such as measurement of interest; the growth of money; annuities and perpetuities; loan repayment; bonds; common and preferred stocks; the term structure of interest rates; interest rate sensitivity; using duration and convexity to approximate change in present value; interest rate swaps; and determinants of interest rates.
PREREQUISITE: MATH 1910
Three lecture hours plus a two hour lab per week

2410 FINANCIAL ECONOMICS I
Introduction to mathematical techniques used to price and hedge derivative securities in modern finance. Modelling, analysis and computations for financial derivative products, including exotic options and swaps in all asset classes. Applications of derivatives in practice will also be discussed.
PREREQUISITE: AMS 2160
Three lecture hours a week plus a two hour lab per week

2510 LONG TERM ACTUARIAL MATHEMATICS I
This course will explore the future lifetime random variable, probability and survival functions, force of mortality; complete and curtate expectation of life, and Makeham and Gompertz mortality laws. Other topics will include: Life tables, characteristics of population and insurance life tables, selection, and fractional age assumptions. Life insurance payments and annuity payments: Present value random variables; expected present values; higher moments; actuarial notation, annual, monthly and continuous cases, relationships between insurance and annuity functions. Premiums, expense loadings, present value of future loss random variables and distribution, net and gross cases, the equivalence principle and portfolio percentile principle will also be discussed.
PREREQUISITE: AMS 2160
Three lecture hours a week plus a two hour lab per week

2940 OPTIMIZATION
An introduction to the methods and applications of linear programming. Topics include linear programming formulations, the simplex method, duality and sensitivity analysis, and integer programming basics. Applications to transportation, resource allocation and scheduling problems will be examined. Software will be used to illustrate topics

and applications.
PREREQUISITE: MATH 2610
Three lecture hours per week

3040 INTRODUCTION TO GGY AXIS
An introduction to the software package GGY AXIS. Topics include the basic functions and commands, programming and problem-solving using GGY AXIS.
PREREQUISITE: AMS 2510
Two lab hours per week for 6 weeks
Semester hours of credit: 1

3140 PROBABILITY FOR ACTUARIES
The purpose of this course is to prepare students for the Probability professional exam by bringing together topics such as probability, continuous and discrete univariate random variables (including binomial, negative binomial, geometric, hypergeometric, Poisson, uniform, exponential, gamma, normal), probability generating functions, moment generating functions, multivariate random variables(including the bivariate normal), joint distributions, conditional distributions, marginal distributions, functions of random variables. In addition, the following topics are introduced: Central Limit Theorem, risk and insurance applications, and probability applications in actuarial science (including discrete and continuous time Markov chains with application to insurance).
PREREQUISITE: STAT 2910
Three lecture hours per week plus one-hour lab per week

3160 GAME THEORY
The course covers the fundamentals of game theory and its applications its applications to the modeling of competition and cooperation in business, economics, biology and society. Two-person games in strategic form and Nash equilibria. Extensive form games, including multi-stage games, coalition games and the core Bayesian games, mechanism design and auctions.
PREREQUISITE: MATH 1920, MATH 2420 and STAT 1910
Three lecture hours per week

3310 ADVANCED CORPORATE FINANCE
This course covers various advanced topics in corporate finance, and covers topics such as fundamentals of capital budgeting; valuing stocks, capital markets and the pricing of risks; optimal portfolio choice and the capital asset; estimating the cost of capital; investment behavior and capital market efficiency; capital structure in a perfect market; debt and taxes; financial distress, managerial incentives, and information; real options; raising equity capital; debt financing; and supplementary material for investments and finance: measures of investment risk, Monte Carlo simulation, and empirical evidence on the efficient market hypothesis. Where suitable, topics are treated from a mathematical and quantitative perspective.
PREREQUISITE: BUS 2310
Three lecture hours per week plus a two hour lab per week

3410 FINANCIAL ECONOMICS II
This course will discuss advanced mathematical techniques used to price and hedge derivative securities in modern finance. Topics include: modelling, analysis and computations for financial derivative products, including exotic options and swaps in all asset classes. Students will also have the opportunity to apply these derivatives in practice.
PREREQUISITE: AMS 2410
Three lecture hours per week plus a two hour lab per week

3420 INTRODUCTION TO FINANCIAL DERIVATIVES
Introduction to mathematical techniques used to price and hedge derivative securities in modern finance. Topics include: modelling, analysis and computations for basic options and forwards on different class assets, general

properties of options including put-call parity relationship, pricing and hedging of European and American options using the binomial model, Black-Scholes formulas for calls and puts, option Greeks, Delta-hedging, exotic options including Asian and barrier options.
PREREQUISITE: AMS 2160
Three lecture hours per week plus a one hour lab per week

3510 LONG TERM ACTUARIAL MATHEMATICS II
This course will discuss: policy values, annual, monthly and continuous cases, Thiele's equation, policy alterations, modified policies and multiple state models. Other topics will include applications in life contingencies, assumptions, Kolmogorov equations, premiums, policy values, multiple decrement models, Joint Life Models, Valuation of insurance benefits on joint lives, and dependent and independent cases.
PREREQUISITE: AMS 2510
Three lecture hours per week plus a two hour lab per week

3770 COMBINATORIAL OPTIMIZATION
In this course, various algorithms will be considered, including minimum spanning tree, shortest path, maximum flow, and maximum matching. The links with linear and integer programming will also be considered, with particular attention to duality.
PREREQUISITES: MATH 2420
Three lecture hours per week

3910 MATHEMATICAL MODELLING
This course studies the process of mathematical modeling, namely, formulating a "real-world" problem in mathematical terms, solving the resulting mathematical problem, and interpreting the solution. Major topics include the modelling process, proportionality, geometric similarity, model fitting, graphical models, dimensional analysis, and deterministic and probabilistic dynamical processes (with models formulated as differential and difference equations). Applications are taken from science, business and other areas, according to class interest.
PREREQUISITE: MATH 2610 and MATH 3010; a statistics course is recommended.
Three lecture hours per week

4040 ADVANCED GGY AXIS
This course covers advanced applications of the software package GGY AXIS in the form of actuarial case studies in pricing and reserving.
PREREQUISITES: AMS 3040, AMS 3510, and AMS 4540
Three lecture hours a week

4080 FINANCIAL MATHEMATICS II
This course explores foundational notions and models in financial mathematics. Topics include attainable payoffs, arbitrage, completeness, the law of one price, first and second Fundamental Theorems of Asset Pricing, introduction to discrete-time stochastic calculus, conditional expectations, risk-neutral martingale measures, dynamic replication in the binomial model for European, American and exotic options, general multi-asset multi-period models.
PREREQUISITE: MATH 2610 and AMS 2410 or AMS 3420, and STAT 2910
Three lecture hours per week

4090 FINANCIAL MATHEMATICS III
This course explores continuous-time models in financial mathematics. Topics include Brownian motion, geometric Brownian motion, quadratic variation, Riemann-Stieltjes and Ito integrals, Ito's formula, replication and risk-neutral pricing under the Black-Scholes economy, Black-Scholes partial differential equation, delta-hedging for multi asset derivatives, and valuation of cross currency options.

PREREQUISITE: AMS 4080
Three lecture hours per week

4450 STATISTICS FOR RISK MODELING

The purpose of this course is to prepare for the Statistics for Risk Modeling professional exam by bringing together topics such as the key concepts of statistical learning and regression modelling with applications; linear models; time series models; principal components analysis; decision trees; and cluster analysis with their applications.
PREREQUISITE: STAT 2910, STAT 2240, and MCS 2030.
Three lecture hours per week plus two hours lab per week

4540 LOSS MODELS I

This course explores models for loss severity, parametric models, effect of policy modifications, and tail behaviour. Topics also include: models for loss frequency: (a, b, 0), (a, b, 1), mixed Poisson models; compound Poisson models, Aggregate claims models: moments and moment generating function: recursion and Classical ruin theory.
PREREQUISITE: AMS 3510 and STAT 3910
Three lecture hours per week plus a one hour lab per week

4550 LOSS MODELS II

This course is a study of the mathematics of survival models and includes some examples of parametric survival models. Topics include: tabular survival models, estimates from complete and incomplete data samples, parametric survival models, and determining the optimal parameters. Maximum likelihood estimators, derivation and properties, product limit estimators, Kaplan-Meier and Nelson-Aalen, credibility theory: limited fluctuation; Bayesian; Buhlmann; Buhlmann-Straub; empirical Bayes parameter estimation; statistical inference for loss models; maximum likelihood estimation; the effect of policy modifications; and model selection will also be discussed.
PREREQUISITE: AMS 4540
Three lecture hours per week plus a one-hour lab per week

4580 CREDIBILITY THEORY

This course is an introduction to credibility theory and will provide the ability to understand and estimate losses using credibility procedures as well as to apply and critique limited fluctuation (classical) credibility, explain and apply Bayesian credibility, apply conjugate priors in Bayesian credibility, apply Buhlmann and Buhlmann-Straub models and understand their relationship to Bayesian models, and explain and apply empirical Bayesian method in the nonparametric and semiparametric cases.
PREREQUISITE: STAT 3910
Three lecture hours plus a one-hour lab per week

4600 PREDICTIVE ANALYTICS I

This course is an introduction to topics such as predictive model building process in R; problem definition, data visualization, exploratory data analysis, identification of data issues and resolution, and initial model selection; model selection; model validation; communication of results and uncertainties; sample project and report.
PREREQUISITE: STAT 3250 and STAT 4280
Three lecture hours per week plus a one-hour lab per week

4610 PREDICTIVE ANALYTICS II

This course builds on AMS 4600 and covers more advanced topics of the predictive model building process in R including a project and final report.
PREREQUISITES: AMS 4600
Three lecture hours per week plus a one-hour lab per week

4680 NONLINEAR OPTIMIZATION

This course is a study of unconstrained optimization, optimality conditions (necessary, sufficient and Karush-Kuhn-

Tucker), penalty functions, convex functions, and convex programming.
PREREQUISITE: MATH 2910 and AMS 2940
Three lecture hours per week

4700 SHORT TERM INSURANCE PRICING AND RESERVING
This course covers the basic methods to calculate premiums and reserves for short-term insurance coverages; the role of rating factors and exposure; the different forms of experience rating; the description and application techniques for estimating unpaid losses from a run-off triangle; the following methods: Chain ladder, Average cost per claim, Bornhuetter Ferguson; and the underlying statistical models for these methods; as well as premiums calculation using the pure premium and loss ratio methods.
PREREQUISITES: AMS 2510
Three lecture hours per week plus a one-hour lab per week

4780 QUANTITATIVE RISK MANAGEMENT
This course is an introduction to financial risk management. Topics include: risk measures, modeling for multivariate distributions and copulas, market, credit and operational risk. Advanced topics in quantitative risk management will also be discussed.
PREREQUISITE: AMS 3310
Three lecture hours per week

## MATHEMATICAL AND COMPUTATIONAL SCIENCES COURSES (MCS PREFIX)

2010 MAPLE TECHNOLOGY LAB
An introduction to the software package MAPLE. Topics include the basic functions and commands, programming and problem-solving using MAPLE.
PREREQUISITE: CS 1910 and MATH 1920
Two lab hours per week for 6 weeks
Semester hours of credit: 1

2020 MATLAB TECHNOLOGY LAB
An introduction to the software package Matlab. Topics include the basic functions and commands, programming and problem-solving using Matlab.
PREREQUISITE: CS 1910 and MATH 2610
Two lab hours per week for 6 weeks
Semester hours of credit: 1

2030 R TECHNOLOGY LAB
An introduction to the software package R. Topics include the basic functions and commands, programming and problem-solving using R.
PREREQUISITE: CS 1910 and STAT 1910
Two lab hours per week for 6 weeks
Semester hours of credit: 1

2040 VISUAL BASIC IN EXCEL TECHNOLOGY LAB
An introduction to the software package Excel and Visual Basic in the Excel environment. Topics include the basic functions and commands, programming and problem-solving using Excel and Visual Basic.
PREREQUISITE: CS 1910 and AMS 2400

Two lab hours per week for 6 weeks
Semester hours of credit: 1

2050 C++ TECHNOLOGY LAB
An introduction to C++ for java programmers. Topics include basic terminology, pointers, memory management, classes, operator overloading, heap versus stack variables and the C++ standard template library.
PREREQUISITE: CS 1920
Two lab hours per week for 6 weeks.

3050 TUTORING IN MATHEMATICAL AND COMPUTATIONAL SCIENCES
Students are introduced to techniques for facilitating learning in the Mathematical and Computational Sciences, and then put these techniques into practice by mediating student group learning either in introductory Mathematical and Computational Sciences courses, Mathematical and Computational Science Help Centre or in outreach programs to High Schools. Students are assessed on a pass/fail basis.
PREREQUISITE: At least 36 semester hours of credit completed in courses in the School of Mathematical and Computational Sciences
One lecture hour per week plus practical tutoring
Semester hours of credit: 1

3320 THEORY OF COMPUTING
This course introduces automata theory, formal languages and computability. Topics include: finite automata; regular expressions; regular, context-free, and context-sensitive languages; computability models; algorithmic decidable and undecidable problems.
PREREQUISITE: CS 2910, CS 2920 and MATH 2420
Three lecture hours per week

3500 QUANTUM INFORMATION
This course is an introduction to quantum information science; the field of studying, storing, processing and communicating information using quantum systems. Topics include: quantum mechanics for Qubit Systems, foundations of Quantum Computing, algorithms, communication and cryptography.
PREREQUISITE: MATH 2620
Three lecture hours per week

3920 NUMERICAL ANALYSIS
Approximate solution of equations, various interpolative or iterative methods, especially Newton's; convergence tests and rates of convergence; roundoff and truncation errors; propagation of error in calculations; interpolating polynomials; Gauss-Jordan and other methods for simultaneous linear equations; inversion of matrices; determinants and eigenvalues; simultaneous nonlinear equations; evaluation of definite integrals; approximate derivatives; initial-value ordinary differential equations; least-squares curve fitting.
PREREQUISITE: MATH 3010 and CS 1910 or equivalent
Three lecture hours per week

3950 SPECIAL TOPICS IN MATHEMATICAL AND COMPUTATIONAL SCIENCES
This course provides students with an opportunity to pursue special topics in Mathematical and Computational Science. Content varies from year to year.
PREREQUISITE: Permission of the instructor
Three lecture hours per week

4210 PROFESSIONAL COMMUNICATION AND PRACTICE
This course aims to build students' oral and written communications skills, and to prepare students to think critically

about essential and potentially controversial issues in the Mathematical and Computational Sciences, with the goal of preparing students for a professional environment. Using examples from their discipline, students will focus on such aspects as description of processes, presentation of data, extended abstracts, correct use of terminology, and sensitivity to language and tone. Discussions of topics relevant to the professional Mathematical and Computational Scientist, such as: ethics; security; privacy and civil liberties; risk and liability; intellectual property; and certification standards are also a key part of the course.
PREREQUISITE: At least 36 semester hours of credit completed in courses in the School of Mathematical and Computational Sciences
Three hours per week

4420 CRYPTOGRAPHY AND CODES
This course is a study of encoding and encryption algorithms and their applications. Linear codes, error detection, and error-correcting codes, are introduced. Symmetric and asymmetric key encryption algorithms are studied and analyzed. Other topics include confidentiality, message authentication, public and private keys, digital signatures, and security.
PREREQUISITE: MATH 2420, MATH 2610 and CS 1920
Three lecture hours per week

4901 HONOURS PROJECT I
The objective of this course is to provide research experience for the student who intends to pursue further studies at the graduate level, or who is planning a career where research experience in the Mathematical and Computational Sciences would be an asset. A research project is done under a faculty supervisor
PREREQUISITE: Acceptance into an Honours program in SMCS
Semester hours of credit: 3

4902 HONOURS PROJECT II: THESIS
The objective of this course is to provide research thesis experience for the student who intends to pursue further studies at the graduate level, or who is planning a career where research experience in the Mathematical and Computational Sciences would be an asset. The research project results from MCS 4901 are further analysed as needed under a faculty supervisor, reported in a thesis format, and presented and defended at a seminar.
PREREQUISITE: MCS 4901
Semester hours of credit: 3

4910 DIRECTED STUDIES IN MATHEMATICAL AND COMPUTATIONAL SCIENCES
These courses are designed and recommended for students in the Mathematical and Computational Sciences to encourage independent initiative and study. Reading and research will be conducted in one or more specialized areas. (See Academic Regulation 9 for Regulations Governing Directed Studies.)
PREREQUISITE: Permission of the instructor
One, two, or three hours credit

4950 ADVANCED TOPICS IN MATHEMATICAL AND COMPUTATIONAL SCIENCES
This course provides students with an opportunity to pursue advanced topics in the Mathematical and Computational Sciences Content varies from year to year but is always at a fourth-year level. Prospective students should contact the School of Mathematical and Computational Sciences for a more detailed description of any particular year's offering.
PREREQUISITE: Permission of the instructor
Three lecture hours per week

# 78. Modern Languages

http://www.upei.ca/arts/modern-languages

**Modern Languages Faculty**
Sanda Badescu, Associate Professor, Chair
Pamela Bastante, Associate Professor
Doreley Coll, Associate Professor
Scott Lee, Associate Professor

The Department of Modern Languages provides its students with the opportunity to study various languages and to obtain a good grounding in these, but sees languages within its appropriate cultural contexts, i.e., the acquisition is seen as a vehicle to enter the thought, history, literature, cinema etc., with which each of the languages is associated. The Department offers a full program in Spanish and students other languages are made available in response to student interest and availability of instructor. In the past, introductory courses have been offered in Chinese, Irish, Italian, Japanese, Russian, and Scottish Gaelic. For Japanese or other Asian languages see Asian Studies.

## French

The Department of Modern Languages provides courses for several categories of students: for persons with little or no French, for those who have had French through high school, and for students who are fluent in French through residence, or through family, etc. A placement test must be taken prior to the beginning of classes to confirm the level at which these students should register. The Placement Test is available on the web during the summer months via the Department of Modern Languages website. During the rest of the year please contact the departmental secretary.

**REQUIREMENTS FOR A MAJOR IN FRENCH(NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

1. A major consists of a minimum of 42 semester hours of French.
2. French 2410 and French 2420 are required courses.
3. At least 24 semester hours must be taken from upper-level courses above 2420.
4. In the case of students transferring credits for courses taken elsewhere at least 6 semester hours at the upper level must be taken at UPEI.

ELECTIVES
Students must include at least 12 semester hours in a modern language or modern languages other than French. In addition to the University's requirement of One of UPEI 1010, UPEI 1020, or UPEI 1030 AND one writing intensive course AND IKE 1040, they should also include courses in History and Philosophy. Students should discuss these courses or other alternatives with the Chair of Modern Languages as early as possible.

**REQUIREMENTS FOR A MINOR IN FRENCH**
1. A minor in French consists of 21 semester hours of courses.
2. French 2410 and French 2420 are required courses.
3. At least 9 semester hours must be taken from among upper-level courses above French 2420.
4. In the case of students transferring credits for courses taken elsewhere, at least 6 semester hours at the upper level must be taken at UPEI.

COURSE SEQUENCES AND RESTRICTIONS

Students may not reverse the sequence of any courses taken from French 1010 to French 2420, with the exception of French 2090.

# FRENCH COURSES

1010 INTRODUCTION TO FRENCH LANGUAGE AND CULTURE I
This course proposes fundamentals of French and French culture through a progressive acquisition of basic communication skills and an understanding of the practices and products of French language and Francophone cultures. This course is open only to students who have a limited background in French. The French Placement test is mandatory in order to enroll.
PREREQUISITE: French Placement Test (Refer to Modern Languages Home Page for link to placement test)
Three hours a week plus lab or online

1020 INTRODUCTION TO FRENCH LANGUAGE AND CULTURE II
This course is a continuation of French 1010.
PREREQUISITE: French 1010 or French Placement Test (Refer to Modern Languages Home Page for link to placement test)
Three hours a week plus lab

1210 BASIC FRENCH I
This course is designed for students who have completed (or almost completed) the high school French core program, for those who have completed 102, or those who are placed into the course through the Placement Test. The major grammar points are are studied in order to take the student from the most elementary vocabulary to an ability to function adequately in simple everyday situations. The French Placement test is mandatory in order to enroll.
PREREQUISITE: French 1020 or French Placement Test (Refer to Modern Languages Home Page for link to placement test)
Three hours a week plus lab or online

1220 BASIC FRENCH II
This course is a continuation of French 1210.
PREREQUISITE: French 1210 or French Placement Test (Refer to Modern Languages Home Page for link to placement test)
Three hours a week plus lab

2110 FRENCH V
This course is a detailed review of all areas of French grammar.
It is designed for students who have completed the high school French Immersion Program or French 1220, or who have been identified through the Placement Test.
PREREQUISITE: French 1210 or French Placement Test
Three hours a week plus lab

2120 FRENCH VI
This course is a continuation of French 2110.
PREREQUISITE: French 2110 or French Placement Test
Three hours a week plus conversation class

2210 LANGUE ET LECTURES I

This course is designed for students who have completed the high school French Immersion Program, or who have completed 2120, or who are placed into the course through the Placement Test. This course entails a detailed and accelerated study of all areas of French grammar, accompanied by analysis of short texts.
PREREQUISITE: French 2120 or French Placement Test
Three hours a week plus conservation class

2220 LANGUE ET LECTURES II
This course is a continuation of French 2210.
PREREQUISITE: French 2210 or French Placement Test
Three hours a week plus conversation class

UPPER-LEVEL COURSES

NOTE: Only three or four upper-level courses per semester are offered. For courses offered each year check the timetable.

2410 FRENCH COMPOSITION AND ANALYSIS I
This course is designed for students who have completed French 2220, or who have been placed into it through the Placement Test. The aim of this course is to improve writing skills through an advanced analysis of both French grammar and short literary and critical texts. Various writing tasks such as the portrait, description, narration, letter writing, and critical analysis of literary texts are practiced.
PREREQUISITE: French 2220 or French Placement Test
Three hours a week plus conversation class

2420 FRENCH COMPOSITION AND ANALYSIS II
This course is a continuation of French 2410.
PREREQUISITE: French 2410 or French Placement Test
Three hours a week plus conversation class

2510 INTRODUCTION TO FRENCH LITERATURE
This course is a survey of the dominant movements and major authors of French literature. It comprises lectures in simple French and readings of the representative passages chosen for their literary importance and their accessibility.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

2520 LE FRANÇAIS DES AFFAIRES
This course is oriented towards French oral and written communication in the business setting. The world of business is examined from the angle of its vocabulary related to job searches, the C.V., administrative and commercial correspondence, as well as communication as it is used in and outside of the workplace.
Cross-listed with Business 2530.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

2610 INTRODUCTION Á L'EDUCATION EN FRANÇAIS AU CANADA
(See Education 2130).
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

While the progression of courses is normally from the 3000-level to the 4000-level, there is no difference in the level of difficulty, and the available timetable in any given year may involve taking 4000-level courses before 3000-level courses.

3090 SPECIAL TOPICS
Creation of a course code for special topics offered by Modern Languages at the 3000 level.

3110 PRATIQUE DE LA COMMUNICATION EN FRANÇAIS I
This course is an upper-level grammar course designed for students who already have a good knowledge of French. It focuses on the acquisition of practical knowledge and skills to improve writing in specific contexts such as essays, activity reports, summaries, reviews, etc. The course covers various types of writing and, at the same time, reviews important basics essential for proficient writing in French.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

3120 PRATIQUE DE LA COMMUNICATION EN FRANÇAIS II
This upper-level course focuses on the development of oral and writing skills in French communication in various professional contexts such as education, health, business, university, etc.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

3130 LITTÉRATURE FRANÇAISE CONTEMPORAINE I
This course is a study of the leading writers and movements and the historical and social changes which influenced them up to the outbreak of the Second World War.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

3210 XIXe SIÈCLE: 1800-1850
This course consists of a study of what has traditionally been known as the Romantic period (1800-1850) in French literature, illustrated by authors such as Chateaubriand, Musset, Hugo, Nerval, and Sand. However, other literary figures of the period such as Stendhal, Balzac, Gautier, Mérimée, whose works (by turns realist, fantastic, or a hybrid mixture of diverse influences) resist easy classification, are also studied.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

3220 XIXe SIÈCLE: 1850-1900
This study of French literature focuses on the second half of the nineteenth-century. The main themes and trends of realism, naturalism and symbolism are studied through texts by authors such as Flaubert, les Goncourt, Baudelaire, Rimbaud, and Zola.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

3330 XVIIIe SIÈCLE: L'AGE DES LUMIERES I
This course provides an introduction to the French literary world of the XVIIIth century, from 1715 to 1750, with emphasis on the historical and political context which led to the age of Enlightenment, as well as on the study of various works of prose and drama produced by famous authors of the time, such as Montesquieu, Diderot, Marivaux and l'Abbé Prévost.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

3340 XVIIIe SIÈCLE: L'AGE DES LUMIERES II
As a continuation of 3330, this course focuses on the literary productions of the second half of the century, with emphasis on the critical and philosophical aspects of the works selected, as well as on the development of a pre-romantic sensibility towards the end of that period.

PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

3380 INTRODUCTION à la SOCIÉTÉ QUÉBÉCOISE
This course discusses the history and more specifically the culture of Québec. Students examine social productions of Québec throughout history: politics, the family, language, the arts, literature, the educational system, ideologies, fétes, etc. The course is accompanied by a multimedia presentation including a multitude of images, videos, and films.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

3390 THÉÂTRE CANADIEN-FRANÇAIS
This course proposes an introduction to theatrical production in French Canada from its origins to the present day. Questions to be discussed include: the representation of history, cultural appropriations, dominant themes, the mixing of genres, time and space, discourse analysis, theatrical language, etc.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

3430 XVIIe SIÈCLE: LE GRAND SIÈCLE I
This course is a study of the major writers associated with the concept of Classicism. The focus is on the first half of the seventeenth century.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

3440 XVIIe SIÈCLE: LE GRAND SIÈCLE II
This course focuses on writers in the Age of Louis XIV.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

4010 RENAISSANCE
This course focuses on French literature of the XVIth century, with emphasis on the historical and political contexts which have led to the development of Humanism in France, as well as on the study of various works of prose and poetry produced by authors of the time such as Rabelais, Marguerite de Navarre, DuBellay and Montaigne.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

4020 CHEVALIERS ET MAGIE AU MOYEN AGE
This course focuses on French literature from the IXth century to the XVth century, with emphasis on the historical and political contexts which led to the development of literary and cultural discourses in Old French. As well, various works of prose and poetry produced by the authors of the period are studied.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

4030 LA NOUVELLE FRANÇAISE
This course comprises a study of the French short story across the centuries, including such authors as Cazotte, Sade, Gautier, Balzac, Maupassant, Flaubert, Mauriac, Camus, and Yourcenar. The readings are coupled with a theoretical attempt to define the genre such as nouvelle, conte, nouvelle contée.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

4090 SPECIAL TOPICS
Creation of a course code for special topics offered by Modern Languages at the 4000 level.

4210 LE ROMAN CONTEMPORAIN I
This course examines the French novel by exploring the various literary and philosophical movements of the contemporary era (existentialism, the new novel, and beyond). These trends are illustrated through readings of representative authors.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

4320 LITTÉRATURE ET CINEMA
This course consists of the study of the relation between French-language literary texts and their film adaptation, ranging from the seventeenth century to the modern day. Various questions of the inter-textual relationship are explored, including aspects specific to each genre.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

4330 LA CRITIQUE LITTÉRAIRE
This course provides an overview of various critical schools and methods whose object is the study of literary texts. Among the approaches studied are narratology, psychoanalysis, sociocriticism, deconstruction, and structuralism. The study of these methodologies is combined with practical applications to literary texts.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

4340 THE AUTOBIOGRAPHICAL GENRE IN FRENCH LITERATURE
This course examines French literary works classified as autobiographical, including essays, memoirs, letters, and diaries. It takes as its focus, representative authors starting from the Renaissance up to the present day. The texts studied illustrate historical and cultural movements through several centuries of French literature.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

4410 LITTÉRATURE CANADIENNE-FRANÇAISE I: DE LA NOUVELLE-FRANCE AU XIXe SIÈCLE
This course proposes a study of the emergence of writing in New France and of the status of the novel in the cultural life of the nineteenth century, specifically the conditions of writing, and the relationship between the novel and the ideologies of the era. It includes a study of works which are thematically and stylistically significant.
Cross-listed with English 3230.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

4420 LITTÉRATURE CANADIENNE-FRANÇAISE II: XXe SIÈCLE
This course proposes a reading of Québec novels representative of the most important social and literary movements in the 20th century: the roman de la terre, the urban novel, the psychological novel, the novel of the Révolution tranquille, and the contemporary novel. The evolution of literary forms is studied as a function of the ideological shifts in Québec society throughout the 20th century.
Cross-listed with English 3240.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

4430 CULTURE ET LITTÉRATURE ACADIENNES I
This course comprises a critical reflection on Acadian literature and culture, with a particular emphasis on the oral tradition. Many aspects of Acadian culture are considered, including how the Deportation of 1755 is represented in historical documents and literature, the works of contemporary authors, and the Acadian culture of Prince Edward Island.

Cross-listed with Acadian Studies 4430
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

4440 CULTURE ET LITTÉRATURE ACADIENNES II
This course comprises a critical reflection on modern Acadia, from the 1970s to the present day. It looks at many aspects of Acadian culture, including novels, songs, and poetry, and the emerging importance of the visual arts.
Cross-listed with Acadian Studies 4440
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

4460 TRADUCTION: ANGLAIS-FRANÇAIS
This course covers a wide range of everyday material, e.g., government documents, letters, news items, advertising material, and literary extracts in English. Close attention will be paid to the style of language appropriate to each different type of translation.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

4470 TRADUCTION: FRANÇAIS-ANGLAIS
This course covers a wide range of everyday material, e.g., government documents, letters, news items, advertising material, and literary extracts in French. Close attention will be paid to the style of language appropriate to each different type of translation.
PREREQUISITE: French 2220 or permission of the instructor
Three hours a week plus conversation class

4480 PREPARATION AU BÉD FRANÇAIS LANGUE SECONDE I
This course aims to prepare students for the UPEI BEd Français Langue Seconde program. It will focus primarily on oral and written communication in order to help students reach the B2 level on the DELF exam. In this asynchronous course, students will direct their own learning through activities based on real-world, everyday contexts. This learning includes oral (expression and comprehension) and written (expression and comprehension) components.
PREREQUISITE: FR 2220 or French Placement Test or permission of instructor
Three hours a week
Note: This course does not count for credit toward the Major in French or the Minor in French, but does count toward the six semester hours in French required for admission to the UPEI Bachelor of Education Français langue seconde.

4481 PREPARATION AU BÉD FRANÇAIS LANGUE SECONDE II
This course complements FR 4480, and also aims to prepare students for the UPEI BEd Français Langue Seconde program. It will focus primarily on oral and written communication in order to help students reach the B2 level on the DELF exam. In this asynchronous course, students will direct their own learning through activities based on real-world, everyday contexts. This learning includes oral (expression and comprehension) and written (expression and comprehension) components.
PREREQUISITE: FR 2220 or French Placement Test or permission of instructor
Three hours a week
Note: This course does not count for credit toward the Major in French or the Minor in French, but does count toward the six semester hours in French required for admission to the UPEI Bachelor of Education Français langue seconde.

4510-4520 DIRECTED STUDIES
Centered around an author or a topic, this course is specifically designed to enable students to express themselves and to do research on their own. Students will be given topics to research and to present to the class. (See Academic Regulation 9 for Regulations Governing Directed Studies.)

## Spanish

**REQUIREMENTS FOR A MAJOR IN SPANISH (NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.)**

Under the supervision of the Department, a student is allowed to major in Spanish if he/she shows a high level of interest and competency in the subject and intends to cover the minimum requirement of 42 semester hours.

This would be done under the approval of a Departmental Committee and the Dean of Arts after all courses taken or intended to be taken, at UPEI or another Canadian or foreign institution, have been considered. It is highly recommended that students take part of the exchange programs available with the University of Salamanca (Spain) and/or the University of la Republica (Uruguay).

A major consists of a minimum of 42 semester hours of Spanish.

ELECTIVES
Students must include at least 12 semester hours in a modern language or modern languages other than Spanish.

Students should discuss these courses or other alternatives with the Chair of Modern Languages as early as possible.

**REQUIREMENTS FOR A MINOR IN SPANISH**
A minor in Spanish consists of 21 semester hours of courses in the following sequence:
1. 12 semester hours:
Spanish 1010/1020 Introductory
Spanish 2010/2020 Intermediate
2. At least 9 semester hours at the 3000 or 4000 level in Spanish, at least 6 semester hours must be taken at UPEI at the upper level.

**REQUIREMENTS FOR A CERTIFICATE OF PROFICIENCY IN CONVERSATIONAL SPANISH**
Studies leading to a Certificate of Proficiency in Conversational Spanish are designed for individuals with no background in Spanish. The program accommodates people wanting to learn Spanish so that they can communicate proficiently with people in another culture, increase professional qualifications, or gain new skills and expertise. Courses at the 1000- and 2000-level focus on basic language skills in listening, speaking, reading, and writing. Courses at the 3000-level emphasize oral linguistic competence through discussion of cultural and socio-political issues in the Hispanic world.

A Certificate of Proficiency in Conversational Spanish consists of:
1. 18 semester hours of courses in the following sequence:
1010-1020 Introductory Spanish
2010-2020 Intermediate Spanish
3030-3040 Advanced Spanish

After completion of the required course work, success in an oral examination of linguistic competence in Spanish and knowledge of civilization and culture pertaining to the Hispanic world.

# SPANISH COURSES

1010 INTRODUCTORY SPANISH I
Spanish 1010 is intended for students with no knowledge of Spanish. The course gives students solid grounding in

the fundamentals of the Spanish language by engaging them, in both classroom and language laboratory settings, in communicative use of the four language skills: listening, speaking, reading and writing. Upon successful completion of the course, students obtain a comprehensive outline of Spanish grammar and are able to sustain a conversation on a variety of daily topics.

NOTE: This course may not be taken for credit if any of the following have already been successfully completed: SPAN-1020, SPAN-2010, SPAN-2020, SPAN-3010, SPAN-3020, SPAN-3150, SPAN-4010, or SPAN-4020.

Three hours a week plus lab

1020 INTRODUCTORY SPANISH II

Spanish 1020 is a continuation of Spanish 1010. The course further develops the language structures introduced in Spanish 1010. Students are exposed to the fundamentals of the Spanish language by a) engaging them in classroom and language laboratory settings; b) in communicative use of the four language skills: listening, speaking, reading and writing; and c) familiarizing them with aspects of Hispanic culture.

NOTE: This course may not be taken for credit if any of the following have already been successfully completed: SPAN-2010, SPAN-2020, SPAN-3010, SPAN-3020, SPAN-3150, SPAN-4010, or SPAN-4020.

PREREQUISITE: Spanish 1010 or permission of the instructor – Must be completed prior to taking this course.

Three hours a week plus lab

2010 INTERMEDIATE SPANISH I

This course is intended for students who have successfully completed Introductory Spanish (SPAN-1010 and SPAN-1020). It prepares intermediate students to use Spanish in real-life situations by emphasizing oral communication and by developing reading and writing language skills. Practical, high frequency vocabulary presented in culturally authentic contexts takes students beyond the basic survival skills acquired in introductory classes and sets the stage for extended interaction. The course gives special attention to matters of syntax and style through written composition and translation exercises. The course also includes oral discussions, conversations, and literary and cultural readings.

NOTE: This course may not be taken for credit if any of the following have already been successfully completed: SPAN-3010, SPAN-3020, SPAN-3150, SPAN-4010, or SPAN-4020.

PREREQUISITE: Spanish 1020 or permission of the instructor

Three hours a week

2020 INTERMEDIATE SPANISH II

This course is intended for students who have successfully completed Intermediate Spanish I (SPAN-2010). It prepares students to use Spanish in real-life situations by emphasizing oral communication and by developing reading and writing language skills. It enhances students' linguistic proficiency, allowing them to handle a variety of social situations. Students also develop cultural and historical understanding of Spain and Latin America. By the end of Spanish 2020, students have insight into the grammatical structures of the language, are able to recognize different varieties of Spanish, and sustain conversations in real-life situations.

NOTE: This course may not be taken for credit if any of the following have already been successfully completed: SPAN-3010, SPAN-3020, SPAN-3150, SPAN-4010, or SPAN-4020.

PREREQUISITE: Spanish 1020 or permission of the instructor

Three hours a week

2030 INTENSIVE STUDY ABROAD

This is an intensive second-year level language course offered in cooperation with the University of Salamanca, Spain. Over a four-week period students attend 100 hours of language classes designed to consolidate grammar and common idiomatic expressions, and to increase active vocabulary. In addition, students take part in daily two-hour oral-culture sessions. Students are also encouraged to participate in activities of the university community and in weekend field trips.

PREREQUISITE: Spanish 1020

Six semester hours of credit

2090 SPECIAL TOPICS
Creation of a course code for special topics offered by Spanish at the 2000 level.

2150 SPANISH FOR BUSINESS
This course is designed to prepare students who have an intermediate competence in Spanish with the skills necessary to conduct business in Spanish-speaking countries successfully. Students will continue to develop their listening, speaking, reading and writing proficiency through a variety of exercises, such as preparing written documents (CVs, letters and memos), and oral presentations. In addition, students can expect to learn specialized vocabulary and important cultural aspects of business language that will be useful for meetings in Spain and Latin America.
PREREQUISITE: Spanish 2020

3010 COMPOSITION AND ORAL PRACTICE I
This course aims to develop a high degree of competence in written and oral Spanish. Two hours a week are devoted to "composition," including grammar, vocabulary, translation, stylistics, and original expression. The third hour is devoted to oral work in a small "conversation" class. (Also offered in Salamanca and Uruguay).
NOTE: This course may not be taken for credit if any of the following have already been successfully completed: SPAN-3020, SPAN-4010, or SPAN-4020.
PREREQUISITES: Spanish 2020 or permission of the instructor

3012 ADVANCED SPANISH CONVERSATION
The course improves conversational skills in Spanish as well as advanced grammatical structures. Students take part in various activities, such as, class discussions, cultural readings, debates, and small groups work.
PREREQUISITES: Spanish 2020 or permission of the instructor

3020 COMPOSITION AND ORAL PRACTICE II
This course is a continuation of Spanish 3010. The course focuses on reading and composition, and is intended to give students the opportunity to acquire and use new vocabulary, resolve persistent grammatical difficulties, and learn techniques for the development of a good writing style. Requirements include completion of an anthology of readings in Spanish, and regular short essay assignments. (Also offered in Salamanca and Uruguay).
NOTE: This course may not be taken for credit if any of the following have already been successfully completed: SPAN-3020, SPAN-4010, or SPAN-4020.
PREREQUISITES: Spanish 3010 or permission of the instructor

3030 ASPECTS OF SPANISH CIVILIZATION AND CULTURE
This course offers a general view of the development of civilization and culture in Spain from its beginnings to the present. It is organized to introduce students to the major political and social movements in Spanish history and the principal trends in the arts that have given Spain an idiosyncratic culture within the broader context of Western Civilization. A variety of language models, including classroom discussions, set the stage for assimilation of the conversational function of the language. The course is conducted in Spanish and is intended to complement language studies as well as provide a foundation for subsequent courses in Hispanic literature.
PREREQUISITE: Spanish 2020 or permission of the instructor

3040 ASPECTS OF SPANISH-AMERICAN CIVILIZATION AND CULTURE
This course provides an overview of the beginnings of civilization and culture in Latin America from the Pre-Colombian civilizations of the Mayas, the Aztecs and the Incas to modern times. Five periods are studied in detail: the Pre-Conquest, the Conquest, Colonial Life, Independence Movements, and Modern Times. These historical periods also integrate artistic, cultural and literary movements. The course is conducted in Spanish and is intended to complement language studies as well as provide a foundation for subsequent courses in Hispanic literature.
PREREQUISITE: Spanish 2020 or permission of the instructor
Three hours a week

3090 SPECIAL TOPICS
Creation of a course code for special topics offered by Spanish at the 3000 level.

3120 IBERO-AMERICAN LITERATURE
This is a course on Contemporary Ibero-American Literature (from 1810 to the present) with emphasis on the study of the different stylistic trends of this period. Selected works representative of the three traditional literary genres are analyzed in class. Students are also introduced to the basic concepts of theoretical and methodological approaches in the study of literature: narratology, post-structuralism, feminism, and phenomenological hermeneutics. The course is conducted in Spanish and is intended to complement language studies as well as provide a foundation for subsequent courses in Hispanic Literature.
PREREQUISITE: Spanish 2020 or permission of the instructor
Three hours a week

3130 SPANISH PENINSULAR LITERATURE
This course introduces the literary tradition of Spain through consideration of the characteristics of its major literary periods: the Renaissance, the Baroque Age, Romanticism, and the Modern Era. Students are introduced to the basic concepts within theoretical and methodological approaches in the study of literature: narratology, post-structuralism, feminism, and phenomenological hermeneutics. The course is conducted in Spanish and is intended to complement language studies as well as provide a foundation for subsequent courses in His- panic Literature.
PREREQUISITE: Spanish 2020 or permission of the instructor

3150 TRANSLATION AND COMPOSITION I
This course is intended for students who have an intermediate level in Spanish and wish to perfect their grammatical, speaking, and reading comprehension skills. This course is dedicated to intensive practice in advanced translation from English to Spanish and Spanish to English with a focus on lexical and syntactic matters. In addition, students can expect to write compositions based on current literary and cultural issues.
PREREQUISITE: Spanish 2020 or permission of instructor

4010 THE STRUCTURE OF SPANISH
This advanced Spanish grammar course aims to perfect students' ability to write and speak correctly and fluently. This course provides an introduction to the formal analysis of the language, covering topics in basic grammatical construction, Spanish morphology (the analysis of word structure), Spanish syntax (the analysis of sentence structure), and Semantics (the study of sentences and word meanings). Central issues in phonological, morphological, and syntactic variations are analyzed from geographical and social points of view. (Also offered in Uruguay).
PREREQUISITES: Spanish 3020 or permission of the instructor

4020 PRACTICAL TRANSLATION
This course is designed for students who have an adequate command of the language, but who have an interest in a professional orientation. Translations from English to Spanish and Spanish to English include materials from diverse subjects such as business, sciences, politics, arts, theatre, and literature. (Also offered in Uruguay)
PREREQUISITES: Spanish 3020 or permission of the instructor

4050 THE LEGACY OF THE SPANISH MYSTICS
This course provides a brief introduction to the study of the mystical tradition that reached Spain in the 16th century and the influence it has had on contemporary women writers. The works of Saint Therese of Jesus and those of St. John of the Cross are studied in detail. Students are introduced to the latest critical trends in literary and feminist theory. Classes are in the form of lectures and seminars, and are conducted in English.
Cross-listed with English 3690.
PREREQUISITE: Spanish 2020 or permission of the instructor. No prerequisite for English 3690
Lecture/Seminar: Three hours a week in Spanish

NOTE: Students taking this course as a Spanish credit must submit their written assignments in Spanish. The instructor will provide a weekly tutorial for Spanish students, conducted in Spanish.

4070 SPANISH MEDIEVAL LITERATURE
This course proposes to give students an overview of the literature produced in the Spanish Middle Ages through a variety of canonical texts from the eleventh to the fifteenth century. The texts selected for this course are studied in their socio-historical and socio-political contexts. Some of the literary genres studied are: the early lyric, the epic (Poema de Mío Cid), courtly and ecclesiastical poetry, didactic literature, and theatre. In addition to these genres, the French, Muslim and Jewish influences in the literary production of Medieval Spain are studied, as well as the problematic of the "originality" of medieval texts and the medieval "author".
PREREQUISITE: Spanish 2020 or permission of instructor

4090 SPECIAL TOPICS
Creation of a course code for special topics offered by Spanish at the 4000 level.

4150 CERVANTES' DON QUIXOTE AND THE FORMATION OF THE MODERN NOVEL
This course studies Don Quixote in the context of Cervantes' life and times. It examines the novel's social, political, and historical context; its reception in seventeenth-century Spanish society; the narrative structure and its determinants of gender and class; the intertextuality with major classical works of the Renaissance; and the metafictional, self-reflexive characteristics of the text. A variety of literary theory approaches are studied. The course is generally given in Spanish.
PREREQUISITES: Spanish 2020 or permission of the instructor

4510-4520 DIRECTED STUDIES
Centered around an author or a topic, this course is specifically designed to enable students to express themselves and to do research on their own. Students will be given topics to research and to present to the class. (See Academic Regulation 9 for Regulations Governing Directed Studies.)

# MODERN LANGUAGES COURSES

Whenever circumstances warrant it, the Department offers courses in languages other than French or Spanish. In the past introductory courses have been offered in Chinese, Irish, Italian, Japanese, Russian, Mi'kmaq and Scottish Gaelic. For Japanese or other Asian languages see Asian Studies.

1010 INTRODUCTION TO [A SELECTED MODERN LANGUAGE] I
This course is intended for students with no proficiency in the language. This course provides an introduction to the language in question, through the study of pronunciation, vocabulary and grammar. It includes numerous oral drills, frequent written exercises, short oral presentations and simple readings.
Three hours a week

1020 INTRODUCTION TO [A SELECTED MODERN LANGUAGE] II
This course is intended for students with no proficiency in the language. This course is a continuation of Modern Languages 1010. It provides further study of vocabulary and grammar and introduces aspects of civilization.
Three hours a week

2090 SPECIAL TOPICS
A lecture course in which various topics or issues are explored in an introductory manner. Detailed descriptions of each year's Special Topics courses will be available in the Department's Calendar Supplement.

2110 LATIN AMERICAN STUDIES: SOUTH AMERICA
This course is an introduction to the socio-political history and theories of cultures in Brazil, the Andean, and the

Southern Cone regions of South America. Some of the topics examined are the construction of the nation state, populist governments, military dictatorships, the search for social reform in the 20th century, and the transition to economic development. Subtopics include: slavery and native servitude, acculturation, immigration and urbanization, machismo and marianismo, and current native and women's movements. Classes are conducted in English.
NOTE: Students taking this course as a Spanish credit must submit their written assignments in Spanish. The instructor will provide a weekly tutorial for Spanish students conducted in Spanish.

2120 LATIN AMERICAN STUDIES: MEXICO AND THE CARIBBEAN
An introductory course studying the development of societies in Mexico and the Caribbean from its pre-Columbian past to this heterogeneous present. Cultural, geographical, historical, literary, political and social topics are examined combining traditional historical narratives with art, cinema and other texts from popular culture and mass media. The course is structured thematically around significant themes and events. Some of the themes covered are the Mexican, Cuban and Nicaraguan revolutions, gender relations and U.S. imperialism and hegemony policies in the region. Classes are conducted in English.
NOTE: Students taking this course as a Spanish credit must submit their written assignments in Spanish. The instructor will provide a weekly tutorial for Spanish students conducted in Spanish.

3090 SPECIAL TOPICS
A lecture course in which various topics or issues are explored in an introductory manner. Detailed descriptions of each year's Special Topics courses will be available in the Department's Calendar Supplement.

4090 SPECIAL TOPICS
A lecture course in which various topics or issues are explored in an introductory manner. Detailed descriptions of each year's Special Topics courses will be available in the Department's Calendar Supplement.

# 79. Music

http://upei.ca/music

**Music Faculty**
Frances M. Gray, Professor Emerita
Dale Sorensen, Assistant Professor, Chair
Sung Ha Shin-Bouey, Associate Professor
Andrew M. Zinck, Associate Professor
Magdalena von Eccher, Assistant Professor
Nicole Strum, Assistant Professor
Karem J. Simon, Professor Emeritus

**ENTRANCE REQUIREMENTS**
In addition to the standard University of Prince Edward Island entrance requirements, candidates for the Bachelor of Music and Bachelor of Music education will demonstrate technical proficiency, musical expression and learning potential on their instrument or voice.

A personal interview, audition, and diagnostic tests in theory and aural skills will be arranged prior to registration for each student wishing to enter a Music Program. An audition is not required for entrance into the BA Program with Major in Music.

## Bachelor of Music

The Bachelor of Music Program is a four-year program (120 semester hours) designed to provide students with sufficient flexibility to reflect their interests. The first two years are common to the Bachelor of Music Education Program. During years three and four, students may focus on Theory, History, or Applied Music. Upon graduation, students may wish to continue studies at the graduate level in Theory and Composition, Music History, or Performance. Graduation with a Bachelor of Music will not qualify a student for music teacher certification on Prince Edward Island.

## Bachelor of Music Education

**Application Process**
At the end of the second year of study, students wishing to complete the Bachelor of Music Education program must submit a letter of application to the Chair of the Music Department outlining why they consider the field of music education to be an appropriate career path, and why they feel they would be good teachers. The music education faculty will interview the applicants to determine their suitability for this program. Students must have an overall average of 70% and a music average of 75% in the second year of study and must maintain those minima in order to continue in the BMusEd program.

The Bachelor of Music Education Program is a five–year program (150 semester hours) designed to qualify graduates for the teaching of music as specialists in elementary and secondary school music. Upon the completion of this program, a student will qualify for a Prince Edward Island Teaching Certificate 5. Bachelor of Music Education students who wish to specialize in grades K-6 are advised, when choosing non-music electives, to select from a variety of areas. Bachelor

of Music Education students who wish to specialize in grades 7-12 are advised, when choosing non-music electives, to elect an area in which they are prepared to continue at least to the 3000 level, to provide them with a second teaching area.

**Bachelor of Arts with a Major in Music**

The BA with a Major in Music Program is a four-year program (120 semester hours) designed for those who wish to study music in a more general Arts curriculum. As a general program, it will not prepare students for teaching music, but will prepare them for further study toward careers such as music librarian, musicology, music publishing, communications media, and sound recording.

**REQUIREMENTS FOR A MINOR IN MUSIC**

Students wishing to receive a Minor in Music must complete a total of twenty-one semester hours of music courses, selected from the following list (or others in consultation with the Chair), with at least nine semester hours at the 2000 level or above: Music 1130, 1140, 1150, 1170, 1230, 1240, 2130, 2140, 2150, 2170, 2230, 3150, 4120, 4220, or 4230.

Students should check with the Chair of the Department in which they are majoring to ensure that these courses may be counted as electives. Note: some of these courses are not offered every year.

Students interested in the Minor in Music are encouraged to contact the Music Department for course advisement. Those students wishing to register for Music 1130 (Music Theory) OR Music 1150 must take a diagnostic test to determine the level of learning support that might be needed prior to (or during) the course(s), and should contact the Music Department before 10 July to arrange an appropriate time to take the test.

# Bachelor of Music Programs

**NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

**NOTE:** Completion of UPEI 1010, 1020, or 1030 is strongly recommended before taking any music courses beyond the 1000 level.

**Year 1**
**(common to both Bachelor of Music and Bachelor of Music Education Programs)**

| | **Semester hours of credit** |
|---|---|
| Music 1130-1140 Theory | 6 |
| Music 1150, 1170 Aural Skills | 6 |
| Music 1230-1240 Music & Culture | 6 |
| Music 1211-1212 Applied Woodwind, Brass, Percussion or Music 1311-1312 Applied Voice or Music 1411-1412 Applied Piano or Music 1511-1512 Applied Strings or Music 1611-1612 Applied Organ | 6 |
| Non-Music Electives | 6 |
| **Total** | **30** |

NOTE: ENSEMBLE REQUIREMENTS: All students enrolled in a music program must satisfactorily complete the requirements for participation in a minimum of six full-year ensembles for the Bachelor of Music and Bachelor of Music Education Degrees as follows:

Brass/Woodwind/Percussion majors – 2 years Concert Choir, 4 years Wind Symphony
Piano majors – 4 years Concert Choir, 2 years Collaborative Piano*
Voice majors – 4 years Concert Choir, 2 years Diction Lab & 2 years chamber Singers
Guitar & String majors – 2 years Concert Choir, 4 years of another recognized ensemble**

* Pianists who have reached the 3000 level in applied piano are required to take Collaborative Piano as their ensemble in lieu of large ensembles unless they are performing as pianist in those large ensembles. Placement is at the discretion of faculty.

** Possible ensembles include the UPEI Jazz Ensemble, UPEI Percussion Ensemble, UPEI Wind Symphony; or a community ensemble for which permission must be granted by the Department Chair. The community ensemble will be titled "Recognized Ensemble" on students' transcripts.

Unless the ensemble requirement is fulfilled, graduation will be denied.

**Year II**
**(common to both Bachelor of Music and Bachelor of Music Education Programs)**

| | **Semester hours of credit** |
|---|---|
| Music 2130-2140 Theory | 6 |
| Music 2150, 2170 Aural Skills | 6 |
| Music 2230 Music & Culture | 3 |
| Music 2211-2212 Applied Woodwind, Brass, Percussion or Music 2311-2312 Applied Voice or Music 2411-2412 Applied Piano or Music 2511-2512 Applied Strings or Music 2611-2612 Applied Organ | 6 |
| Music Elective | 3 |
| Non-Music Electives | 6 |
| **Total** | **30** |

NOTE: Ensembles required (see note at end of Year I).

**Year III**
**Bachelor of Music**

| | **Semester hours of credit** |
|---|---|
| Music 3211-3212 Applied Woodwind, Brass, Percussion or Music 3311-3312 Applied Voice or Music 3411-3412 Applied Piano or Music 3511-3512 Applied Strings or Music 3611-3612 Applied Organ | 6 |
| Music Electives | 15 |
| Non-Music Electives | 9 |
| **Total** | **30** |

NOTE: Ensembles required (see note at end of Year I)

**Year III**
**Bachelor of Music Education**

| | Semester hours of credit |
|---|---|
| Music 3211-3212 Applied Woodwind, Brass, Percussion or Music 3311-3312 Applied Voice or Music 3411-3412 Applied Piano or Music 3511-3512 Applied Strings or Music 3611-3612 Applied Organ | 6 |
| Music 3530-3540 Elementary Music Education Methods | 4 |
| Music Education Elective | 6 |
| Music electives (may include Music Education courses) | 6 |
| Non-Music Electives | 9 |
| **Total** | **31** |

NOTE: Ensembles required (see note at end of Year I).

**Year IV**

**Bachelor of Music**

| | Semester hours of credit |
|---|---|
| Music 4211-4212 Applied Woodwind, Brass, Percussion or Music 4311-4312 Applied Voice or Music 4411-4412 Applied Piano or Music 4511-4512 Applied Strings or Music 4611-4612 Applied Organ | 6 |
| Music Electives | 15 |
| Non-Music Electives | 9 |
| **Total** | **30** |

**Year IV**

**Bachelor of Music Education**

| | Semester hours of credit |
|---|---|
| Music 4211-4212 Applied Woodwind, Brass, Percussion or Music 4311-4312 Applied Voice or Music 4411-4412 Applied Piano or Music 4511-4512 Applied Strings or Music 4611-4612 Applied Organ | 6 |
| Music 4530-4540 Secondary Music Education Methods | 4 |
| Music 4620 Teaching Internship I | 3 |
| Music Education Elective | 2 |
| Non-Music Electives | 6 |
| **Total** | **30** |

**For Elementary (K-6) and Secondary (7-12) – Year 4 [ENGLISH]**

Any THREE of the following:

Education 4030 Arts and Social Transformation

Education 4040/4050/4310 as a block (Curriculum Planning/Creating a Climate for learning/Differentiated Instruction

Education 4110 Learners and Learning

Education 4150 Inclusive Classroom (Secondary only)

Education 4660 Teaching English as a Second Language

Education 4820 Assessment and Evaluation

Education 5820 Assessment of individual learners

**For Elementary (K-6) & Secondary (7-12) – Year 4 [FRENCH]**
Any THREE of the following courses (9 semester hours):
Education 4030 Integration des arts
Education 4110 Learners and Learning
Education 4150 Inclusion et differenciation
Education 4040/4050/4060 as a block (Planification/Gestion de classe/Comprendre la sante sociale
Education 4820 Evaluation en salle de classe

NOTE: Ensembles required (see note at end of Year I).

**Year V**
**Bachelor of Music Education**

| | **Semester hours of credit** |
|---|---|
| Music 4550-4560 Conducting | 4 |
| Music 4640 Teaching Internship II | 3 |
| Music Education Electives | 7 |
| Music Electives | 6 |
| Non-Music Electives | 3 |
| **Total** | **30** |

Students are required to take two (3 credits each) Education methods courses. Students may take these courses in English or French and specialize in either Elementary or Secondary using the following guidelines.

**For Elementary (ENGLISH): One of the following pairs:**
Education 4320/4330 Primary/Elementary Languages and Literacies I & II
Education 4230-4280 Primary/Elementary
Education 4450 Primary/Elementary Science (3 semester hours) and one other primary/elementary subject method course (part I only) (3 semester hours)
Education 4540 Primary/Elementary Social Studies)
and One other primary/elementary subject method course (part 1 only) (3 semester hours)

**For Elementary (FRENCH): one of the following pairs:**
Education 4230-4280 Primary/Elementary Mathematics I & II (6 semester hours)
Education 4450 Primary/Elementary Science (3 semester hours) and one other primary/elementary subject method course (part 1 only) (3 semester hours)
Education 4540 Primary/Elementary Social Studies (3 semester hours) and one other primary/elementary subject method course (part 1 only) (3 semester hours)
Education 4880-4890 Littératie I and II (6 semester hours)

**For Secondary (ENGLISH OR FRENCH*) one of the following pairs:**
Education 4260-4270 Intermediate/Senior Mathematics I & II (6 semester hours)
Education 4360-4370 Intermediate/Senior English I & II (6 semester hours)
Education 4460-4470 Intermediate/Senior Science I & II (6 semester hours)
Education 4560-4570 Intermediate/Senior Social Studies I & II (6 semester hours)
Education 4760 French Methods I (3 semester hours) and one other intermediate/senior subject method course (part 1 only) (3 semester hours)
Education 4860 Didactique du français langue seconde: Une Introduction (3 semester hours) **and** one other

intermediate/senior subject method course (part 1 only) (3 semester hours)
**Total 29 semester hours**

## Bachelor of Arts with a Major in Music

| Year I | Semester Hours of credit |
|---|---|
| Music 1130-1140 Theory | 6 |
| Music 1150, 1170 Aural Skills | 6 |
| Music 1230-1240 Music & Culture | 6 |
| Non Music Electives | 6 |
| Free Electives | 6 |
| **Total** | **30 credits** |

NOTE: Students in the BA with a major in Music program will be required to take part in at least one ensemble for each semester they are in the program. This is equal to a minimum of four full-year ensembles for a BA Major in Music degree, two of which must be in large ensembles. Unless the ensemble requirement is fulfilled, graduation will be denied.
NOTE: Students wishing to take Studio Minor (Music 1050) must have the permission of the relevant applied instructor and the Department Chair.

| Year II | Semester Hours of credit |
|---|---|
| Music 2130-2140 Theory | 6 |
| Music 2150, 2170 Aural Skills | 6 |
| Music 2230 Music & Culture | 3 |
| Music Elective | 3 |
| Non Music Electives | 6 |
| Free Electives | 6 |
| **Total** | **30** |

NOTE: Ensembles required (see note at end of Year I).

| Year III | Semester Hours of credit |
|---|---|
| Music Electives | 12 |
| Non Music Electives | 9 |
| Free Electives | 9 |
| **Total** | **30** |

NOTE: Ensembles required (see note at end of Year I)
COMMENT: Students may take a maximum of six (6) semester hours credit in Music Education toward the Music electives required for Years III and IV.

| Year IV | Semester Hours of credit |
|---|---|
| Music Electives | 12 |
| Non Music Electives | 9 |
| Free Electives | 9 |
| **Total** | **30** |

NOTE: Ensembles required (see note at end of Year I). See Comment at the end of Year III regarding Music Electives. PLEASE NOTE: AT LEAST 30 SEMESTER HOURS (10 COURSES) OF THE NON-MUSIC ELECTIVES MUST BE ARTS COURSES.

## Courses for Non-Music Majors

1050 Studio Minor
2050 Studio Minor
3050 Studio Minor
4050 Studio Minor

**ELECTIVES FOR MUSIC MAJORS**
Music Theory:
2630 Psychology of Music
3110 Special Topics in Music Theory
3150 Composition
3170-3180 Form and Analysis
3190 Advanced Topics in Music Theory
4110 Special Topics in Music Theory
4120 Music Cognition
4130 Orchestration
4150 Composition
4190 Advanced Topics in Music Theory
4930 Directed Studies
Music History:
3210 Special Topics in Music History
3220 Popular Music
3250 Studies in Film Music
3260 Musical Theatre
3290 Advanced Topics in Music History
4210 Special Topics in Music History
4220 Global Musics (may also be counted as a Music Education elective)
4230-4240 Canadian Music
4280 Inquiry Methods
4290 Advanced Topics in Music History

Applied Music:
3215 Business of Music
3350 Chamber Music I
3360 Recital Performance I
3370 Special Topics in Applied Music

3380-3390 Directed Studies in Applied Music
4330-4340 Literature and Pedagogy of Major Instrument or Voice
4350 Chamber Music II
4360 Recital Performance II
4370 Special Topics in Applied Music
4380-4390 Directed Studies in Applied Music

Music Education:
2450-2460 Percussion Techniques
3410 Special Topics in Music Education
3430-3440 Choral Techniques
3450-3460 Woodwind Techniques
3470-3480 String Techniques
3510 Philosophy of Music Education
3530-3540 Elementary Music Education Methods
3590 Advanced Topics in Music Education
4220 Global Musics (may also be counted as a Music History elective)
4410 Special Topics in Music Education
4450-4460 Brass Techniques
4470 Jazz Techniques
4530-4540 Secondary Music Education Methods
4550-4560 Conducting
4580 Musicianship Workshop (Note: may also be counted as Applied or Theory elective, with approval of the Chair)
4590 Advanced Topics in Music Education

# MUSIC COURSES

1050 STUDIO MINOR
Individual instruction is given on all standard orchestral, band and keyboard instruments, as well as voice and guitar. Instruction is offered either as a one-half-hour lesson per week over two semesters, or a one-hour lesson per week in one semester.
PREREQUISITE: Must have the permission of the relevant applied instructor and the Department Chair.
3 hours credit
NOTE: This course will not be counted on the Bachelor of Music or Bachelor of Music Education, but can be used as a credit towards the Bachelor of Arts with a major in Music.

1051 CHAMBER SINGERS I
Ensemble requirement for voice majors in Bachelor of Music and Bachelor of Music Education program; elective possibility for any music major in Bachelor of Arts Music; Bachelor of Music and Bachelor of Music Education program and non-music majors. Non-credit course
PREREQUISITES: By audition and permission of the voice professor
0 credit hours

1052 CHAMBER SINGERS II
Ensemble requirement for voice majors in Bachelor of Music and Bachelor of Music Education program; elective possibility for any music major in Bachelor of Arts Music; Bachelor of Music and Bachelor of Music Education program and non-music majors. Non-credit course
PREREQUISITE: Music 1051

1130 THEORY
This course briefly reviews the basic rudiments of music theory and introduces the principles of diatonic harmony.
PREREQUISITE: Admission to BMus, BA (Music) or BMusEd or by permission of the instructor
3 hours credit

1140 THEORY
This course is a continuation of Music 1130.
PREREQUISITE: Music 1130
3 hours credit

1150 AURAL SKILLS I
This course aims to develop comprehensive musical fluency: a thinking ear and a hearing mind. Students work toward mastery of fundamental musicianship skills, including perception and performance of diatonic melodic material; perception and performance of non-complex rhythms in all meters; and basic contextual listening, ensemble, and improvisation.
PREREQUISITE: Admission to BMus, BA (Music) or BMusEd or permission of the instructor
3 hours credit

1170 AURAL SKILLS II
This course builds on the foundation of Music 1150 and is designed to strengthen fluency in sight singing and dictation while introducing more complex metrical, rhythmic, and tonal patterns.
PREREQUISITE: Music 1150
3 hours credit

1180 PERCUSSION ENSEMBLE I
Ensemble elective possibility for all music majors.
PREREQUISITE: Must have permission of the instructor.
0 credit hours

1190 PERCUSSION ENSEMBLE II
Ensemble elective possibility for all music majors.
PREREQUISITE: Music 1180
0 credit hours

1211 APPLIED WOODWIND, BRASS, PERCUSSION I
Individual is given instruction on standard orchestral/band instruments including Bassoon, Clarinet, Euphonium, Flute, Horn, Saxophone, Trombone, Trumpet, Oboe, Tuba, or Percussion.
PREREQUISITE: A successful audition
CO-REQUISITE: Music 1330 and Music 1270
3 hours credit

1212 APPLIED WOODWIND, BRASS, PERCUSSION II
Individual is given instruction on standard orchestral/band instruments including Bassoon, Clarinet, Euphonium, Flute, Horn, Saxophone, Trombone, Trumpet, Oboe, Tuba, or Percussion.
PREREQUISITE: Music 1211
CO-REQUISITE: Music 1340 and Music 1280
3 hours credit

1230 INTRODUCTION TO MUSIC AND CULTURE
This course prepares students to study music as a product of cultural expression through an examination of how diverse socio-cultural, economic, and political forces shape the production, transmission, and reception of music. Through the exploration of diverse repertoire from a variety of music cultures and historical periods, students develop foundational

skills in critical listening, research, and writing within the discipline.
3 hours credit
Note: A basic ability to read music is recommended

1240 PERSPECTIVES IN MUSIC AND CULTURE I
This course provides a topical exploration of Western Art music and other musical traditions through a variety of cultural, historical, and theoretical lenses. Students examine the complex relationships that exist among music and concepts of identity, power, ideology and belief, conflict and crisis, technology, commerce, and visual culture. Topics will vary each year.
PREREQUISITE: Music 1230
3 hours credit

1250 COLLABORATIVE PIANO I
Ensemble requirement for piano majors in Bachelor of Music and Bachelor of Music Education programs.
PREREQUISITE: Must be a piano major in the music department.
0 Credit Hours

1260 COLLABORATIVE PIANO II
Ensemble requirement for piano majors in Bachelor of Music and Bachelor of Music Education programs.
PREREQUISITE: Music 1250
0 Credit Hours

1270 WIND SYMPHONY I
Ensemble requirement for instrumental majors in Bachelor of Music and Bachelor of Music Education programs; elective possibility for Bachelor of Arts Music majors and non-music majors.
PREREQUISITE: Audition and permission of the Wind Symphony director
0 credit hours

1280 WIND SYMPHONY II
Ensemble requirement for instrumental majors in Bachelor of Music and Bachelor of Music Education programs; elective possibility for Bachelor of Arts Music majors and non-music majors.
PREREQUISITE: Music 1270, audition and permission of the Wind Symphony director
0 credit hours

1311 APPLIED VOICE I
Individual is given instruction in Voice.
PREREQUISITE: A successful audition
CO-REQUISITE: Music 1330 and Music 1350
3 hours credit

1312 APPLIED VOICE II
Individual is given instruction in Voice.
PREREQUISITE: Music 1311
CO-REQUISITE: Music 1340 and Music 1360
3 hours credit

1330 CONCERT CHOIR I
Ensemble requirement for all music majors in Bachelor of Arts Music, Bachelor of Music and Bachelor of Music Education Programs; elective possibility for BA Music majors and non-music majors.
PREREQUISITE: Audition and permission of choral director
0 Credit Hours

NOTE: Contact the music department for details of audition and audition dates. Note: This audition is separate from the audition required to be admitted to any of the music degrees.

1340 CONCERT CHOIR II
Ensemble requirement for all music majors in Bachelor of Arts Music, Bachelor of Music and Bachelor of Music Education Programs; elective possibility for BA Music majors and non-music majors.
PREREQUISITE: Music 1330
0 Credit Hours

1350 DICTION I
Ensemble requirement for vocal majors in Bachelor of Music and Bachelor of Music Education Programs.
PREREQUISITE: Must be a voice major in the Department of Music or have permission of the instructor.
1 credit hour

1360 DICTION II
Ensemble requirement for vocal majors in Bachelor of Music and Bachelor of Music Education Programs.
PREREQUISITE: Music 1350
1 credit hours

1370 JAZZ ENSEMBLE I
Ensemble elective possibility for all music and non-music majors.
PREREQUISITE: Audition and permission of the Jazz Ensemble director
0 credit hours.
NOTE: Contact the Music department for details of audition and audition dates. Note: This audition is separate from the audition required to be admitted to any of the music degrees.

1380 JAZZ ENSEMBLE II
Ensemble elective possibility for all music and non-music majors.
PREREQUISITE: Music 1370
0 credit hours

1411 APPLIED PIANO I
Individual is given instruction on Piano.
PREREQUISITE: A successful audition
CO-REQUISITE: Music 1330
3 hours credit

1412 APPLIED PIANO II
Individual is given instruction on Piano.
PREREQUISITE: Music 1411
CO-REQUISITE: Music 1340
3 hours credit

1511 APPLIED STRINGS I
Individual is given instruction on Cello, Double Bass, Jazz Guitar, Classical Guitar, Viola, or Violin.
PREREQUISITE: A successful audition
CO-REQUISITE: Music 1330 and Music 1270 OR Music 1770
3 hours credit

1512 APPLIED STRINGS II
Individual is given instruction on Cello, Double Bass, Jazz Guitar, Classical Guitar, Viola, or Violin.
PREREQUISITE: Music 1511
CO-REQUISITE: Music 1340 and Music 1280 OR Music 1780
3 hours credit

1611 APPLIED ORGAN I
Individual is given instruction on Organ.
PREREQUISITE: A successful audition
CO-REQUISITE: Music 1330
3 hours credit

1612 APPLIED ORGAN II
Individual is given instruction on Organ.
PREREQUISITE: Music 1611
CO-REQUISITE: Music 1340
3 hours credit

1770 RECOGNIZED ENSEMBLE I
Ensemble elective for any music major in Bachelor of Arts Music; Bachelor of Music and Bachelor of Music Education program.
PREREQUISITE: Permission of the Department Chair and any audition procedures as outlined by the community ensemble.
0 credit hours

1780 RECOGNIZED ENSEMBLE II
Ensemble elective for any music major in Bachelor of Arts Music; Bachelor of Music and Bachelor of Music Education program.
PREREQUISITE: Music 1770
0 credit hours

2050 STUDIO MINOR
This course is a continuation of Music 1050.
PREREQUISITE: Music 1050
3 hours credit
NOTE: This course will not be counted on the Bachelor of Music or Bachelor of Music Education, but can be used as a credit towards the Bachelor of Arts with a major in Music.

2051 CHAMBER SINGERS III
Ensemble requirement for voice majors in Bachelor of Music and Bachelor of Music Education program; elective possibility for any music major in Bachelor of Arts Music, Bachelor of Music and Bachelor of Music Education program and non-music majors.
PREREQUISITE: Music 1052
0 credit hours

2052 CHAMBER SINGERS IV
Ensemble requirement for voice majors in Bachelor of Music and Bachelor of Music Education program; elective possibility for any music major in Bachelor of Arts Music, Bachelor of Music and Bachelor of Music Education program and non-music majors.
PREREQUISITE: Music 2051
0 credit hours

2056 INTERDISCIPLINARY STUDIES IN MUSIC
In this variable-topic course, students explore concepts, themes, and issues that connect the musical domain to other disciplines in the humanities and sciences, while learning to examine historical and contemporary issues from multiple perspectives.
PREREQUISITES: UPEI 1010, UPEI 1020 OR UPEI 1030
Three hours a week

2090 SPECIAL TOPICS
Special Topics course for music majors.

2130 THEORY
This course introduces the elements of chromatic harmony and modulation.
PREREQUISITE: Music 1140
3 hours credit

2140 THEORY
This course is a continuation of Music 2130.
PREREQUISITE: Music 2130
3 hours credit

2150 AURAL SKILLS III
This course aims to develop advanced musicianship skills, including perception and performance of chromatic and modulating melodies; and of non-traditional and atonal collections; perception and performance of complex rhythms; and advanced contextual listening, ensemble, and improvisation.
PREREQUISITE: Students must achieve a minimum of 70% in Music 1170 prior to taking this course and/or permission of the instructor
3 hours credit

2170 AURAL SKILLS IV
This course continues the development of advanced musicianship skills introduced in Music 215, focusing on the consolidation of listening and transcription, sight singing and improvisation in both individual and ensemble contexts; and the development of strategies for handling complex contemporary idioms.
PREREQUISITE: Music 2150
3 hours credit

2211 APPLIED WOODWIND, BRASS, PERCUSSION III
Individual is given instruction on standard orchestral/band instruments including Bassoon, Clarinet, Euphonium, Flute, Horn, Saxophone, Trombone, Trumpet, Oboe, Tuba, or Percussion.
PREREQUISITE: Music 1212
CO-REQUISITE: Music 2330 and Music 2370
3 hours credit

2212 APPLIED WOODWIND, BRASS, PERCUSSION IV
Individual is given instruction on standard orchestral/band instruments including Bassoon, Clarinet, Euphonium, Flute, Horn, Saxophone, Trombone, Trumpet, Oboe, Tuba, or Percussion.
PREREQUISITE: Music 2211
CO-REQUISITE: Music 2340 and Music 2380
3 hours credit

2230 PERSPECTIVES IN MUSIC AND CULTURE II
This course examines aspects of Western Art music from the eighteenth century to the present through a variety of cultural, historical, and theoretical lenses. Topics will vary each year.
PREREQUISITE: Music 1240
3 hours credit

2250 COLLABORATIVE PIANO III
Ensemble requirement for piano majors in Bachelor of Music and Bachelor of Music Education programs.
PREREQUISITE: Music 1260
0 Credit Hours

2260 COLLABORATIVE PIANO IV
Ensemble requirement for piano majors in Bachelor of Music and Bachelor of Music Education Programs.
PREREQUISITE: Music 2250
0 Credit Hours

2270 DICTION III
Ensemble requirement for vocal majors in Bachelor of Music and Bachelor of Music Education Programs.
PREREQUISITE: Music 1360
1 credit hours

2280 DICTION IV
Ensemble requirement for vocal majors in Bachelor of Music and Bachelor of Music Education Programs.
PREREQUISITE: Music 2270
1 credit hours

2311 APPLIED VOICE III
Individual is given instruction in Voice.
PREREQUISITE: Music 1312
CO-REQUISITE: Music 2330 and Music 2270
3 hours credit

2312 APPLIED VOICE IV
Individual is given instruction in Voice.
PREREQUISITE: Music 2311
CO-REQUISITE: Music 2340 and Music 2280
3 hours credit

2330 CONCERT CHOIR III
Ensemble requirement for all music majors in Bachelor of Arts Music, Bachelor of Music and Bachelor of Music Education Programs; elective possibility for BA Music majors and non-music majors.
PREREQUISITE: Music 1340
0 Credit Hours

2340 CONCERT CHOIR IV
Ensemble requirement for all music majors in Bachelor of Arts Music, Bachelor of Music and Bachelor of Music Education Programs; elective possibility for BA Music majors and non-music majors.
PREREQUISITE: Music 2330
0 Credit Hours

2350 PERCUSSION ENSEMBLE III
Ensemble elective possibility for all music majors.
PREREQUISITE: Music 1190
0 credit hours

2360 PERCUSSION ENSEMBLE IV
Ensemble elective possibility for all music majors.
PREREQUISITE: Music 2350
0 credit hours

2370 WIND SYMPHONY III
Ensemble requirement for instrumental majors in Bachelor of Music and Bachelor of Music Education programs; elective possibility for Bachelor of Arts Music majors and non-music majors.

PREREQUISITE: Music 1280, audition and permission of the Wind Symphony director
0 credit hours
NOTE: Contact the music department for details of audition and audition dates.

2380 WIND SYMPHONY IV
Ensemble requirement for instrumental majors in Bachelor of Music and Bachelor of Music Education programs; elective possibility for Bachelor of Arts Music majors and non-music majors.
PREREQUISITE: Music 2370, audition and permission of the Wind Symphony director
0 credit hours
NOTE: Contact the music department for details of audition and audition dates.

2410 JAZZ ENSEMBLE III
Ensemble elective possibility for all music and non-music majors.
PREREQUISITE: Music 1380
0 credit hours

2411 APPLIED PIANO III
Individual is given instruction on Piano.
PREREQUISITE: Music 1412
CO-REQUISITE: Music 2330
3 hours credit

2412 APPLIED PIANO IV
Individual is given instruction on Piano.
PREREQUISITE: Music 2411
CO-REQUISITE: Music 2340
3 hours credit

2420 JAZZ ENSEMBLE IV
Ensemble elective possibility for all music and non-music majors.
PREREQUISITE: Music 2410
0 credit hours.

2450 PERCUSSION TECHNIQUES
This course provides group instruction in percussion instruments, including snare drum, tympani, mallet instruments and accessory percussion. It introduces materials and procedures used in teaching these instruments.
2 hours credit

2460 PERCUSSION TECHNIQUES
This course is a continuation of Music 2450.
PREREQUISITE: Music 2450
2 hours credit

2511 APPLIED STRINGS III
Individual is given instruction on Cello, Double Bass, Jazz Guitar, Classical Guitar, Viola, or Violin.
PREREQUISITE: Music 1512
CO-REQUISITE: Music 2330 and Music 2370 OR Music 2770
3 hours credit

2512 APPLIED STRINGS IV
Individual is given instruction on Cello, Double Bass, Jazz Guitar, Classical Guitar, Viola, or Violin.
PREREQUISITE: Music 2511
CO-REQUISITE: Music 2340 and Music 2380 OR Music 2780
3 hours credit

2611 APPLIED ORGAN III
Individual is given instruction on Organ.
PREREQUISITE: Music 1612
CO-REQUISITE: Music 2330
3 hours credit

2612 APPLIED ORGAN IV
Individual is given instruction on Organ.
PREREQUISITE: Music 2611
CO-REQUISITE: Music 2340
3 hours credit

2630 PSYCHOLOGY OF MUSIC
The course introduces fundamental and exciting developments in the growing field of the psychology of music. Taking a cognitive psychological approach, topics in the course include memory for popular music, the distinctive sounds of musical instruments, music and the brain, rhythmic behaviour in humans and animals, absolute pitch, music and expectancy, the unheard melodies of film music, music and emotion, musical performance, musical creativity, musical intelligence, musical development, cross-cultural perspectives and world music, music appreciation and personality, music and well-being, and the historical context. Students will explore complexities underlying research findings and will aim to relate this understanding to music in their lives as well as to other areas in psychology.
PREREQUISITE: Psychology 1010 and 1020
3 credit hours

2770 RECOGNIZED ENSEMBLE III
Ensemble elective for any music major in Bachelor of Arts Music; Bachelor of Music and Bachelor of Music Education program.
PREREQUISITE: Music 1780
0 credit hours

2780 RECOGNIZED ENSEMBLE IV
Ensemble elective for any music major in Bachelor of Arts Music; Bachelor of Music and Bachelor of Music Education program.
PREREQUISITE: Music 2770
0 credit hours

3050 STUDIO MINOR
This course is a continuation of Music 2050.
PREREQUISITE: Music 2050
3 hours credit
NOTE: This course will not be counted on the Bachelor of Music or Bachelor of Music Education, but can be used as a credit towards the Bachelor of Arts with a major in Music.

3110 SPECIAL TOPICS IN MUSIC THEORY
This course provides an in-depth examination of selected topics in the area of music theory.
PREREQUISITE: Music 2130, 2150 and 2230
3 hours credit

3150 COMPOSITION
This course is an introductory course in composition which includes analysis of contemporary works. Students write compositions in smaller forms and structures for voices and instruments.
PREREQUISITE: Permission of the instructor
3 hours credit

3151 CHAMBER SINGERS V
Ensemble requirement for voice majors in Bachelor of Music and Bachelor of Music Education program; elective possibility for any music major in Bachelor of Arts Music, Bachelor of Music and Bachelor of Music Education program and non-music majors. Non-credit course.
PREREQUISITE: Music 2052
0 credit hours

3152 CHAMBER SINGERS VI
Ensemble requirement for voice majors in Bachelor of Music and Bachelor of Music Education program; elective possibility for any music major in Bachelor of Arts Music, Bachelor of Music and Bachelor of Music Education program and non-music majors. Non-credit course.
PREREQUISITE: Music 3151
0 credit hours

3155 SONGWRITING WORKSHOP I
This intensive workshop-oriented course offers students the opportunity to practice writing both lyrics and music within common contemporary song frameworks. Particular attention will be placed on developing effective creative habits and processes, including idea generation, revision of work, self-assessment, and maintenance of an artist's journal. The course will explore song as both a musical and literary genre, employing both lyrics-first and music-first writing strategies. Students will share works-in-progress in class for peer feedback and will present completed songs in the form of standard lead sheets and through in-class performances.
PREREQUISITE: Music 2130 and 2150
3 credit hours

3170 FORM AND ANALYSIS
This course involves the detailed analysis and study of works, large and small forms, representing a variety of structures from 1650 to the present.
PREREQUISITE: Music 2130, 2150 and 2230
3 hours credit

3180 FORM AND ANALYSIS
This course is a continuation of Music 3170
PREREQUISITE: Music 3170
3 hours credit

3190 ADVANCED TOPICS IN THEORY
This course allows advanced study in a particular area of music theory for students who possess a special expertise or interest in one facet of the discipline. Written application must be made to the Chair of the Department.
PREREQUISITE: Music 2130, 2150 and 2230
3 hours credit

3210 SPECIAL TOPICS IN MUSIC HISTORY
This course provides an in-depth examination of selected topics in the area of music history.
PREREQUISITE: Music 2130, 2150 and 2230
3 hours credit

3211 APPLIED WOODWIND, BRASS, PERCUSSION V
Individual is given instruction on standard orchestral/band instruments including Bassoon, Clarinet, Euphonium, Flute, Horn, Saxophone, Trombone, Trumpet, Oboe, Tuba, or Percussion.
PREREQUISITE: Music 2212

CO-REQUISITE: Music 3660
3 hours credit

3212 APPLIED WOODWIND, BRASS, PERCUSSION VI
Individual is given instruction on standard orchestral/band instruments including Bassoon, Clarinet, Euphonium, Flute, Horn, Saxophone, Trombone, Trumpet, Oboe, Tuba, or Percussion.
PREREQUISITE: Music 3211
CO-REQUISITE: Music 3670
3 hours credit

3215 BUSINESS OF MUSIC
This is a practical course intended to introduce students to the skills and tools needed to build a successful career in music.
PREREQUISITE: Music 2130, 2150 and Music 2230 or permission of the instructor
3 hours credit

3220 POPULAR MUSIC (Not offered every year)
This course explores the range of North American and British popular music from the early 1950s to the present, with an emphasis on rock music. Students will examine selected repertoire while exploring relevant critical methodologies used in the study of popular music.
PREREQUISITE: Music 2130, 2150 and 2230
3 hours credit

3250 STUDIES IN FILM MUSIC
This course introduces students to the ways in which music contributes to the cinematic experience. Through a series of case studies involving analysis of videos and accompanying musical scores, students explore the techniques of film music composition and develop the analytical skills necessary to consider music in a multi-media context.
PREREQUISITE: Music 2130, 2150 and 2230
3 hours credit

3260 MUSICAL THEATRE (Not offered every year)
This course explores the development of the Broadway musical from the early 1940s to the present. Students examine selected repertoire while exploring relevant critical methodologies used in the study of the genre.
PREREQUISITE: Music 2130, 2150 and 2230
3 hours credit

3270 COLLABORATIVE PIANO V
Ensemble requirement for piano majors in Bachelor of Music and Bachelor of Music Education Programs.
PREREQUISITE: Music 2260
0 Credit Hours

3280 COLLABORATIVE PIANO VI
Ensemble requirement for piano majors in Bachelor of Music and Bachelor of Music Education Programs.
PREREQUISITE: Music 3270
0 Credit Hours

3290 ADVANCED TOPICS IN MUSIC HISTORY
This course allows advanced study in a particular area of music history for students who possess a special expertise or interest in one facet of the discipline. Written application must be made to the Chair of the Department.
PREREQUISITE: Music 2130, 2150 and 2230
3 hours credit

3311 APPLIED VOICE V

Individual is given instruction in Voice.
PREREQUISITE: Music 2312
CO-REQUISITE: Music 3550 and Music 1051
3 hours credit

3312 APPLIED VOICE VI
Individual is given instruction in Voice.
PREREQUISITE: Music 3311
CO-REQUISITE: Music 3560 and Music 1052
3 hours credit

3350 CHAMBER MUSIC I
This course develops chamber music performance skills and competencies through the study of music for the genre selected. Ensembles are formed before the academic year. Each ensemble meets for two hours each week, one of which is with instruction. Public performances are encouraged and at least two must be presented in order to complete the course satisfactorily.
PREREQUISITE: Permission of instructor
Two hours a week for two semesters
3 hours credit

3360 RECITAL PERFORMANCE I
This course is open to students who wish to pursue a concentration in performance. Students are required to present a public recital consisting of a minimum of 30 minutes of music.
PREREQUISITE: 80% average in Music 2310-2320 and 70% average in Music courses in the previous academic year
1 hour credit

3370 SPECIAL TOPICS IN APPLIED MUSIC
This course provides an in-depth examination of selected topics in the area of applied music.
PREREQUISITE: Music 2140, 2170 and 2230, or permission of the instructor
3 hours credit OR three hours credit over two semesters

3380 DIRECTED STUDIES IN APPLIED MUSIC
This course allows advanced study in a particular area of applied music for students who possess a special expertise or interest in one facet of the discipline. Written application must be made to the Chair of the Department.
PREREQUISITE: Music 2140, 2170 and 2230 and permission of the Chair
3 hours credit OR three hours credit over two semesters
NOTE: See Academic Regulation 9 for Regulations Governing Directed Studies.

3390 DIRECTED STUDIES IN APPLIED MUSIC
This course allows advanced study in a particular area of applied music for students who possess a special expertise or interest in one facet of the discipline. Written application must be made to the Chair of the Department.
PREREQUISITE: Music 3380 and permission of the Chair
3 hours credit
NOTE: See Academic Regulation 9 for Regulations Governing Directed Studies.

3410 SPECIAL TOPICS IN MUSIC EDUCATION
This course provides an in-depth examination of selected topics in the area of music education.
PREREQUISITE: Music 2140, 2170, 2230 and permission of the Chair
3 hours credit

3411 APPLIED PIANO V
Individual is given instruction on Piano.

PREREQUISITE: Music 2412
CO-REQUISITE: Music 3550 and Music 1250
3 hours credit

3412 APPLIED PIANO VI
Individual is given instruction on Piano.
PREREQUISITE: Music 3411
CO-REQUISITE: Music 3560 and Music 1260
3 hours credit

3430 CHORAL TECHNIQUES
Instruction is given in the principles of vocal production, basic functional choral techniques, and choral conducting. Repertoire from the sixteenth century to the present will be selected in order to facilitate development in both singing and conducting techniques. Three main activities of this course include: sight singing at an advanced level, group and solo singing, and choral conducting.
PREREQUISITE: Music 1170, 1330 and 1340. Non-music majors must have some choral/singing background, or pass a vocal and aural skills audition.
2 hours credit

3440 CHORAL TECHNIQUES
This course provides a continuation of Music 3430, with more demanding repertoire. It concentrates on changing tempo, changing meter, and cueing problems.
PREREQUISITE: Music 3430
2 hours credit

3450 WOODWIND TECHNIQUES (Offered in alternating years)
This course provides group instruction in clarinet, saxophone, flute, oboe, and bassoon. Students familiarize themselves with materials used in teaching these instruments.
2 hours credit

3460 WOODWIND TECHNIQUES (Offered in alternating years)
This course is a continuation of Music 3450.
PREREQUISITE: Music 3450
2 hours credit

3470 STRING TECHNIQUES
This course provides group instruction in violin, viola, cello, and bass. It focuses on materials and procedures used in teaching these instruments.
PREREQUISITE: Music 2130, 2150 and 2230
2 hours credit

3480 STRING TECHNIQUES
This course is a continuation of Music 3470.
PREREQUISITE: Music 3470
2 hours credit

3510 PHILOSOPHY OF MUSIC EDUCATION (Offered in alternating years)
This course introduces students to philosophical concepts in music education as well as to key debates and advocacy rationales used in improving and promoting music in the schools. In addition to providing an introduction to historical and contemporary trends in music education, the course aims to develop students' critical thinking through research, debates, discussion, and writing.
PREREQUISITE: Music 2140, 2170 and 2230
2 hours credit

3511 APPLIED STRINGS V

Individual is given instruction on Cello, Double Bass, Jazz Guitar, Classical Guitar, Viola, or Violin.
PREREQUISITE: Music 2512
CO-REQUISITE: Music 3660 OR Music 3770
3 hours credit

3512 APPLIED STRINGS VI

Individual is given instruction on Cello, Double Bass, Jazz Guitar, Classical Guitar, Viola, or Violin.
PREREQUISITE: Music 3511
CO-REQUISITE: Music 3670 OR Music 3780
3 hours credit

3530 ELEMENTARY MUSIC EDUCATION (Offered in alternating years)

This course examines four major approaches to teaching elementary school music—Dalcroze, Kodaly, Orff and Comprehensive Musicianship. Students interrogate curriculum expectations and repertoire choices and they develop pedagogical skills, focusing on the young child, Grades K-3.
PREREQUISITE: Music 1170
2 hours credit

3540 ELEMENTARY MUSIC EDUCATION (Offered in alternating years)

The investigations begun in Music 3530 are continued in Music 3540, focusing on children in Grades 4-6. Learning theories as they relate to music are examined.
PREREQUISITE: Music 3530
2 hours credit

3550 CONCERT CHOIR V

Ensemble requirement for all music majors in Bachelor of Arts Music, Bachelor of Music and Bachelor of Music Education Programs; elective possibility for BA Music majors and non-music majors.
PREREQUISITE: Music 2340
0 Credit Hours

3560 CONCERT CHOIR VI

Ensemble requirement for all music majors in Bachelor of Arts Music, Bachelor of Music and Bachelor of Music Education Programs; elective possibility for BA Music majors and non-music majors.
PREREQUISITE: Music 3550
0 credit hours

3570 PERCUSSION ENSEMBLE V

Ensemble elective possibility for all music majors.
PREREQUISITE: Music 2360
0 credit hours

3580 PERCUSSION ENSEMBLE VI

Ensemble elective possibility for all music majors.
PREREQUISITE: Music 3570
0 credit hours

3590 ADVANCED TOPICS IN MUSIC EDUCATION

This course allows advanced study in a particular area of music education for students who possess a special expertise or interest in one facet of the discipline. Written application must be made to the Chair of the Department.

PREREQUISITE: Music 2140, 2170, 2230 and permission of the Chair
3 hours credit

3610 JAZZ ENSEMBLE V
Ensemble elective possibility for all music and non-music majors.
PREREQUISITE: Music 2420
0 credit hours

3611 APPLIED ORGAN V
Individual is given instruction on Organ.
PREREQUISITE: Music 2612
CO-REQUISITE: Music 3550 and Music 1770
3 hours credit

3612 APPLIED ORGAN VI
Individual is given instruction on Organ.
PREREQUISITE: Music 3611
CO-REQUISITE: Music 3560 and Music 1780
3 hours credit

3620 JAZZ ENSEMBLE VI
Ensemble elective possibility for all music and non-music majors.
PREREQUISITE: Music 3610
0 credit hours

3660 WIND SYMPHONY V
Ensemble requirement for instrumental majors in Bachelor of Music and Bachelor of Music Education programs; elective possibility for Bachelor of Arts Music majors and non-music majors.
PREREQUISITE: Music 3280, audition and permission of the Wind Symphony director
0 credit hours
NOTE: Contact the music department for details of audition and audition dates.

3670 WIND SYMPHONY VI
Ensemble requirement for instrumental majors in Bachelor of Music and Bachelor of Music Education programs; elective possibility for Bachelor of Arts Music majors and non-music majors.
PREREQUISITE: Music 3660, audition and permission of the Wind Symphony director
0 credit hours
NOTE: Contact the music department for details of audition and audition dates.

3770 RECOGNIZED ENSEMBLE V
Ensemble elective for any music major in Bachelor of Arts Music; Bachelor of Music and Bachelor of Music Education program.
PREREQUISITE: Music 2780
0 credit hours

3780 RECOGNIZED ENSEMBLE VI
Ensemble elective for any music major in Bachelor of Arts Music; Bachelor of Music and Bachelor of Music Education program.
PREREQUISITE: Music 3770
0 credit hours

3790 RECOGNIZED ENSEMBLE VII

Ensemble elective for any music major in Bachelor of Arts Music; Bachelor of Music and Bachelor of Music Education program.
PREREQUISITE: Music 3780
0 credit hours

4030 CONCERT CHOIR VII
Ensemble requirement for all music majors in Bachelor of Arts Music, Bachelor of Music and Bachelor of Music Education Programs; elective possibility for BA Music majors and non-music majors.
PREREQUISITE: Music 3560
0 credit hours

4040 CONCERT CHOIR VIII
Ensemble requirement for all music majors in Bachelor of Arts Music, Bachelor of Music and Bachelor of Music Education Programs; elective possibility for BA Music majors and non-music majors.
PREREQUISITE: Music 4030
0 credit hours

4050 STUDIO MINOR
This course is a continuation of Music 3050.
PREREQUISITE: Music 3050
3 hours credit
NOTE: This course will not be counted on the Bachelor of Music or Bachelor of Music Education, but can be used as a credit towards the Bachelor of Arts with a major in Music.

4051 CHAMBER SINGERS VII
Ensemble requirement for voice majors in Bachelor of Music and Bachelor of Music Education program; elective possibility for any music major in Bachelor of Arts Music, Bachelor of Music and Bachelor of Music Education program and non-music majors.
PREREQUISITE: Music 3152
0 credit hours

4052 CHAMBER SINGERS VIII
Ensemble requirement for voice majors in Bachelor of Music and Bachelor of Music Education program; elective possibility for any music major in Bachelor of Arts Music, Bachelor of Music and Bachelor of Music Education program and non-music majors.
PREREQUISITE: Music 4051
0 credit hours

4110 SPECIAL TOPICS IN MUSIC THEORY
This course provides an in-depth examination of selected topics in the area of music theory.
PREREQUISITE: Music 2130, 2150, 2230 and permission of the instructor
3 hours credit

4120 MUSIC COGNITION
See Psychology 4120

4130 ORCHESTRATION
This course introduces the techniques of orchestration for large ensembles (band and orchestra) and small ensembles.
PREREQUISITE: Music 2130, 2150, 2230
3 hours credit over two semesters

4150 COMPOSITION

This course provides instruction in the composition of works in larger forms for solo instruments, chamber ensembles, and large ensembles. Students are expected to complete several works.

PREREQUISITE: Music 3150

3 hours credit

4155 SONGWRITING WORKSHOP II

This course continues the development of songwriting skills introduced in Music 3155. Attention will be placed on deepening effective creative habits and processes, including idea generation, revision of work, self-assessment, and the maintenance of an artist's journal. Students will share works-in-progress in class for peer feedback and will present completed songs in the form of standard lead sheets and through in-class performances.

PREREQUISITE: Music 3155 and permission of the instructor

3 credit hours

4190 ADVANCED TOPICS IN MUSIC THEORY

This course allows advanced study in a particular area of music theory for students who possess a special expertise or interest in one facet of the discipline. Written application must be made to the Chair of the Department.

PREREQUISITE: Music 2140, 2170, 2230 and permission of the Chair

3 hours credit

4210 SPECIAL TOPICS IN MUSIC HISTORY

This course provides an in-depth examination of selected topics in the area of music history.

PREREQUISITE: Music 2130, 2150 and 2230

3 hours credit

4211 APPLIED WOODWIND, BRASS, PERCUSSION VII

Individual is given instruction on standard orchestral/band instruments including Bassoon, Clarinet, Euphonium, Flute, Horn, Saxophone, Trombone, Trumpet, Oboe, Tuba, or Percussion.

PREREQUISITE: Music 3212

CO-REQUISITE: Music 4510

3 hours credit

4212 APPLIED WOODWIND, BRASS, PERCUSSION VIII

Individual is given instruction on standard orchestral/band instruments including Bassoon, Clarinet, Euphonium, Flute, Horn, Saxophone, Trombone, Trumpet, Oboe, Tuba, or Percussion.

PREREQUISITE: Music 4211

CO-REQUISITE: Music 4520

3 hours credit

4220 GLOBAL MUSICS (not offered every year)

This course explores traditional and contemporary musics from various world cultures—both the actual sounds of diverse musical traditions and the uses of and beliefs about music within those traditions. Part of each class involves listening to a performing music from various cultures. Students have the opportunity to investigate a specific musical culture in some depth.

PREREQUISITE: Music 2230

3 hours credit

4230 CANADIAN MUSIC I

This course introduces the music of Canada from the colonial era to the end of World War I, within the context of the socio-cultural, political, and economic history of the country.

PREREQUISITE: Music 2130, 2150 and 2230 or permission of the instructor

3 hours credit

4240 CANADIAN MUSIC II

This course introduces the music of Canada from the end of World War I to the present, within the context of the socio-cultural, political, and economic history of the country.

PREREQUISITE: Music 2130, 2150 and 2230, or permission of the instructor

3 hours credit

4280 INQUIRY METHODS

This course introduces students to the skills and methods of inquiry in music history, music theory, and music education. Each student conducts an independent research project. Class time is devoted to discussion of works-in-progress and to research strategies and tools.

PREREQUISITE: Music 2140 and Music 2230, plus permission of the instructor

3 hours credit over two semesters

4290 ADVANCED TOPICS IN MUSIC HISTORY

This course allows advanced study in a particular area of music history for students who possess a special expertise or interest in one facet of the discipline. Written application must be made to the Chair of the Department.

PREREQUISITE: Music 2140, 2170, 2230 and permission of the Chair

3 hours credit

4311 APPLIED VOICE VII

Individual is given instruction in Voice.

PREREQUISITE: Music 3312

CO-REQUISITE: Music 4030 and Music 2051

3 hours credit

4312 APPLIED VOICE VIII

Individual is given instruction in Voice.

PREREQUISITE: Music 4311

CO-REQUISITE: Music 4040 and Music 2052

3 hours credit

4330 LITERATURE AND PEDAGOGY OF MAJOR INSTRUMENT OR VOICE

Students examine literature in their major field and investigate the teaching problems related to their major instrument or voice. Students teach at least one private student for the year.

PREREQUISITE: Music 2320

3 hours credit

4340 LITERATURE AND PEDAGOGY OF MAJOR INSTRUMENT OR VOICE II

This course is a continuation of Music 4330.

PREREQUISITE: Music 4330

3 hours credit

4350 CHAMBER MUSIC II

This course is a continuation of Music 3350 in which chamber music performance skills are advanced further. Ensembles are formed before the academic year. Each ensemble meets for two hours each week, one of which is with instruction. Public performances are encouraged and at least two must be presented in order to complete the course satisfactorily.

PREREQUISITE: Music 3350 and permission of instructor

Two hours a week for two semesters

3 hours credit

4360 RECITAL PERFORMANCE II

This is a continuation of Music 3360. Students are required to present a public recital consisting of a minimum of 50 minutes of music.

PREREQUISITE: Music 3360, 80% average in Music 3310-3320 and 70% average in Music courses in the previous academic year.
2 hours credit

4370 SPECIAL TOPICS IN APPLIED MUSIC
This course provides an in-depth examination of selected topics in the area of applied music.
PREREQUISITE: Music 2140, 2170 and 2230, or permission of the instructor
3 hours credit OR three hours credit over two semesters

4380 DIRECTED STUDIES IN APPLIED MUSIC
This course is a continuation of Music 4320. An emphasis is placed on a high level of performance in the major instrument or voice.
PREREQUISITE: Music 4320 and permission of the Chair
3 hours credit
NOTE: See Academic Regulation 9 for Regulations Governing Directed Studies.

4390 DIRECTED STUDIES IN APPLIED MUSIC
This course is a continuation of Music 4910.
PREREQUISITE: Music 4380 and permission of the Chair
3 hours credit
NOTE: See Academic Regulation 9 for Regulations Governing Directed Studies.

4410 SPECIAL TOPICS IN MUSIC EDUCATION
This course provides an in-depth examination of selected topics in the area of music education.
PREREQUISITE: Music 2140, 2170 and 2230
3 hours credit

4411 APPLIED PIANO VII
Individual is given instruction on Piano.
PREREQUISITE: Music 3412
CO-REQUISITE: Music 4030 and Music 2250
3 hours credit

4412 APPLIED PIANO VIII
Individual is given instruction on Piano.
PREREQUISITE: Music 4411
CO-REQUISITE: Music 4040 and Music 2260
3 hours credit

4450 BRASS TECHNIQUES (offered in alternating years)
This course provides group instruction in trumpet, trombone, French horn, euphonium, and tuba. It focuses on materials and procedures used in teaching these instruments.
2 hours credit

4460 BRASS TECHNIQUES (offered in alternating years)
This course is a continuation of Music 4450.
PREREQUISITE: Music 4450
2 hours credit

4470 JAZZ TECHNIQUES (not offered every year)
In this course, students examine all of the components of the jazz/stage band and are introduced to the styles, techniques, and special effects needed to develop a school jazz ensemble.

PREREQUISITE: Music 2130, 2150 and 2230, or permission of the Chair
3 hours credit

4480 COLLABORATIVE PIANO VII
Ensemble requirement for piano majors in Bachelor of Music and Bachelor of Music Education Programs.
PREREQUISITE: Music 3280
0 credit Hours

4490 COLLABORATIVE PIANO VIII
Ensemble requirement for piano majors in Bachelor of Music and Bachelor of Music Education Programs.
PREREQUISITE: Music 4480
0 credit Hours

4510 WIND SYMPHONY VII
Ensemble requirement for instrumental majors in Bachelor of Music and Bachelor of Music Education programs; elective possibility for Bachelor of Arts Music majors and non-music majors.
PREREQUISITE: Music 3670, audition and permission of the Wind Symphony director
0 credit hours
NOTE: Contact the music department for details of audition and audition dates.

4511 APPLIED STRINGS VII
Individual is given instruction on Cello, Double Bass, Jazz Guitar, Classical Guitar, Viola, or Violin.
PREREQUISITE: Music 3512
CO-REQUISITE: Music 3790 OR Music 4510
3 hours credit

4512 APPLIED STRINGS VIII
Individual is given instruction on Cello, Double Bass, Jazz Guitar, Classical Guitar, Viola, or Violin.
PREREQUISITE: Music 4511
CO-REQUISITE: Music 4520 OR Music 4770
3 hours credit

4520 WIND SYMPHONY VIII
Ensemble requirement for instrumental majors in Bachelor of Music and Bachelor of Music Education programs; elective possibility for Bachelor of Arts Music majors and non-music majors.
PREREQUISITE: Music 4510, audition and permission of the Wind Symphony director
0 credit hours
NOTE: Contact the music department for details of audition and audition dates.

4530 SECONDARY MUSIC EDUCATION METHODS (Offered in alternating years)
This course examines music in the junior and senior high schools with emphasis on methods and materials for general music, choral, and instrumental classes. The teaching of musicianship through performance is examined, as is the growing trend toward integrating performance, analysis, and composition in the secondary schools.
PREREQUISITE: Music 1170
2 hours credit

4540 SECONDARY MUSIC EDUCATION METHODS (Offered in alternating years)
This course is a continuation of Music 4530.
PREREQUISITE: Music 4530
2 hours credit

4550 CONDUCTING (offered in alternating years)

This course involves the study of instrumental conducting with an emphasis on techniques and repertoire for the modern wind band. It focuses on basic conducting techniques through more advanced technical problems, as well as rehearsal techniques and score study.
PREREQUISITE: Music 2140, 2170 and 2230
2 hours credit

4560 CONDUCTING (offered in alternating years)
This course is a continuation of Music 4550.
PREREQUISITE: Music 4550
2 hours credit

4580 MUSICIANSHIP WORKSHOP
This performance-based course will provide opportunities for upper year students to apply their musicianship skills to improvisational situations in a variety of musical styles and forms (from various oral traditions, the Western composed tradition and various popular music styles). The course will emphasize the development and refinement of skills in the melodic and harmonic aspects of spontaneous composition both vocally and instrumentally. Singers will improvise vocally and on piano or guitar. Instrumentalists will vocalize, use their major instrument, and use piano or guitar.
PREREQUISITE: Music 2140, 2170 and 2230, or by permission of the instructor
3 hours credit

4590 ADVANCED TOPICS IN MUSIC EDUCATION
This course allows advanced study in a particular area of music education for students who possess a special expertise or interest in one facet of the discipline. Written application must be made to the Chair of the Department.
PREREQUISITE: Music 2140, 2170 and 2230 and permission of the instructor
3 hours credit

4611 APPLIED ORGAN VII
Individual is given instruction on Organ.
PREREQUISITE: Music 3612
CO-REQUISITE: Music 4030 and Music 2770
3 hours credit

4612 APPLIED ORGAN VIII
Individual is given instruction on Organ.
PREREQUISITE: Music 4611
CO-REQUISITE: Music 4040 and Music 2780
3 hours credit

4620 TEACHING INTERNSHIP I
This course is the first pre-service teaching component of in-school teaching experience for music education students. In school settings, students begin to develop teaching skills, to implement lesson and rehearsal plans, and to consider the role of classroom methods, learning outcomes, and evaluation procedures. Pre-service teaching commences immediately following the April examinations, and continues for six consecutive weeks.
PREREQUISITE: Music 3530-3540 or Music 4530-4540, minimum music average of 75% minimum overall average of 70%, and permission of the Music Education faculty.
3 hours credit

4640 TEACHING INTERNSHIP II
This course is the second pre-service teaching component of in-school teaching experience for music education students. In school settings, students further develop their teaching skills, lesson planning, rehearsal techniques, and their ability to focus on learning outcomes while becoming reflective practitioners. Pre-service teaching commences immediately following the April examinations, and continues for six consecutive weeks.

PREREQUISITE: Music 4620, minimum music average of 75%, minimum overall average of 70%, and permission of the Music Education faculty.
3 hours credit

4650 JAZZ ENSEMBLE VII
Ensemble elective possibility for all music and non-music majors.
PREREQUISITE: Music 3620
0 credit hours

4660 JAZZ ENSEMBLE VIII
Ensemble elective possibility for all music and non-music majors.
PREREQUISITE: Music 3620
0 credit hours

4670 PERCUSSION ENSEMBLE VII
Ensemble elective possibility for all music majors.
PREREQUISITE: Music 3580
0 credit hours

4680 PERCUSSION ENSEMBLE VIII
Ensemble elective possibility for all music majors.
PREREQUISITE: Music 4670
0 credit hours

4770 RECOGNIZED ENSEMBLE VIII
Ensemble elective for any music major in Bachelor of Arts Music; Bachelor of Music and Bachelor of Music Education program.
PREREQUISITE: Music 3790
Non-credit course.

4780 RECOGNIZED ENSEMBLE IX
Ensemble elective for any music major in Bachelor of Arts Music; Bachelor of Music and Bachelor of Music Education program.
PREREQUISITE: Music 4770
0 credit hours

4790 RECOGNIZED ENSEMBLE X
Ensemble elective for any music major in Bachelor of Arts Music; Bachelor of Music and Bachelor of Music Education program.
PREREQUISITE: Music 4780
0 credit hours

4930 Directed Studies
This course allows advanced research in a particular area of music such as history, theory, or music education. NOTE: Students must be at least at the 3rd year standing of a B.Mus. or B.A. (Music) program, and must apply in writing to both the professor concerned and to the Chair of the Department.
PREREQUISITE: Permission of the Chair
3 credit hours

# 80. Nursing

http://upei.ca/nursing

**Nursing Faculty**

Christina Murray, Professor, Dean
Jo-Ann MacDonald, Professor
William Montelpare, Professor
Janet Bryanton, Professor Emerita/Adjunct Professor
Patrice Drake, Associate Professor, Associate Dean
Ashton Dougan, Assistant Professor
Brianna Hughes, Assistant Professor
Dawn Inman-Flynn, Assistant Professor
Gail Macartney, Assistant Professor
Janet Loo, Assistant Professor
Katelyn Smallwood-MacDonald, Assistant Professor
Lindsey Smith, Assistant Professor
Margie Burns, Assistant Professor
Nancy Clark, Assistant Professor
Rianne Carragher, Assistant Professor
Sydney Gaudet, Assistant Professor
Aleksandra Evans, Clinical Nursing Instructor
Amanda Weatherbie, Clinical Nursing Instructor
Candice Hughes, Clinical Nursing Instructor
Chelsea Pineau, Clinical Nursing Instructor
Corinne Cheverie, Clinical Nursing Instructor
Ellon Matthews, Clinical Nursing Instructor
Emma Gallant, Clinical Nursing Instructor
Jeff Groff, Clinical Nursing Instructor
Jennifer Lewellyn, Clinical Nursing Instructor
Jillian Wheeler, Clinical Nursing Instructor
Joanne Currie, Clinical Nursing Instructor
Kerie Murphy, Clinical Nursing Instructor
Kevin Ryan, Clinical Nursing Instructor
Lisa Hollands, Clinical Nursing Instructor
Nathaniel Marriott, Clinical Nursing Instructor
Shannon Bolo, Clinical Nursing Instructor
Stephanie Morrison, Clinical Nursing Instructor
Tanya MacInnis, Clinical Nursing Instructor
Tanya Matthews, Clinical Nursing Instructor
Valerie Abd El Aziz, Clinical Nursing Instructor
Valerie Reddin, Clinical Nursing Instructor
Brandi Bell, Adjunct Professor
Christine Cassidy, Adjunct Professor
Gloria McInnis-Perry, Adjunct Professor
Kathleen MacMillan, Adjunct Professor

Lisa Garland-Baird, Adjunct Professor
Patricia Charlton, Adjunct Professor
Rosemary J. Herbert, Adjunct Professor

**Bachelor of Science in Nursing Program**
Since 1992, The Faculty of Nursing at the University of Prince Edward Island has fostered an interactive academic environment that prepares nursing students to become critically reflective practitioners, advocates, educators, and professional leaders grounded in the principles of primary health care.

The curriculum of the Faculty of Nursing is based on the concepts and principles of Primary Health Care. Primary Health Care is defined by the World Health Organization (1978) as "essential health care made universally accessible to individuals and families in the community by means acceptable to them, through their full participation and at a cost that the community and country can afford." The purpose of the program is to prepare nurses to practice according to the concepts and principles of Primary Health Care.

In keeping with the basis of Primary Health Care, nurses collaborate with clients, other health care providers, and people from other sectors of society in promoting health. Nursing roles range from direct caregiver to formulator of healthy public policy and include advocate, leader, educator, researcher, and program developer.

**DEGREE REQUIREMENTS**

The following regulations govern students' progression through the program:

PROFESSIONAL CONDUCT
1. a) Nursing students are expected to be safe, ethical practitioners in all nursing practice situations. Student performance must be in accordance with the legal, ethical, moral and professional standards identified in the Code of Ethical Conduct for Registered Nurses (CRNMPEI, 2024), the Standards for Nursing Practice (CRNPEI, 2018), and the UPEI Faculty of Nursing clinical course objectives. Nursing students are also expected to behave in a professionally appropriate manner, regardless of the setting.

b) The Dean may prohibit a student from attending a clinical placement or dismiss a student from the nursing program if there is reasonable evidence that the student's professional behaviour, level of clinical competency, or physical or psychological health might be detrimental to clients.

CLINICAL/LABORATORY PERFORMANCE
2. Although clinical/laboratory components of nursing courses may be evaluated by a pass-fail system, students must pass the clinical/laboratory component for successful completion of the course.

3. Attendance at all activities related to clinical/laboratory components of nursing courses is mandatory. Students who are repeatedly absent from clinical/laboratory sessions without just cause will be removed from the course by the Dean and assigned a grade of "F".

4. Students must successfully complete designated nursing courses that have a clinical component in each semester before progressing to subsequent nursing courses with a clinical component in a subsequent semester.

5. Students who are absent from nursing courses that have a clinical component for more than twelve months must reapply to UPEI through the Office of the Registrar. If readmitted, they will be permitted to register for subsequent nursing courses with a clinical component, only with the permission of the Dean. The Dean may require the student to complete preparatory remedial work before granting this permission to register.

ACADEMIC PERFORMANCE

6. A student may withdraw voluntarily from the clinical course only once during the program. Special consideration may be given for a student with extenuating circumstances.

7. The minimal grade for successful completion of any course with a Nursing acronym is 60%. Supplementals will not be permitted in these courses.

8. The minimal grade for successful completion of all non-nursing courses is 50%.

9. Students must obtain an overall average of at least 60% in all courses successfully completed in each academic year.

10. Students may not take any required course specifically identified under the heading "Bachelor of Science in Nursing Program" more than twice.

11. Students who fail two nursing courses (courses with a nursing number) will be dismissed from the program.

12. To ensure safe, competent clinical calculations for nursing practice, all students in the nursing program (4-year and accelerated) are required to write a numeracy and basic mathematic skills assessment and several clinical calculation exams throughout the program and achieve a grade of 85% on each assessment

STUDENT DISMISSALS
13. Students who have been dismissed from the nursing program as a result of a clinical failure are not eligible for readmission to the program. Students dismissed for reasons other than clinical failures are eligible to apply to the program after eight months following the date of dismissal. Reapplication must be made to the Registrar's Office. Readmission is not automatic and the Dean may require students who are readmitted to complete preparatory remedial work before returning to the program.

TIME LIMIT
14. Except with special permission of the Dean, students must complete their BScN degree within seven calendar years from the date of their first registration in the program. Except with special permission from the Dean, registration in nursing courses which have a clinical/laboratory component is restricted to students registered in the Faculty of Nursing..

## Bachelor of Science in Nursing Program

(*) denotes clinical component

**Year 1 Required**

BIO 1060 – Introductory Microbiology for Health Sciences (see Non-Nursing Course Requirements #1)
BIO 1210 – Human Anatomy (see Non-Nursing Course Requirements below #2)
BIO 1220 – Human Physiology (see Non-Nursing Course Requirements below #3)
NURS 1010 – Foundations of Nursing I*
NURS 1020 – Foundations of Nursing II*
FN 1020 – Nutrition for Nursing Practice (see Non-Nursing Course Requirements below #4)
PSY 1010 – Introduction to Psychology I (see Non-Nursing Course Requirements below #5)
PSY 1020 – Introduction to Psychology II (see Non-Nursing Course Requirements below #6)
One of UPEI 1010 – Writing Studies, UPEI 1020 – Inquiry Studies, or UPEI 1030 – University Studies (see Non-Nursing Course Requirements below #7)

**Year 2 Required**

PSY 2010 – Developmental Psychology (see Non-Nursing Course Requirements below #8)

NURS 2120 – Pathophysiology for Nursing Students
NURS 2030 – Health Assessment
NURS 2130 – Nursing of Young Families*
NURS 2230 – Adult Nursing Transitions in Health*
NURS 2320 – Introductory Pharmacology
Introductory Statistics – Normally fulfilled by STAT 1210 – Introductory Statistics or PSY 2710 – Statistics for the Behavioural Sciences I (see Non-Nursing Course Requirements below #9)
IKE 1040 – Indigenous Teachings of Turtle Island

**Year 3 Required**

NURS 3030 – Issues in Nursing and Health Care
NURS 3040 – Nursing Research Methods
NURS 3060 – Nursing of the Childbearing Family*
NURS 3130 – Developing Partnerships with Clients in the Community*
NURS 3230 – Partnerships with Clients and Families Living with Chronic Illness*
NURS 3340 – Psychiatric and Mental Health Nursing
Electives (see Non-Nursing Course Requirements below #10 and #11

**Spring Session Required**

NURS 3100 – Integrated Clinical Experience I*

**Year 4 Required**

NURS 4010 – Nursing and Population Health*
NURS 4020 – Integrated Clinical Experience II*
NURS 4030 – Nursing Leadership and Primary Health Care
NURS 4040 – Conceptual Models and Nursing Theories
Electives (see Non-Nursing Course Requirements below #10 and #11

**Non-Nursing Course Requirements**

1) Required credit for BIO 1060 will be waived only for students who have already successfully completed BIO 2060.

2) Required credit for BIO 1210 will be waived only for students who have already successfully completed BIO 2260.

3) Required credit for BIO 1220 will be waived only for students who have already successfully completed BIO 4010.

For course descriptions of BIO 1060, BIO 1210 and BIO 1220, see Biology Department.

4) Required credit for FN 1020 will be waived only for students who have already successfully completed FN 3520.

For course description for FN 1020, see Applied Human Sciences Department.

5, 6, 8) For course descriptions of PSY 1010, PSY 1020 and PSY 2010, see Psychology Department.

7) For course descriptions of UPEI 1010, UPEI 1020 and UPEI 1030, see UPEI First Year Experience.

9) For course description of STAT 1210, see Mathematical and Computational Sciences Department and for course description for PSY 2710, see Psychology Department.

10-11, Three free electives

## Accelerated Bachelor of Science in Nursing Program

The Accelerated BScN program is unique in that it recognizes previous course work toward completion of the degree. Previous course work will be recognized (60 semester hours of credit required for admission) as contributing to total credit degree requirements but will not be assigned as transfer credit if completed outside of UPEI. Students in the Accelerated BScN program will complete 81 semester hours of nursing specific courses to fulfill the degree requirements for the BScN.

Enrolment is limited. Application deadline for admission is July 15.

Students apply for the Accelerated Bachelor of Science in Nursing (BScN) Program through the Registrar's Office, and must submit the UPEI undergraduate application form. Admission requirements can be found HERE.

First Year Required:

**January – April**

NURS 1030 – Fundamentals of Nursing Practice
NURS 2450 – Health Assessment
NURS 2320 – Introductory Pharmacology
NURS 2120 – Pathophysiology for Nursing Students

**Mid-April – August**

NURS 2130 – Nursing of Young Families*
NURS 2230 – Adult Nursing: Transitions in Health*
NURS 3060 – Nursing of the Childbearing Families*
Note: All students must complete IKE 1040 – Indigenous Teachings of Turtle Island

**September – December**

NURS 3230 – Partnerships with Clients and Families Living with Chronic Illness
NURS 3030 – Issues in Nursing and Health Care OR
NURS 3040 – Nursing Research Methods
NURS 3340 – Psychiatric and Mental Health Nursing

Second Year Required:

**January – April**

NURS 3130 – Developing Partnerships with Clients in the Community*
NURS 4030 – Nursing Leadership and Primary Health Care
NURS 3030 – Issues in Nursing and Health Care OR
NURS 3040 – Nursing Research Methods
NURS 3060 – Nursing of the Childbearing Family

**May – August**

NURS 4010 – Nursing and Population Health*
NURS 3100 – Integrated Clinical Experience*

**September – December**

NURS 4020 – Integrated Clinical Experience II*
NURS 4040 – Conceptual Models and Nursing Theories

# NURSING COURSES

1010 FOUNDATIONS OF NURSING I
This course is an introduction to the discipline of nursing. Students are introduced to the philosophy of primary health care and the framework for nursing at UPEI. Clinical experiences occur in community settings with well elderly clients. Students learn beginning skills in communication, assessment and psychomotor techniques through active involvement in classroom discussions, labs, tutorials and clinical practice.
PREREQUISITE(S): Admission to the 4-year Nursing Program.
Semester hours of credit: 3
Hours per week: Lecture: 3 Lab: 2 Clinical Practice: 30 hours total (includes weekly tutorial

1020 FOUNDATIONS OF NURSING II

Students are introduced to the theoretical concept of caring for clients within a primary health care context. Using primary health care as a framework, nursing concepts are explored and strategies for nursing care considered. Students begin to develop a conceptual framework to guide their nursing practice while working with clients in long term care settings.

PREREQUISITE(S): Four Year Program – Nursing 1010, Biology 1210 and Biology 1060 Semester hours of credit: 6

Hours per week: Lecture: 3 Lab: 2 Clinical Practice: 55 hours total

1030 FUNDAMENTALS OF NURSING PRACTICE

Nursing 1030 examines fundamental principles and skills for nursing practice. Students are introduced to Primary Health Care and to the Prince Edward Island Conceptual Model of Nursing: A Nursing Perspective of Primary Health Care. Through this theoretical framework, nursing concepts are explored and strategies for nursing care considered. Students are introduced to beginning communication, assessment, and psychomotor skills through active participation in online and onsite lectures, lab and clinical seminar settings. Students have an opportunity to apply theoretical knowledge to clinical practice by partnering with healthy older adults living independently in the community and in long term care settings.

PREREQUISITE(S): Admission to the Accelerated Program and completion of pre-nursing pre-requisites. Semester hours of credit: 9 Hours per week: Lecture: 3 Lab: 4 Clinical Practice: 85 hours total

2030 HEALTH ASSESSMENT

This course provides the student with knowledge and skills for holistic assessment of individuals. Students learn data collection techniques (interviewing skills, critical thinking skills, and the physical examination techniques of inspection, palpation, percussion, and auscultation). The focus is on the well individual.

PREREQUISITE(S): Nursing 1020, Biology 1210 and Biology 1220

Semester hours of credit: 3

Hours per week: Lecture: 3 Lab: 3

2120 PATHOPHYSIOLOGY FOR NURSING STUDENTS

This course is an overview of pathophysiological mechanisms of disease states. Concepts and processes of abnormal physiology in various body systems are presented using selected diseases as illustrations. Unique features of child and adult responses are presented.

PREREQUISITE: Four-year program: Biology 1210, Biology 1220, Nursing 2030 or Admission to the Accelerated Nursing Program.

Semester hours of credit: 3

Hours per week: Three hours of lecture and 1.5 hours of seminar per week

2130 NURSING OF YOUNG FAMILIES

The focus of this course is on caring for healthy children and families in a variety of settings. Students are introduced to the concepts of family-centred care and empowerment and examine structure, function, and tasks of families at various stages of their development. Determinants of health are used as the framework for exploring factors which influence the health of children and families. Common childhood illnesses are also discussed.

PREREQUISITES: (Four Year Program – Nursing 1020, Biology 1210, Biology 1220, and Biology 1060., Psychology 2010 can be taken concurrently).; (Accelerated Program – admission to Accelerated Program and Nursing 1030.

Semester hours of credit: 6

Hours per week: Lecture: 3 Tutorial: 3 2 Clinical Practice: 120 hours total

2230 ADULT NURSING: TRANSITIONS IN HEALTH

In this course, the student focuses on the experience of illness and the impact of illness, both acute and chronic, on the hospitalized client. The primary focus is the individual client; however, the individual is considered within the context of the family. Each student has clinical rotations working with adults in a hospital setting who are experiencing an acute

episode of illness or an exacerbation of a chronic illness. Students learn to apply the principles of primary health care to nursing practice in the acute care setting.
PREREQUISITES: Four Year Program – Nursing 2030, Nursing 2130; Accelerated Program – Nursing 2130, and Nursing 2450
Semester hours of credit: 6
Hours per week; Lecture: 3 Lab 3 Other – Clinical Practice:192 hours total

2320 INTRODUCTORY PHARMACOLOGY
This course is an introduction to the discipline of pharmacology and the response of the human body to pharmacological agents used to manage disease and promote wellness. The principal objective is to provide an introduction to the pharmacokinetics and pharmacodynamics of each major class of drugs used in nursing practise. As well, clinical case studies are included so the student gains knowledge of nursing assessments of drug efficacy, side effects and drug interactions, special considerations for geriatric and pediatric patients, drugs used in public health, emergencies and over-the-counter medications, and non-pharmacological ways to manage or prevent disease.
PREREQUISITES: Biology 1060, Biology 1220
Semester hours of credit: 3

2420W HEALTH ASSESSMENT FOR PRACTICING NURSES
Health Assessment is a three credit, 13-week course which emphasizes the knowledge and skills required for comprehensive health assessment. Specifically, the content focuses on helping learners' develop health history interviewing skills, physical examination techniques, and nutritional assessment techniques for clinical practice and to identify the wide range of "normal" health states for adults. Emphasis will be placed on analyzing assessment findings to identify health concerns as a basis for planning care.
PREREQUISITE: Available for any practising nurse
Web-based course

2450 HEALTH ASSESSMENT
This course provides the student with knowledge and skills for holistic assessment of individuals. Students learn data collection techniques (interviewing skills, critical thinking skills, and the physical examination techniques of inspection, palpation, percussion, and auscultation). The focus is on the well individual.
PREREQUISITE: Admission to the Accelerated Program
Semester hours of credit: 3
Hours per week: Lecture: 3 Lab: 3

2910 SPECIAL TOPICS
Creation of course code for special topics offered by Nursing at the 2000 level.

3030 ISSUES IN NURSING AND HEALTH CARE
In this course students examine ethical, legal, political, and economic issues in a changing health care system and issues related to the profession and to patient care. Students apply principles of organizational theory and ethical decision making models in analyzing issues in nursing and health care. This course offers a study of the professional practice of nursing and the values upon which to analyze current issues in Canadian nursing. Strategies for resolving issues in nursing will be emphasized.
PREREQUISITE: Four Year Program: Nursing 2230; Accelerated Program: Nursing 3060.
Semester hours of credit: 3
Hours per week: Lecture: 3

3040 NURSING RESEARCH METHODS
This course is an introduction to quantitative and qualitative nursing research. It provides students with a solid foundation for the continued study of research and nursing scholarship. Students will develop an understanding of and

appreciation for all phases of the research process, with an emphasis on the novice professional's role as an informed consumer of research. Students will develop skills in critiquing published studies and in making judgements about the usefulness of research for nursing practice.
PREREQUISITE: Four Year Program: A course in statistics and Nursing 2230; Accelerated Program: A course in statistics and Nursing 3060.
Semester hours of credit: 3
Hours per week: Lecture: 3

3050 HEALTH TEACHING
In this course, students are introduced to theories and principles of teaching and learning within a primary health care context. The course focuses on the nurse's role as health educator and change agent in promoting healthier lifestyles and enhancing wellness through the use of an empowering approach. Students have an opportunity to apply theory and to develop teaching skills through participation in a variety of community-based teaching activities throughout the semester.
PREREQUISITE: Nursing 1010 and permission of instructor if not currently enrolled in the third year of the program.
Semester hours of credit: 3
Hours per week: Lecture/Teaching practice: 3

3060 NURSING OF THE CHILDBEARING FAMILY
This course focuses on theories, issues, and trends related to the care of the childbearing family. Pregnancy, childbirth, and postpartum are viewed as normal life processes with family members as partners in care. The roles of the nurse are considered in relation to family-centred care and primary health care with an emphasis on the determinants of health and premature, preventive, and curative services. Students apply theory from this course to their clinical practice in Nursing 3130 and Nursing 3100.
PREREQUISITE: Four Year Program – Nursing 3230; Accelerated Program—Nursing 2230 and admission to the Accelerated Program
Semester hour of credit: 3
Hours per week: Four Year Program – 1.5 hours tutorial/seminar, Clinical Practice: 184 hours in total between N 3130 and 3060; Accelerated Program – Lecture: 3 Tutorial: 1.5 hours; Other – Clinical Practice: 184 hours in total

3070 GLOBAL HEALTH IN A CHANGING WORLD
This course explores multiple aspects of global health and examines how factors such as internationalization, mobility and cultural diversity shape local, national and international communities. Throughout the course, students will gain an understanding of, and appreciation for, social, economic and political factors that are influencing global health. As students from multiple disciplines learn together, a deeper understanding of global health and how it relates to them within a local, national and international context will emerge.
Semester hours of credit: 3

3100 INTEGRATED CLINICAL EXPERIENCE I
This course provides a consolidated clinical experience in which students can integrate theory and practice on a daily basis. Clinical experiences prepare students for the final year of study. Placements are arranged in a variety of settings with clients across the life span. This course is graded Pass/Fail.
PREREQUISITE(S): Nursing 3060, 3130, and 3230
Semester hours of credit: 6
Clinical Practice: 4 year program: 288 hours in total; Accelerated program: 144hrs

3130 DEVELOPING PARTNERSHIPS WITH CLIENTS IN THE COMMUNITY
This course focuses on promoting and maintaining health and providing support and assistance to individuals, families, and groups in the home and community. Students work in situations of increasing complexity, assessing health, providing and evaluating interventions, and building partnerships and supportive relationships. Students become more

aware of community agencies and resources and begin to participate actively in the referral process. The course involves extensive travel throughout the province.
PREREQUISITE: Nursing 3230
Semester hours of credit: 6
Hours per week: Lecture: 3 Other – Clinical Practice: 184 hours total between N3130 and N3060

3230 PARTNERSHIPS WITH CLIENTS AND FAMILIES LIVING WITH CHRONIC ILLNESS
This course encourages students to develop partnerships with clients and families to enhance the quality of life of those experiencing increasingly complex chronic illnesses. The principles of primary health care pertaining to accessibility, intersectoral collaboration and public participation for clients and their families with chronic illness will be examined in depth. Application of these principles to the population of adults experiencing increasingly complex illnesses in acute medical/surgical and mental health settings will be emphasized.
PREREQUISITE: Nursing 2230, Nursing 2320, and VBS 2120
Semester hours of credit: 6
Hours per week: Lecture /Seminar: 3 Lab: 2 Other – Clinical Practice: 192 hours in total

3240 MENTAL HEALTH NURSING OF OLDER PEOPLE
This specialty course focuses on theories, issues, and trends related to the care of older persons who have, or who are at risk of developing, mental health needs. Emphasis is on a person-centered holistic approach to care, which focuses on older persons within the context of their lives, experiences, and relationships. The roles of the nurse as advocate, care provider, and educator are considered in relation to the services of primary health care. Concepts such as collaboration, prevention, promotion of mental health, as well as the treatment, care, and rehabilitation of mental health disorders in later life are reviewed.
PREREQUISITE: Available for any practising nurse or nursing student
Semester hours of credit: 3

3250 Indigenous Health and Wellbeing
Students will be introduced to historical and contemporary socio-political and policy determinants of Indigenous peoples' health in PEI and the wider context of Canada. Using anthropological, sociological and Indigenous cultural, experiential, and health lenses, students will develop an understanding of approaches to health and healing that resonate with Indigenous peoples. The course will be delivered through class discussions, assigned and supplemental readings, as well as individual and collective exploration. Contemporary understandings and practices will be overlaid on traditional understandings of physical, mental, emotional, and spiritual health and wellbeing to identify and foster holistic Indigenous health and well-being. Students will be introduced to the experience of health as one of the most significant issues defining the lives of Indigenous peoples in Canada.
PREREQUISITE: NURS 2230
Cross-listed with IKE 3250
Semester hours of credit: 3

3340 PSYCHIATRIC AND MENTAL HEALTH NURSING
NURS 3340 Psychiatric and Mental Health Nursing
This course will provide opportunities for students to develop partnerships with people who live with complex mental health and addiction challenges. Students will deliver evidence- informed holistic and ethical mental health nursing care in collaboration with individuals, families, and others across the continuum of mental health care. Students will assess health, provide and evaluate interventions. Course content will be framed using concepts such as, mental health promotion and well-being, recovery, intersectionality, trauma-informed care, primary health care principles, cultural competence, diversity, inclusion, humility, and safety.
PREREQUISITE: NURSING 2230 and NURSING 2320
Semester hours of credit: 3

3420W CULTURE IN NURSING (web-based course)

This course focuses on multi-cultural awareness and recognition of specific health care beliefs and values, exploring the role of the nurse within each country's health care system, and participating in a cultural immersion experience. Opportunities are provided to allow students to achieve a better understanding of cultural similarities and differences in a selected setting.
PREREQUISITE: Available for any practising nurse or nursing student

3910 SPECIAL TOPICS
Creation of a course code for special topics offered by Nursing at the 3000 level.

4010 NURSING AND POPULATION HEALTH
This course provides theoretical and clinical opportunities to examine and apply concepts and skills related to population health. Emphasis is placed on the determinants of health, populations at risk for both physical and psychosocial disruptions in health, strategies to promote the health of populations and the role of the nurse in an interdisciplinary and intersectoral approach to health promotion. A unit on epidemiology is included. Students work with community members in the development of a program to promote the health of the community. Students are assigned to work with a community agency liaison and gain experience in a wide variety of settings in rural and urban communities.
PREREQUISITE: Nursing 3060, Nursing 3130, Nursing 3230, and Nursing 3340.
Semester hours of credit: 9
Hours per week: Lecture: 3 Clinical Practice: 290 hours in total

4020 INTEGRATED CLINICAL EXPERIENCE II
This course provides a final opportunity for students to synthesize their knowledge, skills, and professional values in a selected nursing practice setting. Emphasis is on the complexity of comprehensive nursing care and the significance of health promotion measures. Students select an area of focus in consultation with a faculty member and a clinical preceptor. Placement is dependent on the availability of appropriate clinical experience. Students work with selected clients (individuals, families, and/or aggregates) to enhance their current level of health and maximize their active participation within various facets of health care. This course is graded Pass/Fail.
PREREQUISITE: Nursing 4010
Semester hours of credit: 6
Lecture/Seminar hours: 2 Clinical Practice: 320 hours in total.

4030 NURSING LEADERSHIP AND PRIMARY HEALTH CARE
This course extends the student's ability to examine theoretical and practice concepts in nursing leadership/management and primary health care. Students discuss concepts in health care organization(s) and management and the implications of those concepts when analyzing leadership styles in a clinical setting. Students explore leadership roles assumed by nurses and examine challenges confronting nursing leaders in an era of change. Emphasis is placed on strategies to enhance nursing influence on the evolving Canadian health care system. Models of partnership, decision making, collaboration and communication and the importance of teamwork are stressed.
PREREQUISITE: Four Year Program: Nursing 3100; Accelerated Program: Nursing 3230

4040 CONCEPTUAL MODELS AND NURSING THEORIES
In this course, students are introduced to the works of selected nurse theorists. Students develop skills in critical analysis and application of conceptual models and theories to practice.
PREREQUISITE: Nursing 3100
Semester hours of credit: 3
Hours per week: 3
Lecture: 3

4050 LEADERSHIP FOR HEALTH PROFESSIONALS IN A PRIMARY HEALTH CARE CONTEXT

This web-based course will include blended learning techniques that examine theoretical and practice concepts in health care leadership/management within the context of Primary Health Care. Students will critically analyze concepts in health care organization(s) and management and the implications of those concepts using a variety of leadership styles in a clinical setting. Students explore leadership roles assumed by health care professionals and examine challenges confronting these leaders. Emphasis is placed on strategic methods that enhance leadership to influence the evolving Canadian health care system. Models of partnership, decision making, collaboration and communication and the importance of teamwork are stressed.
PREREQUISITE: Accelerated Program – Admission to the Accelerated Program
Semester hours of credit: 3
Hours per week: Lecture 3

# 81. Bachelor of Applied Health in Paramedicine

Coordinator: Trevor Jain

The Bachelor of Applied Health in Paramedicine (and Bachelor of Applied Health in Paramedicine with Honours) combine occupational content provided by the paramedicine diploma programs at Holland College (or another eligible two-year Accreditation Canada-accredited paramedicine program) with foundational science courses, senior specialized courses in the life sciences, and advanced capstone paramedicine courses at the University of Prince Edward Island. It is designed for paramedics interested in enhancing their science knowledge as well as their research and communication skills, thus increasing access to post-graduate opportunities (e.g., Master's degree programs) and improving job prospects.

While at UPEI, students in this program will take 20 courses. Of these, 16 are required (core) courses and the rest will be electives. The core courses will primarily be in Biology, with four advanced courses in Paramedicine:

**NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

Five 1000-level courses:

- First Year Experience ( UPEI 1010 or UPEI 1020 or UPEI 1030)
- Introduction to Cell and Molecular Biology (BIO 1310)
- General Chemistry I (CHEM 1110)
- Statistics 1210 (Introductory Statistics) OR 1910 (Introduction to Probability and Statistics)
- Indigenous Teachings of Turtle Island (IKE 1040)

Four 2000 level courses:

- Cell and Molecular Biology (BIO 2210)
- Microbiology (BIO 2060)
- Human Genetics (BIO 2240)
- Human Biochemistry (BIO 2250)

Two 3000-level courses:

- Research Methods and Communications in Biology (BIO 3310)
- Medical Microbiology (BIO 3750)

Five 4000-level courses:

- Basic & Clinical Immunology (BIO 4750) or Medical Biology (BIO 4050)
- Health Promotion, Planning & Evaluation (PARA 4010)
- Disaster Medicine and Crisis Response (PARA 4020)
- Methods in Evidence Based Clinical Practice (PARA 4030), and Current Issues in Paramedicine (PARA 4040.)

Four elective courses from the list of recommended electives. Two of these electives must be from Science.

After completing their first year of study, students with an average of 75% or above may apply to complete an Honours thesis and enrol in Advanced Research and Thesis in Paramedicine 4900.

**COURSE SEQUENCE:**

**YEAR I**

Biology 1310 (Introduction to Cell & Molecular Biology)
Biology 2060 (Microbiology)
Biology 2210 (Cell Biology)
Biology 2240 (Human Genetics)
Biology 2250 (Human Biochemistry)
Chemistry 1110 (General Chemistry
IKE 1040 (Indigenous Teachings of Turtle Island)
Paramedicine 4010 (Health Promotion, Planning and Evaluation)
UPEI 1010 OR 1020 OR 1030 (First Year Experience)
1 Electives (see list below)

**YEAR 2**

Biology 3310 (Research Methods and Communications in Biology)
Biology 3750 (Medical Microbiology)
Biology 4050 (Medical Biology) OR Biology 4750 (Basic and Clinical Immunology)
Paramedicine 4020 (Disaster Medicine and Crisis Response)
Paramedicine 4030 (Methods in Evidence Based Clinical Practice)
Paramedicine 4040 (Current Issues in Paramedicine)
Statistics 1210 (Introductory Statistics) OR 1910 (Introduction to Probability and Statistics)
3 Electives (for a total of 120 semester hours of credit) OR Paramedicine 4900 (Advanced Research and & Thesis in Paramedicine) AND 2 Electives (for a total of 126 semester hours of credit for the Honours designation)

**ELECTIVES:**

Students complete the degree requirements by choosing four electives. Two of these electives must be from Science. Students are encouraged to take two electives from the same discipline (e.g., Psych 1010 and 1020) as these are set up to be taught in the first and second semesters. It will also make it easier to select electives in the same discipline the following year. NOTE: Approved students may register for Paramedicine 4900 (Advanced Research and Thesis in Paramedicine) in which case they require fewer electives in their second year and will be eligible graduate with a Bachelor of Applied Health in Paramedicine with Honours.

LIST OF RECOMMENDED ELECTIVES:
Business 1010 – Introduction to Business
Business 1710 – Organizational Behaviour
Biology 1320 – Organisms and their Environment
Chemistry 1120 – General Chemistry II; Chemistry 2430 – Organic Chemistry
Foods and Nutrition 1010 – Concepts and Controversies in Nutrition
Foods and Nutrition 2110 – Introductory Nutrition I
Foods and Nutrition 2120 – Introductory Nutrition II
Kinesiology 1010 – Introduction to Kinesiology
Philosophy 1050 – Technology, Values, and Science
Philosophy 1110 – Critical Thinking
Physics 1210 – Physics for Life Sciences I
Physics 1220 – Physics for Life Sciences II

Psychology 1010 – Introduction to Psychology I
Part I

Psychology 1020 – Introduction to Psychology
Part II

# PARAMEDICINE COURSES

4010 HEALTH PROMOTION, PLANNING AND EVALUATION
This course discusses the concepts of health and illness with an emphasis on understanding the origins, factors and conditions that determine health throughout the lifespan. Students are introduced to the practice of critical evaluation of systems used in health promotion and planning through reading published, literature, writing and class discussions.
PREREQUISITE: Registration in the BSc. Paramedicine program
Three semester hours a week

4020 DISASTER MEDICINE AND CRISIS RESPONSE
This advanced course introduces students to the practice of medicine within the disaster environment. Students learn how to plan and mitigate crisis response to both anthropogenic and natural disasters. Using modules, topics cover modelling of disaster predictions, organization of EMS before, during and after a disaster, disaster medicine principles and disaster management within the hospital environment.
PREREQUISITE Registration in the BSc. Paramedicine program
Three semester hours a week

4030 METHODS IN EVIDENCE BASED CLINICAL PRACTICE
This course introduces students to the practice of Evidence Based Medicine with a focus on prehospital and emergency care. Students will learn the skills to formulate a clinical question, search and critically evaluate the medical literature, apply their knowledge to a clinical scenario. Students will participate in "journal club" style rounds, and be expected to complete a project answering a clinical scenario of their choice.
PREREQUISITE: Registration in the BSc Bachelor of Applied Health in Paramedicine program. Biology 3310 should be taken at least concurrently.
Three hours a week

4040 CURRENT ISSUES IN PARAMEDICINE
This course gives students an opportunity to explore in depth topics shaping paramedicine today and in the future. The current issues explored include such topics as: pre-hospital airway management, extended scope of practice, advanced life support, trends in trauma management and others. Students learn though evaluation of current medical literature and discussion of topics, some of which will be selected by participants.
PREREQUISITE: Registration in the BSc. Paramedicine program. Biology 3310 should be taken at least concurrently.
Three semester hours a week

4900 ADVANCED RESEARCH AND THESIS IN PARAMEDICINE
This is a 12 semester-hour course required of all Honours students. It is intended to provide the student with research experience by giving them an opportunity to design, carry out, evaluate and write up a research project in an approved scientific fashion, while working under the direction of an advisor. This course prepares students who intend to take up further studies at a post-graduate level or for a career where research experience would be an asset.
PREREQUISITE: Acceptance to the Honours Program in Paramedicine
Twelve semester hours a week

# 82. Physics

http://upei.ca/physics

**Physics Faculty**
Derek W. Lawther, Associate Professor, Chair
Sheldon Opps, Professor
James Polson, Professor
William Whelan, Professor
Maria Kilfoil, Associate Professor
Michelle Patterson, Adjunct Professor

**REQUIREMENTS FOR A MAJOR IN PHYSICS**
Students who intend to major in Physics are advised to consult the Department before registration. The normal University requirements must be met in addition to the Departmental requirements listed below. In exceptional cases, courses may be taken in a different sequence provided that the pertinent prerequisites are fulfilled or permission is granted by the Department. **NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

| | Semester hours of credit |
|---|---|
| **First Year** | |
| Physics 1110-1120 Physics for Physical Sciences I and II | 6 |
| Mathematics 1910-1920 Single Variable Calculus I and II | 8 |
| Chemistry 1110-1120 General Chemistry I and II | 6 |
| UPEI 1010, 1020 OR 1030 | 3 |
| IKE 1040 Indigenous Teachings of Turtle Island | 3 |
| Electives (Biology 1310-1320 are highly recommended) | 6 |
| **Second Year** | |
| Physics 2010 Waves and Oscillations | 3 |
| Physics 2020 Mechanics | 3 |
| Physics 2120 Electricity, Magnetism, and Circuits | 3 |
| Physics 2210 Modern Physics | 3 |
| Physics 2820 Mathematical Physics | 3 |
| Physics 2030 Computational Physics | 3 |
| Mathematics 2610 Linear Algebra I | 3 |
| Mathematics 2910 Multivariable and Vector Calculus | 4 |
| Electives | 6 |
| **Third and Fourth Years** | |
| Physics 3120 Electromagnetism I | 3 |
| Physics 3220 Quantum Physics I | 3 |
| Physics 3330 Experimental Physics I | 3 |
| Physics 3720 Statistical Physics I | 3 |
| Physics 4430 Experimental Physics II | 3 |
| Physics- Three additional Physics courses taken at the 3000 level or above, but at least one must be above the 3000 level | 9 |
| Electives (Mathematics 3010 is highly recommended) | 30 |
| **Total** | **120** |

| **SPECIALIZATION IN MEDICAL AND BIOLOGICAL PHYSICS**<br>Students can specialize in Medical and Biological Physics within the Major in Physics program | |
|---|---|
| **First Year** | **Semester hours of credit** |
| Physics 1110-1120 Physics for Physical Sciences I and II | 6 |
| Mathematics 1910-1920 1920 Single Variable Calculus I and II | 8 |
| Chemistry 1110-1120 General Chemistry I and II | 6 |
| Biology 1210-1230 OR Biology 1310-1320 | 6 |
| UPEI 1010, 1020 OR 1030 | 3 |
| IKE 1040 Indigenous Teachings of Turtle Island | 3 |
| **Second Year** | |
| Physics 2010 Waves and Oscillations | 3 |
| Physics 2020 Mechanics | 3 |
| Physics 2120 Electricity, Magnetism, and Circuits | 3 |
| Physics 2210 Modern Physics | 3 |
| Physics 2430 Physics of the Human Body | 3 |
| Physics 2820 Mathematical Physics | 3 |
| Physics 2030 Computational Physics | 3 |
| Mathematics 2610 Linear Algebra I | 3 |
| Mathematics 2910 Multivariable and Vector Calculus | 4 |
| Electives | 3 |
| **Third and Fourth Years** | |
| Physics 3120 Electromagnetism I | 3 |
| Physics 3220 Quantum Physics I | 3 |
| Physics 3330 Experimental Physics I | 3 |
| Physics 3420 Introduction to Medical Physics | 3 |
| Physics 3520 Biomedical Imaging | 3 |
| Physics 3720 Statistical Physics I | 3 |
| Physics 4430 Experimental Physics II | 3 |
| Physics—One additional Physics course taken at the 3000 level or above | 3 |
| Electives (Biology 2260 and Biology 4010 are highly recommended. Mathematics 3010 is highly recommended) | 30 |
| **Total** | **120** |

**REQUIREMENTS FOR HONOURS IN PHYSICS**

The Honours program in Physics is intended to provide research experience at the undergraduate level. It is designed for students who are interested in continuing their studies at the graduate level in Physics or related fields, or who are planning careers where research experience would be an asset.  The Honours program comprises a total of 126 semester

hours of course credit, including a research project and thesis worth 12 semester hours. A total of at least 60 semester hours of Physics is required. **NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

**COURSE REQUIREMENTS**

The normal University requirements must be met in addition to the Departmental requirements listed below. Biology 1310 and 1320 are highly recommended electives.

| | Semester hours of credit |
|---|---|
| **First Year** | |
| Physics 1110-1120 Physics for Physical Sciences I and I | 6 |
| Mathematics 1910-1920 Single Variable Calculus I and II | 8 |
| Chemistry 1110-1120 General Chemistry I/II | 6 |
| UPEI 1010, 1020 OR 1030 | 3 |
| IKE 1040 Indigenous Teachings of Turtle Island | 3 |
| Electives (Biology 1310-1320 are highly recommended) | 6 |
| **Second Year** | |
| Physics 2010 Waves and Oscillations | 3 |
| Physics 2020 Mechanics | 3 |
| Physics 2120 Electricity, Magnetism, and Circuits | 3 |
| Physics 2210 Modern Physics | 3 |
| Physics 2030 Computational Physics | 3 |
| Physics 2820 Mathematical Physics | 3 |
| Mathematics 2610 Linear Algebra I | 3 |
| Mathematics 2910 Multivariable and Vector Calculus | 4 |
| Electives | 6 |
| **Third and Fourth Years** | |
| Physics 3010 Advanced Mechanics | 3 |
| Physics 3120 Electromagnetism I | 3 |
| Physics 3220 Quantum Physics I | 3 |
| Physics 3330 Experimental Physics I | 3 |
| Physics 3720 Statistical Physics I | 3 |
| Physics 4020 Statistical Physics II | 3 |
| Physics 4120 Electromagnetism II | 3 |
| Physics 4210 Quantum Physics II | 3 |
| Physics 4430 Experimental Physics II | 3 |
| Physics 4901 Honours Project I: Research | 6 |
| Physics 4902 Honours Project II: Thesis | 6 |
| Mathematics 3010 Differential Equations | 3 |
| At least one additional Math course at the 3000 or 4000 level | 3 |
| Electives, at least one of which must be an additional Physics Course at the 3000 level or above | 15 |
| **Total** | **126** |

**ENTRANCE REQUIREMENTS**

For admission to the program, students must normally have a minimum average of 70% in all previous courses. First-

class or high second-class standing in all previous Physics courses is expected. Permission of the Department is required.

Acceptance will be contingent upon the student's finding a project supervisor, approval of the research project topic, and the Department's assessment of the student's suitability for the program. Students interested in doing Honours should consult the Department Chair as early as possible, normally before the beginning of the student's third year, and no later than January 31 of the third year. Before registering for Physics 4901, the student must have been accepted into the Honours program, and the project topic must be approved by the Department.

To graduate with Honours in Physics, the student must maintain a minimum average of 75% in all Physics courses combined. Students must also maintain a minimum overall average of 70% in each of the four years of study.

**SPECIALIZATION IN MEDICAL AND BIOLOGICAL PHYSICS**

Students can specialize in Medical and Biological Physics within the Honours in Physics program.

| | Semester hours of credit |
|---|---|
| **First Year** | |
| Physics 1110-1120 Physics for Physical Sciences I and II | 6 |
| Mathematics 1910-1920 Single Variable Calculus I and II | 8 |
| Chemistry 1110-1120 General Chemistry I and II | 6 |
| Biology 1210-1230 OR Biology 1310-1320 | 6 |
| UPEI 1010, 1020 OR 1030 First Year Experience | 3 |
| IKE 1040 Indigenous Teaching of Turtle Island | 3 |
| **Second Year** | |
| Physics 2010 Waves and Oscillations | 3 |
| Physics 2020 Mechanics | 3 |
| Physics 2120 Electricity, Magnetism, and Circuits | 3 |
| Physics 2210 Modern Physics | 3 |
| Physics 2430 Physics of the Human Body | 3 |
| Physics 2030 Computational Physics | 3 |
| Physics 2820 Mathematical Physics | 3 |
| Mathematics 2610 Linear Algebra I | 3 |
| Mathematics 2910 Multivariable and Vector Calculus | 4 |
| Electives | 3 |
| **Third and Fourth Years** | |
| Physics 3010 Advanced Mechanics | 3 |
| Physics 3120 Electromagnetism I | 3 |
| Physics 3220 Quantum Physics I | 3 |
| Physics 3330 Experimental Physics I | 3 |
| Physics 3420 Introduction to Medical Physics | 3 |
| Physics 3520 Biomedical Imaging | 3 |
| Physics 3720 Statistical Physics I | 3 |
| Physics 4020 Statistical Physics II | 3 |
| Physics 4120 Electromagnetism II | 3 |
| Physics 4210 Quantum Physics II | 3 |
| Physics 4430 Experimental Physics II | 3 |
| Physics 4901 Honours Project I: Research | 6 |
| Physics 4902 Honours Project II: Thesis | 6 |
| Mathematics 3010 Differential Equations | 3 |
| At least one additional Math course at the 3000 or 4000 level | 3 |
| Electives, at least one of which must be an additional Physics course at the 3000 level or above (Biology 2260 and Biology 4010 are highly recommended, if Biology 1210-1230 NOT taken.) | 9 |

| | |
|---|---|
| **Total** | **126** |

The honours research project will be relevant to Medical or Biological physics.

# CO-OP EDUCATION in PHYSICS

The UPEI Co-op Program is an integrated approach to university education which enables students to alternate academic terms on campus with work terms in suitable employment. The success of such programs is founded on the principle that students are able to apply theoretical knowledge from course studies in the workplace and return to the classroom with practical workplace experience. Students who successfully complete all the requirements of the program will have the notation entered on their transcripts and on the graduation parchment.

Students accepted into the program complete at least three paid work terms of normally 14–16 weeks duration, but at least 12 weeks, and three professional development courses. Credits earned through completion of work terms are counted as general electives.

The Co-op option is available to full-time students in the Physics Major or Honours program. Applications to the Co-op Education Program are normally made after completion of the first year of study.

See the Co-operative Education Program section of the UPEI Academic Calendar for more information.

**MINOR IN PHYSICS**

Students in the Minor Program in Physics must complete a total of 21 semester hours of Physics including:
Physics 1110 Physics for Physical Sciences I – 3 hours
Physics 1120 Physics for Physical Sciences II – 3 hours
Physics 2210 Modern Physics – 3 hours

Four additional courses (12 semester hours) from the following list:

- Any physics courses at the 2000 level and above.
- ENGN 1340 Engineering Mechanics II: Dynamics – 3 hours.
- ENGN 2620: Thermo Fluids II: Fluid Mechanics – 3 hours.

Students intending to do a Minor in Physics are advised to take Mathematics 1910-1920 instead of Mathematics 1120.

**(Note: Registration in ENGN courses is limited to students enrolled in the Bachelor of Science Sustainable Design Engineering.)**

**MINOR IN MEDICAL AND BIOLOGICAL PHYSICS**

Students in the Minor Program in Medical and Biological Physics must complete a total of 21 semester hours of course credit, including:

Physics 1210 Physics for Life Sciences I or Physics 1110 Physics for Physical Sciences I – 3 hours
Physics 1220 Physics for Life Sciences II or Physics 1120 Physics for Physical Sciences II – 3 hours
Physics 2430 Physics of the Human Body – 3 hours

Four additional courses (12 semester hours) must be chosen from the following list of courses. (Note that at least 6 of these semester hours must be physics courses):

Physics 1510 Life in the Universe – 3 hours
Physics 2210 Modern Physics – 3 hours
Physics 2310 Biological Physics of Molecules -3 hours
Physics 2420 Introduction to Biomechanics – 3 hours
Physics 2630 Climate Physics – 3 hours

Physics 3420 Introduction to Medical Physics – 3 hours
Physics 3430 Research Project – 3 hours
Physics 3510 Analysis of Human Movement – 3 hours
Physics 3520 Biomedical Imaging – 3 hours
Physics 3910 Radiation Detection and Measurement – 3 hours
Physics 4320 Biological Physics of Cells – 3 hours
Biology 2260 Human Anatomy and Histology – 3 hours
Biology 4010 Human Physiology & Pathophysiology OR Biology 4020 Comparative & Environmental Vertebrate Physiology but not both – 3 hours
ENGN 3570 Engineering Applications of Biological Materials – 3 hours
ENGN 4330 Innovations in Biomedical Materials – 3 hours
ENGN 4830 Biomedical Signal Processing – 3 hours
RAD 2310 Radiographic Physics – 3 hours (available only to students in the Radiography program)
**(Note: Registration in ENGN courses is limited to students enrolled in the Bachelor of Science Sustainable Design Engineering.)**

# PHYSICS COURSES

1110 PHYSICS FOR PHYSICAL SCIENCES I
This course emphasizes the fundamentals of mechanics and is intended as a first course in physics for, but not restricted to, students considering degrees in physics, chemistry, mathematics and computer science. Topics include vectors, kinematics, Newton's laws of motion, gravitation, circular motion, static equilibrium, torque, momentum, conservation of energy and an introduction to special relativity.
PREREQUISITE: Proficiency in High School algebra, trigonometry and graphing is expected. Grade 12 Physics is highly recommended. It is required that Mathematics 1910 be taken at least concurrently.
Three hours lecture, three hours laboratory or tutorial per week
NOTE: Students may obtain credit for Physics 1210 OR 1110 but not both,

1120 PHYSICS FOR PHYSICAL SCIENCES II
This course is a continuation of Physics 1110 and is intended for, but not restricted to, students considering a degree in physics, chemistry, mathematics or computer science. Topics include fluid mechanics, thermodynamics, oscillations, wave motion, electricity, magnetism and optics.
PREREQUISITE: Physics 1110, and Mathematics 1910 or permission of the instructor. Mathematics 1920 must be taken at least concurrently
Three hours lecture, three hours laboratory or tutorial per week
NOTE: Students may obtain credit for Physics 1220 OR 1120 but not both.

1210 PHYSICS FOR LIFE SCIENCES I
This course is intended for life science and health science students. Students are introduced to the fundamental concepts of physics and some of their applications to biological systems. Topics include vectors, kinematics, force, energy and power, torque, linear and angular momentum, and fluid mechanics.
PREREQUISITE: Proficiency in High School algebra, trigonometry and graphing is expected. It is required that Mathematics 1120 or Mathematics 1910 be taken at least concurrently. High school physics is strongly recommended.
Three hours lecture, three hours laboratory or tutorial per week
NOTE: Students may obtain credit in Physics 1210 or 1110, but not in both.

1220 PHYSICS FOR LIFE SCIENCES II
This course is a continuation of Physics 1210 intended for students in the life sciences, introducing additional physics

concepts with emphasis on their application to biology. Topics include properties of waves, acoustics and hearing, optics and vision, thermodynamics, and basic electricity and magnetism.
PREREQUISITE: Physics 1210 or 1110 and either Mathematics 1120 or Mathematics 1910, or permission of the instructor.
Three hours lecture, three hours laboratory or tutorial per week
NOTE: Students may obtain credit for Physics 1220 or 1120 but not both.

1510 LIFE IN THE UNIVERSE
Beginning with a history of the evolving scientific thought on Earth's place in the universe, students will learn the fundamental physics and biology concepts necessary to assess what makes a planet and solar system suitable for life. Topics will include current research missions within our solar system, the search for extrasolar planets, the search for extraterrestrial intelligence, and the social implications of discovering life elsewhere. This course is intended for non-science students but science students are welcome to enrol also.
Three credit-hour lecture

2010 WAVES AND OSCILLATIONS
This course provides a basic introduction to the physics of mechanical waves. It begins with a study of the free, forced and damped harmonic oscillator and is followed by a study of discrete coupled oscillators in one dimension. This is used to derive the one-dimensional wave equation, which is used to study traveling and standing waves in continuous media. The course also provides an introduction to relevant mathematical concepts and methods, including complex numbers, partial derivatives, techniques for solving ordinary and partial differential equations, and Fourier series.
PREREQUISITE: Physics 1120 and Math 1920, or permission of the instructor
Three hours lecture, three hours laboratory per week

2020 MECHANICS
Using a more advanced treatment than in the 1000-level physics courses, this course gives the student a deeper understanding of mechanics. Topics include: vector calculus and representations in different coordinate systems, oscillations, applications of Newtonian mechanics to generalized 3D motion of a particle, non-inertial reference systems, gravitation, and central forces.
PREREQUISITE: Physics 1120 and Mathematics 1920, or permission of the instructor
Three hours lecture per week

2030 (formerly 3820) COMPUTATIONAL PHYSICS
This course is designed to introduce students to basic computer-based techniques for modelling realistic physical systems. A variety of computational techniques are used to study a number of phenomena, including projectile motion, chaotic motion, planetary dynamics, electromagnetism, and wave motion, and to graphically visualize functions and data in 3D.
PREREQUISITE: Physics 2010 or 2020, Mathematics 2910
Three hours lecture per week

2120 ELECTRICITY, MAGNETISM, AND CIRCUITS
Topics include electric field and potential; magnetic field; electromagnetic induction; integral formulations of Gauss' Law, Ampere's Law and Faraday's Law, direct-current and alternating-current circuits; resistance, capacitance, inductance and impedance; frequency response of AC circuits; and electrical measurements.
PREREQUISITE: Mathematics 2910 and Physics 2010 or Physics 2210; or permission of the instructor. Must be completed prior to taking this course.
Three hours lecture, three hours laboratory per week

2210 MODERN PHYSICS
This course is a survey of the fundamental concepts of modern physics intended for both physics majors and other science majors. Topics include: relativity, photons and matter waves, the photoelectric effect, Compton scattering, the uncertainty principle, quantum tunnelling, the hydrogen atom, line spectra, orbital and spin angular momentum,

magnetic dipole moments, x-rays, the laser, electron energy bands in solids, nuclear properties, radioactive decay, fission, fusion, quarks, leptons, and the Big Bang.
PREREQUISITE: Physics 1120 or Physics 1220, and Mathematics 1910, or permission of the instructor
Three hours lecture per week

2310 BIOLOGICAL PHYSICS OF MOLECULES
An introduction to molecular biology from a physics perspective. Topics covered include diffusion and random walks; fluid mechanics, especially low Reynolds number; single molecule mechanics of biopolymers; statistical physics in a form suitable for single-molecule experiments; co-operativity and self-assembly; molecular machines; and neural signaling. Techniques and methodologies, both experimental and computational, are included in the presentation of each topic.
Cross-listed with Physics 2310 Biological Physics of Molecules
PREREQUISITE: Physics 1120 or Physics 1220, and Mathematics 1120 or Mathematics 1910, or permission of the instructor
Three hours lecture per week

2420 INTRODUCTION TO BIOMECHANICS
(See Kinesiology 3120)

2430 PHYSICS OF THE HUMAN BODY
This course provides students with an introduction to the physics of the human body. Physics concepts such as mechanics, energy, work, fluid statics and dynamics, sound, optics, electricity, and magnetism will be applied to better understand the functioning of the human body
Cross-listed with Biology 2430.
PREREQUISITE: Physics 1120 or Physics 1220. Otherwise, permission of the instructor is required. It is highly recommended that at least six semester hours of credit in Biology be completed prior to taking this course.
Three hours lecture per week

2610 ENERGY AND THE ENVIRONMENT
This course is directed to both science and non-science students who wish to improve their understanding of this major technological issue. Topics include: the basic physics concepts necessary to understand the current and emerging renewable and non-renewable sources of energy, as well as their environmental and economic consequences.
PREREQUISITE: Physics 1210 or Physics 1110 or permission of the instructor. (Proficiency in High School algebra, trigonometry and graphing is expected).
Three hours lecture (seminars and/or field visits to be arranged)

2630 CLIMATE PHYSICS
The course is an introduction to the physics of climate change. Topics include understanding, evaluating and interpreting climate observations and associated physical data; atomic and molecular physics to describe atmospheric processes; basic fluid dynamics to describe atmospheric and oceanic circulation, thermodynamics, and solar radiation to describe the global energy balance; instrumentation and measurement physics with a focus on atmospheric temperature, humidity, and pressure; computational physics and modeling of climate systems and processes. Field trips may be offered.
Cross-listed with Biology 2630
PREREQUISITES: Chemistry 1110, and Math 1120 or Math 1910
Semester hours of credit: 3

2820 MATHEMATICAL PHYSICS
This course is an introduction to some of the mathematical methods commonly used in the physical sciences and engineering, with an emphasis on applications in physics. Topics include: vector calculus in Cartesian and curvilinear coordinates, Cartesian tensors, an introduction to complex variables, Fourier series and Fourier transforms, ordinary and partial differential equations.

Cross-listed with Mathematics 2820.
PREREQUISITE: Math 2910 and either Physics 1120 or Physics 1220
Three hours lecture per week

2920 STARS, GALAXIES, AND THE UNIVERSE
This course is an introduction to the study of astronomical objects and phenomena. Topics of study include observation of Earth's sky, gravity, light, and its use in astronomical instruments; properties and energy production of our Sun; methods of measuring astronomical distances; the structure, energy, and evolution of stars; interstellar matter and the structure of the Milky Way galaxy; other galaxies; cosmology; and some other related topics of interest.
PREREQUISITES: Physics 1110 or Physics 1210.
Three hours lecture, three hours laboratory or observations per week.

3010 ADVANCED MECHANICS
The Lagrangian and Hamiltonian formulations are presented as alternatives to the conventional treatment of Newton's laws and are applied to classical problems such as harmonic and anharmonic oscillators, the two-body central force problem, and rigid body motion.
PREREQUISITE: Physics 2020 and Physics 2820 or Mathematics 3010
Three hours lecture per week

3120 ELECTROMAGNETISM I
This course develops fundamental concepts in electricity and magnetism. Topics include electric fields and potentials, capacitance, dielectric materials, magnetic fields, magnetic properties of materials, electromagnetic induction, inductance, Maxwell's equations, and an introduction to electromagnetic waves.
PREREQUISITE: Physics 2120, Physics 2820
Three hours lecture per week

3220 QUANTUM PHYSICS I
This course introduces some of the fundamental methods of quantum mechanics. Topics include the postulates and mathematical formalism of quantum mechanics, the Dirac description of quantum mechanics, applications to a variety of one-dimensional problems such as quantum tunnelling, and the harmonic oscillator.
PREREQUISITE: Physics 2020, Physics 2210 and Mathematics 2910 or permission of the instructor
Three hours lecture per week

3330 (formerly 4410) EXPERIMENTAL PHYSICS I
This intermediate laboratory course is a collection of prescribed experiments designed for developing core experimental skills and conducting laboratory work in the major areas of physics covered in other third-year physics courses. The course will also develop students' knowledge of electronics and give them experience in scientific writing.
PREREQUISITE: At least third year standing, Physics 2120
Six hours laboratory per week
Semester hours of credit: 3

3420 INTRODUCTION TO MEDICAL PHYSICS
This course provides students with an introduction to physics methods and methodology in medicine. Topics include: radiation sources and transport in tissues, radiation dosimetry and therapy, and applications of lasers and ultrasound in medicine
Cross-listed with Biology 3420.
PREREQUISITE: Biology 1310, and Physics 1120 or Physics 1220. Otherwise, permission of the instructor is required
Three hours lecture per week

3430 RESEARCH PROJECT
This course allows students to participate in a research project. Students work under the supervision of a faculty

member and are required to write a report describing the work, and give an oral presentation on the work.
PREREQUISITE: At least 3rd year standing. Entry into the course is contingent upon the student finding a faculty member willing to supervise the research and departmental approval of the research proposal.
Three semester hours

3510 ANALYSIS OF HUMAN MOVEMENT
(See Kinesiology 4810)

3520 BIOMEDICAL IMAGING
This course is an introduction to the physics of medical imaging for the four main modalities: x-ray, ultrasound, radionuclide, and magnetic resonance imaging. Basic concepts of light microscopy and image formation will also be included. The primary focus is on physical principles, instrumentation, image interpretation and application
Cross-listed with Biology 3440.
PREREQUISITE: Biology 1310, and Physics 1120 or Physics 1220, or permission of the instructor
Three lecture hours per week

3610 SOLID STATE PHYSICS
This is an introductory course in Solid State Physics, which covers the basic physics of crystalline solids. Topics include: crystal structures; structure determination by x-ray diffraction; crystal bonding; lattice vibrations and phonons; the free and nearly-free electron models; and the energy band structures of metals, insulators and semiconductors.
PREREQUISITE: Physics 2210. Physics 3220 and Physics 3720 taken at least concurrently or permission of the Department.
Three hours lecture per week

3630 INTRODUCTION TO ASTROPHYSICS AND COSMOLOGY
The first half of this course focuses on stellar structure and evolution, galaxy formation and evolution, and an overview of astrophysical processes generating high-energy photons (e.g. supernovae, gamma-ray bursts) and the radiation processes corresponding to high-energy electrons (such as synchrotron, bremsstrahlung, and Compton scattering). The second half of the course provides an introduction to cosmology (with a review of general relativity) and theory explaining the expanding universe, including topics such as: the cosmic microwave background, cosmic inflation, dark matter and dark energy.
PREREQUISITE: Physics 2920
Three semester hours

3710 GENERAL RELATIVITY
This course provides an introduction to the field of general relativity. The course begins with a development of special relativity in tensor form and the introduction of the stress-energy tensor. Essential tensor calculus in relation to curved Riemannian manifolds is developed and the Einstein field equations are introduced. Applications include the structure of stars and black holes, planetary trajectories in strong gravitational fields, and gravitational waves.
PREREQUISITE: Physics 2020, Physics 2210 and Physics 2820
Three hours lecture per week

3720 STATISTICAL PHYSICS I
This course provides students with an introduction to the statistical description of macroscopic systems and focuses on both statistical and classical thermodynamics. Topics include the microcanonical and canonical ensembles, the perfect quantal and classical gas, black body radiation, the Einstein and Debye description of solids, and the laws of thermodynamics and some of their consequences and applications.
PREREQUISITE: Physics 2210, Mathematics 2910
Three hours lecture per week

3910 RADIATION DETECTION AND MEASUREMENT
This course provides students with an understanding of the theory and operation of radiation detectors. Topics include:

radiation sources; the interaction of ionizing radiation with matter; the principles of operation and use of gas-filled, scintillation and semiconductor diode detectors; spectroscopy techniques and the use of related electronics; and shielding.
PREREQUISITE: Physics 2210 or Physics 2220 or permission of the instructor
Three hours lecture per week

4020 STATISTICAL PHYSICS II
This course builds upon the material presented in Statistical Physics I and covers the basic elements of equilibrium statistical mechanics. Topics include an introduction to the grand canonical ensemble, thermodynamic equilibrium, stability, fluctuations, phase transitions, quantum statistics, and interacting systems. A variety of applications to systems such as ideal gases, Bose gases, Fermi gases, and paramagnets is included.
PREREQUISITE: Physics 3220 and Physics 3720
Three hours lecture per week

4120 ELECTROMAGNETISM II
This is an advanced course covering classical electromagnetic theory based on Maxwell's equations. Topics include: electro-statics, magnetostatics, solutions to boundary value problems, electric and magnetic properties of materials, electromagnetic wave propagation, electromagnetic radiation, and an introduction to relativistic electrodynamics.
PREREQUISITES: Physics 3120 and 2820
Three hours lecture per week

4140 OPTICS AND PHOTONICS
This course focuses on the fundamentals of optics and photonics with biomedical applications. Topics include energy flow in electromagnetic fields, reflection and transmission, interference and diffraction, optical properties of materials, dispersion and losses, waveguides, spectra and spectral line broadening, partially polarized radiation, lasers and modulators, crystal optics, detectors and couplers.
PREREQUISITE: Physics 2010, Physics 3120 and Physics 2820
Three hours lecture per week

4210 QUANTUM PHYSICS II
This course further develops the fundamental concepts and methodology of quantum mechanics. Topics include angular momentum, the hydrogen atom, spin, matrix mechanics, and time-independent and time-dependent perturbation theory.
PREREQUISITE: Physics 3220 and Physics 2820
Three hours lecture per week

4220 ADVANCED TOPICS IN QUANTUM PHYSICS
This is an advanced course in which important physical problems are solved using the basic methods of quantum mechanics. Topics include the quantum mechanics of atoms and molecules, scattering theory, and an introduction to relativistic quantum mechanics.
PREREQUISITE: Physics 4210
Three hours lecture per week

4320 Biological Physics of Cells
This course will develop physics models of cellular structures and functions and use these models to discuss experiments in cellular
biology. Examples of questions that will be explored are: "How do viruses assemble?", "How does a cell move?", "How are circuits
constructed from genes and proteins?", and "How does a leopard get its spots?". Students will learn a quantitative, physics-based approach

to problems involving statistical mechanics, chemical kinetics, elasticity, theory, fluid dynamics, and diffusion, as they apply to cell biology
Cross-listed with Biology 4320.
PREREQUISITE: Physics 1120 or Physics 1220, Mathematics 1120 or Mathematics 1910, and Biology 2210, or permission of the instructor
Three hours lecture per week

4430 EXPERIMENTAL PHYSICS II
This advanced laboratory course introduces students to all phases of an experimental project, from design, planning, and setup of the apparatus, to detailed analysis and formal presentation of the results. Students select a small number of in-depth experiments with special emphasis on topics covered in the advanced physics courses.
PREREQUISITE: Physics 3330, Physics 3120, Physics 3220
Six hours laboratory per week

4610-4620 DIRECTED STUDIES
These courses are either reading courses, or research projects, which require the students to investigate a specific topic to a much greater depth than is possible in the department's usual course offerings.
PREREQUISITE: Physics Majors with at least third-year standing, or permission of the department
One, two, or three semester hours of credit
(See Academic Regulation 9 for Regulations Governing Directed Studies.)

4630-4640 SPECIAL TOPICS
These courses take advantage of unusual opportunities such as the availability of a visiting researcher to teach a course related to his/her field of expertise, or a course offer on an experimental basis, etc.
PREREQUISITE: Physics Majors with at least third-year standing, or permission of the department
One, two, or three semester hours of credit

4710 PARTICLE PHYSICS
This course provides an introduction to the field of particle physics. The course begins with a historical background of elementary particles, followed by a review of relativistic kinematics. A main focus of the course is the development of the Standard Model, including a detailed discussion of the electromagnetic, weak, and strong forces that govern particle interactions. Topics include: conservation laws; symmetries; particle decays, bound states, and scattering processes; and Feynman rules.
PREREQUISITE: Physics 3120 and Physics 3220
Three hours lecture per week
Semester hours of credit: 3

4901 HONOURS PROJECT I: RESEARCH
The objective of this course is to provide research experience for the student who intends to pursue further studies at the graduate level, or who is planning a career where research experience in Physics or related areas would be an asset. A research project is done under a faculty supervisor.
PREREQUISITE: Acceptance into the Honours Physics program
Semester hours of credit: 6

4902 HONOURS PROJECT II: THESIS
The objective of this course is to provide research thesis experience for the student who intends to pursue further studies at the graduate level, or who is planning a career where research experience in Physics or related areas would be an asset. The research project results from Physics 4901 are further analysed as needed under a faculty supervisor, reported in a thesis format, and defended at a department seminar.
PREREQUISITE: Physics 4901
Semester hours of credit: 6

# 83. Political Science

http://upei.ca/politicalscience

**Political Science Faculty**
David Milne, Professor Emeritus
Donald Desserud, Professor
Peter McKenna, Professor
Henry Srebrnik, Professor
Yuliya Rashchupkina, Assistant Professor

**POLITICAL SCIENCE PROGRAM**
The Department offers courses covering four fields in Political Science: Canadian Politics, Political Theory, Comparative Politics, and International Politics.

Courses in these fields are indicated in the listing below.

**INTRODUCTORY COURSES**
The Department offers two introductory courses as normal entries to the discipline. While not required, either of these courses will be counted toward a major in Political Science.

**Introductory Politics**
1010 Introductory Politics I Government and Politics in Liberal Democracies
1020 Introductory Politics II Political Ideologies in Liberal Democracies

**Canadian Politics**
2010 Canadian Politics I: Government
2020 Politics and Government of Prince Edward Island
2040 Climate Change Policy and Politics
2110 Law, Politics and the Judicial Process I
2120 Law, Politics and the Judicial Process II
2620 Canadian Politics II: Environment and Processes
3010 Federalism and Federation
3020 Canadian Federalism
3110 Canadian Public Administration
3140 Canadian Public Policy
3150 Canadian Foreign Policy
3530 The Politics of Canadian-American Relations
4010 Law, the Courts and the Constitution I
4020 Law, the Courts and the Constitution II
4110 Political Parties and Elections in Canada
4850 Internship: Legislatures, Politics and Practice

**Political Theory**
2220 Political Ideologies
2530 Introduction to Political Theory
3310 Twentieth-Century Political Thought
3320 Postmodernism and Contemporary Political Thought
3350 Utopia

4310 Political Thinkers
4320 Politics and the Mass Media
4340 Leo Strauss, Neo-conservatism, and American Foreign Policy
4350 The Globalization Debate

**Comparative Politics**
2210 Political Economy and Social Change in the Developing World
2330 Political Geography
3430 Comparative Politics of South Asia
3510 The Political Culture of the United States
3520 The Political System of the United States
3540 Contemporary British Politics
3610 Comparative Politics of Africa
3620 Comparative Politics of Latin America and the Caribbean
3630 The Comparative Politics of the Middle East
3710 Political Transition in Central and Eastern Europe
3720 The Politics of Russia and Its Borderlands
4140 Public Policy in Small Island Jurisdictions
4220 Ethnic Nationalism in Comparative Perspective
4410 Comparative European Politics I
4420 Comparative European Politics II
4450 Political Economy of East and Southeast Africa
4510 Contending Approaches in Comparative Politics
4610 Seminar in the History of Canadian External Relations

**International Politics**
2310 War and Peace
2820 Introduction to International Politics
3900 US Foreign Policy
3910 Comparative Foreign Policy
3920 International Political Economy
3930 International Theory
4360 European Intellectual History Since 1789
4710 International Organizations
4720 International Law
4750 International Human Rights
4810 Small States and Micro-States in the International
4820 The Politics of European Integration
4830 American-European Relations in the Post-Cold War

**REQUIREMENTS FOR A MAJOR IN POLITICAL SCIENCE**
To obtain a major in Political Science, students must complete a minimum of 42 semester hours (14 courses) in Political Science, with must include the following core courses: **NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

One of 2220 Political Ideologies or 2530 Introduction to Political Theory, 2620 Canadian Politics, 2820 International Politics, and either 4220 Comparative Ethnic Nationalism or 4510 Comparative Politics; one further course from each of

the following fields: Canadian Politics, Comparative Politics, and International Politics; and an additional seven electives in the discipline.

Majors will normally complete Political Science 2220 or Political Science 2530 (Introduction to Political Theory) by the end of their second year of study; they must do so no later than the end of their third year of studies. A major program must contain a minimum of six courses at the 3000 or 4000 level. The required core courses cover four areas in the discipline: Political Ideologies 2220 or Introduction to Political Theory (2530), Canadian Politics (2620), International Politics (2820), and Comparative Politics (4510) or Comparative Ethnic Nationalism (4220).

The purpose of the core-course requirement is to ensure that every graduate of the Department has a solid grounding in fields integral to the discipline. In addition, the core courses promote the development of analytical skills and lay the foundations for more effective work in advanced-level courses. All majors and prospective majors are advised to consult with the Department Chair at the beginning of each term. This consultation is intended to ensure that each student's program satisfies the Department's requirements and satisfies the student's needs.

**REQUIREMENTS FOR A MINOR IN POLITICAL SCIENCE**

To obtain a minor in Political Science, students must complete the following requirements: 21 semester hours in the discipline at the 2000 level and above, distributed over at least three of the four fields (Canadian Politics, Political Theory, Comparative Politics, and International Politics). At least three courses (nine semester hours) must be from the 3000 level or above. Those taking a minors program in Political Science should also meet with the Department Chair at the beginning of each term to review their program.

**RECOMMENDED ELECTIVES FOR MAJORS**

Beyond the core courses, majors are encouraged to consult their faculty advisor in order to build a well-balanced program of study. Furthermore, majors are reminded that Political Science is but one of several social sciences and is closely related in its concerns to many other academic disciplines. Individual programs should emphasize appropriate electives in Anthropology, Economics, History, Philosophy, Psychology, Sociology, Religious Studies, Business Administration or other related disciplines.

SPECIAL TOPICS

2090—A lecture course in which contemporary topics or issues are explored in an introductory/general manner
3090—A lecture course in which contemporary topics or issues are explored in an intermediate manner
4090—A lecture course in which contemporary topics or issues are explored in an advanced manner

DIRECTED STUDIES

Courses offered under Directed Studies 4910-4920 permit intensive study and specialized research under the supervision of faculty. Areas of special interest of the regular faculty are listed at the end of the course descriptions.

SUMMER SESSIONS

The Department has a tradition of inviting distinguished visiting Professors to teach courses in the summer session not offered in the regular program. These courses broaden coverage in each area of the discipline. Majors are advised to take advantage of these offerings. Titles for these courses are available at registration.

NOTE: Most courses in the program are offered in alternate years. Please consult the timetable for availability of these courses or check with the Department. All courses are three hours a week unless otherwise indicated.

# POLITICAL SCIENCE COURSES

***INTRODUCTORY COURSES***

1010 INTRODUCTORY POLITICS I: GOVERNMENT AND POLITICS IN LIBERAL DEMOCRACIES
This course is a comprehensive introduction to politics. Initially students explore the nature of political activity and basic concepts such as political culture, the nation-state, the various roles of government, and the international system. The course examines differences among democratic, authoritarian, and totalitarian political systems just as it introduces students to such contemporary ideologies as liberalism, conservatism, socialism and nationalism.
Lecture/Seminar: Three hours a week

1020 INTRODUCTORY POLITICS II: POLITICAL IDEOLOGIES IN LIBERAL DEMOCRACIES
This course introduces students to a comparative analysis of the political systems of major nations, among them Canada, the United States, the United Kingdom, France, Germany, Russia, China, Brazil, India, Japan, and South Africa. Among the topics covered are political parties and electoral systems; interest groups and public opinion; and decision-making and public policy formulation in the areas of commerce, education, health and welfare.
Lecture/Seminar: Three hours a week

**CORE COURSES**
These courses provide Political Science majors with grounding in all areas integral to the discipline. Non-majors may register in these courses only with permission of the Department. Majors in Political Science must complete all core courses (2530, 2620, 2820 and 4510). Note that majors will normally complete 2530 (Political Theory) by the end of their second year of studies.

Students not concentrating in the discipline will be admitted to Political Science 2530 only with the permission of the instructor.

2530 INTRODUCTION TO POLITICAL THEORY
This course offers students a thematic overview of the history of Western political thought. The meaning and relevance for politics of issues such as justice, leadership, law, democracy, freedom, and the common good are reviewed through a careful reading of major ancient and modern thinkers, including Plato, Machiavelli, Hobbes, Locke, and Nietzsche.
PREREQUISITE: None
Seminar: Three hours a week

2620 CANADIAN POLITICS II: ENVIRONMENT AND PROCESSES
This course introduces non-constitutional aspects of Canadian politics: political culture, nationalism, regionalism, and biculturalism. It also treats electoral politics, interest group activities and the role of the mass media.
PREREQUISITE: Any UPEI Political Science course or permission of the instructor
Lecture: Three hours a week

2820 INTRODUCTION TO INTERNATIONAL POLITICS
This course examines the evolution and structure of the contemporary global system and considers the perennial questions of peace and stability in a world of independent polities. It treats the diverse capabilities, roles and relationships of state and non-state actors, and considers major patterns of change in the post-war world. Principal attention is directed to recurring theoretical concerns in the study of international politics. Both lectures and readings make generous use of case studies and contemporary issues.
Lecture: Three hours a week

4510 CONTENDING APPROACHES IN COMPARATIVE POLITICS
This course gives students a theoretical overview of the field of comparative politics, the different treatments of

recurring questions in the discipline, and the historical and geographic frameworks within which contemporary polities have developed. The course is retrospective in its critical examination of various models and classification schemes.
PREREQUISITE: At least one course from the Comparative stream or permission of the instructor
Cross-listed with Diversity and Social Justice Studies 4610.
Note: Some background in the empirical literature of comparative politics is essential.
Seminar: Three hours a week

**CANADIAN POLITICS**

2010 CANADIAN POLITICS I: GOVERNMENT
This course introduces and surveys the basic constitutional components of Canadian politics: Parliament (including the Crown, the House of Commons, the Senate, Cabinet, courts, and the bureaucracy), federalism (including the distribution of legislative authority, inter-governmental decision making, and fiscal federalism), and the Charter of Rights and Freedoms. Constitutional principles and actual practices of government are discussed.
Lecture: Three hours a week

2020 POLITICS AND GOVERNMENT OF PRINCE EDWARD ISLAND
This course examines the evolution of Prince Edward Island's political parties, electoral system, pressure groups, and political culture. The politics of Prince Edward Island are compared to those of other Canadian provinces. The provincial government's development programs are examined in the broader framework of federal-provincial relations.
Lecture/Seminar: Three hours a week

2040 CLIMATE CHANGE POLICY AND POLITICS
This course surveys how climate change is understood and responded to by governments, political parties, political movements, and the media. Specific topics also covered in this course include the impact of international treaties and regulatory agencies dealing with climate change issues, such as greenhouse gas emissions, ocean warming, drought and flood management, coastal erosion, and climate-change refugees.
Lecture: Three hours a week

2110 LAW, POLITICS AND THE JUDICIAL PROCESS I
This course is designed to acquaint interested students with the nature of law. It has a Canadian focus with special reference to Prince Edward Island. The areas covered in this semester include sources of law, interests protected by the law, and fundamental legal and political concepts. Major areas of concentration are constitutional and civil law.
Lecture: Three hours a week

2120 LAW, POLITICS AND THE JUDICIAL PROCESS II
In this course, students examine various areas of civil law. The politics of Prince Edward Island are used to illustrate the relationships between legal and political systems.
Lecture: Three hours a week

3020 CANADIAN FEDERALISM
This is a seminar course on the theory and practice of divided political authority. The aim is to understand the logic and attraction of federalism as a political theory and the problems of working out that idea in Canadian government, politics, and society. This course examines the constitution as a fundamental contract for shared rule between Ottawa and the provinces and traces federalism in intergovernmental relations and public policy. The course concludes with an overview of the important approaches and schools of thought in this field.
PREREQUISITE: One of Political Science 2010, 2620 or permission of the instructor
Seminar: Three hours a week

3110 CANADIAN PUBLIC ADMINISTRATION
This course introduces the study of public administration. It examines the theories, practices, and politics that shape

decision-making and management in the Canadian public sector. Among the topics explored are theories of decision-making, organization, motivation, and democracy influencing public administration; the policy-making and political role of public servants; the growth and expansion of the Canadian state; and the evolution of financial and personnel management systems.
PREREQUISITE: One of Political Science 2010, 2020, 2620 or permission of the instructor
Lecture: Three hours a week

3140 CANADIAN PUBLIC POLICY
This course examines the evolution, nature, instruments, and consequences of Canadian public policy, particularly that of the Federal Government. In the first half of the course, students discuss the tools and frameworks used in public policy research and analysis and review the broad structure of Canadian public policy. In the second half of the course, students research areas or issues in Canadian public policy and present their findings in seminars and essays.
PREREQUISITE: None
Seminar: Three hours a week

3150 CANADIAN FOREIGN POLICY
This course examines Canada's growing involvement in the post-1945 international environment. It focuses on the determinants of Canadian foreign policy, the major actors involved, and the various constraints on decision-makers. Particular attention is paid to key issues, themes, and foreign policy initiatives over the last forty years.
PREREQUISITE: Political Science 2010 or 2620
Three hours a week

3530 THE POLITICS OF CANADIAN-AMERICAN RELATIONS
This course examines the important areas of cooperation and contention between Canada and the United States. Discussions focus on such issues as attempts to protect Canadian culture from American influences, the politics surrounding trade between the two countries, and the creation and operation of joint agencies.
PREREQUISITE: One of Political Science 2010, 2620 or permission of the instructor
Seminar: Three hours a week

4010 LAW, THE COURTS AND THE CONSTITUTION I
In this course, students read and analyze some important constitutional decisions in Canada. This intensive examination of legal cases shows the complexities of federal-provincial jurisdiction in Canada and the ways in which courts have tried to deal with them. Students become familiar with the necessary "policy-making" role of the courts and see the practical effects that constitutional judgments have had on the powers of provincial and federal governments in this country. Enrolment is limited to a maximum of twenty-one qualified students. Although background in Canadian government and politics is desirable, students with preparation in cognate disciplines and with a strong interest in law are encouraged to enrol.
Seminar: Three hours a week

4020 LAW, THE COURTS AND THE CONSTITUTION II
In this course, students apply the knowledge acquired in Political Science 401 to a series of constitutional conflicts. In courtroom simulations students gain insight into the methods, rationality and conflicts of constitutional review. Particular attention is paid to human rights issues, especially those raised by the Canadian Charter of Rights and Freedoms. The course concludes with critical analyses of the role of the courts in distributing power in our federal system, the kind of knowledge required for such adjudication and the strengths and weaknesses of existing practice.
PREREQUISITE: One of Political Science 2010, 2110, 2120, or 2620, or permission of the instructor.
Seminar: Three hours a week

4110 POLITICAL PARTIES AND ELECTIONS IN CANADA
This course analyzes the development of political parties, party systems, elections, and voting behaviour in Canada. It

examines both national and provincial parties and elections. It studies and evaluates Canadian practices in the context of democratic theories of representation and participation.
PREREQUISITE: Political Science 2620 or permission of the instructor
Seminar: Three hours a week

4850 INTERNSHIP: LEGISLATURES, POLITICS AND PRACTICE
The over-arching purpose of the course is to introduce the student to the inner/administrative workings of the PEI Legislature. It is designed to encourage the student to incorporate knowledge learned in the classroom with practical skills acquired during the work term.

This course is available to a student who is selected by a Department vetting process.

Note: Registration in this course generates Full-time status.
Three semester hours of credit

**COMPARATIVE POLITICS**

2210 POLITICAL ECONOMY AND SOCIAL CHANGE IN THE DEVELOPING WORLD
This course provides an overview of the legacy of colonization and the consequences of imperial domination in the developing world. It examines crises of state legitimacy resulting from cultural and ethnic tensions within fragmented political systems. The course analyzes authoritarianism, militarism, clientism, and patrimonialism as recurrent problems blocking transitions to democracy.
Lecture/Seminar: Three hours a week

2330 POLITICAL GEOGRAPHY
The intellectual development and the foundational literature of political geography is an essential tool for students of both Political Science and island studies. This course seeks to provide an introduction to this long-standing body of literature with reference to the most pressing issues and cases in the contemporary international system. It is structured as a foundational course which is open to all interested students in the two cross-listed fields and to students in cognate disciplines. Classes will explore general themes such as boundaries, size and shape, and ethnicity. The classes will consist of lectures and seminars which will address the central themes outlined in the class schedule.

3430 COMPARATIVE POLITICS OF SOUTH ASIA
This describes political developments since independence in the arc of South Asian countries from Afghanistan to Myanmar. It focuses on state-building in post-colonial societies, regional alliances and rivalries, and the salience of culture, ethnicity, and religion. The course concentrates on the politics of Afghanistan, Pakistan, India, Sri Lanka, Bangladesh, Myanmar, the Maldives, and the Himalayan States.
PREREQUISITE: Political Science 2210 or permission of the instructor.
Seminar: Three hours a week

3510 THE POLITICAL CULTURE OF THE UNITED STATES
This course examines the evolution of the American Republic. Topics include the nature of American pluralism and civil society; the allocation of power and resources among a diversity of ethnic, religious and gender groups; civil liberties and civil rights; the changing demography and political economy of the urban landscape; the political cultures of different regions and states; and environmental issues affecting Americans.
Seminar: Three hours a week

3520 THE POLITICAL SYSTEM OF THE UNITED STATES
This course focuses on the fundamentals of American government and politics. It examines institutional structures such as Congress, the Presidency and the Supreme Court, and the separation of powers among these branches of government as reflections of liberal democratic theory and constitutional practice. The course studies such topics as American federalism and states' rights; elections and voting behaviour; and the role of political parties, interest groups, and the

media.
Seminar: Three hours a week
NOTE: Political Science 3510 and 3520 may be taken in any sequence.

3540 CONTEMPORARY BRITISH POLITICS
This course introduces students to both the foundations of the British political system and to the issues which have dominated public debate in Britain for the last generation. Early seminars explore the constitutional evolution of the British legal and political cultures and the most critical developments in the evolution of British political parties. Later seminars critically examine such contentious issues as devolution, the Northern Ireland question, the ideological and electoral shifts in the British party system, changing strategies in economic management, Britain's relations with Europe and such constitutional issues as electoral reform, the future of the House of Lords, and the campaign for a Bill of Rights.
PREREQUISITE: None
Seminar: Three hours a week

3610 COMPARATIVE POLITICS OF AFRICA
This course offers a comparative view of the political systems of sub-Saharan African states. It examines discontinuities between indigenous and externally-imposed political structures; mass-elite cleavages and ethnic rivalries in deeply divided societies; and the economic peripheralization and debt crisis facing many of these nations today.
PREREQUISITE: Political Science 2210 or permission of the instructor
Seminar: Three hours a week

3620 COMPARATIVE POLITICS OF LATIN AMERICA AND THE CARIBBEAN
This course examines the political systems of Caribbean, Central and South American states. It explores the emergence of new social and economic hierarchies and the development of highly complex plural societies. It also analyzes ideological conflicts, civil strife, and non-democratic paradigms of governance, and concludes with case studies of countries such as Jamaica, Mexico and/or other selected states.
PREREQUISITE: Political Science 2210 or permission of the instructor
Seminar: Three hours a week

3630 THE COMPARATIVE POLITICS OF THE MIDDLE EAST
This course offers a comparative study of the political cultures, political economy, governments, and political parties in selected Middle Eastern states. Particular attention is given to the historical and political origins of the contemporary state system, patterns of modernization, revolutionary change, the impact of Islamic and nationalist movements and the Palestine question.
PREREQUISITE: Political Science 2210 or permission of the instructor
Seminar: Three hours a week

3710 POLITICAL TRANSITION IN CENTRAL AND EASTERN EUROPE
This course deals primarily with political transitions in the former Communist countries of central and Eastern Europe. It begins with an historical overview of the region, which has in this century witnessed authoritarian, fascist, Marxist-Leninist and democratic regimes, both indigenous and imposed. The course examines the efforts made since 1989 to transform these polities from command economies into market societies, and from single-party regimes into liberal-democratic states. It considers impediments to democracy, including the lack of minority rights, secessionist movements, religious traditionalism, and economic fragility.
Seminar: Three hours a week

3720 THE POLITICS OF RUSSIA AND ITS BORDERLANDS
This course examines regime changes and ideological shifts in Russia and other states that have emerged following the breakup of the Soviet Union. It focuses on theoretical questions regarding the nature of the post-Communist state and its relationship to the economy and civil society. It studies the political cultures and institutions within the multi-ethnic

Russian Federation as well as successor states in the Caucasus and central Asia, including Armenia, Azerbaijan, Georgia, and Kazakhstan. It also examines secessionist movements in Chechnya, Dagestan, and elsewhere in the post-Soviet states.
Seminar: Three hours a week

4140 PUBLIC POLICY IN SMALL ISLAND JURISDICTIONS
This course examines the determinants or causes of public policy in small island jurisdictions, with particular emphasis on the impact of "islandness" and size on the patterns, goals, instruments, and consequences of public policy. Students familiarize themselves with various models for understanding the causes of public policy and with selected frameworks for comparing policy across jurisdictions. These models and frameworks are applied to selected island jurisdictions in seminar discussions and research papers.
Seminar: Three hours a week

4220 ETHNIC NATIONALISM IN COMPARATIVE PERSPECTIVE
This course examines the global dimensions of ethnic nationalism and the "clash of civilizations" both in the developing and advanced industrial states. Following an examination of the theoretical literature on ethnicity and politics, specific case studies focus on multi-ethnic countries such as Bosnia-Herzegovina, Cyprus, Ireland, Fiji, Mauritius and Trinidad/Tobago. Particular attention is paid to historical developments in these countries and to the institutional mechanisms and governmental strategies that have evolved to cope, often unsuccessfully, with ethnic divisions.
PREREQUISITE: Political Science 2210 or permission of the instructor
Seminar: Three hours a week

4410 COMPARATIVE EUROPEAN POLITICS I
This course is a comparative study of the political cultures, governmental institutions and electoral politics of European democracies. Although principal attention is given to Britain, France, Germany and Italy, the course also examines such topics as the politics of the welfare state in the Nordic countries, linguistic and confessional cleavages in Belgium and the Netherlands, the restoration of democratic governments in the Mediterranean states and the transition from Communism to liberal democracy in Central and Eastern Europe.
Seminar: Three hours a week

4420 COMPARATIVE EUROPEAN POLITICS II
In contrast to the case study approach this advanced course focuses on the thematic comparative analysis of European democracies. Among the themes considered are the role of the state, executive-legislative relations, ideologies, political parties and pressure groups and problems of ethnic minorities.
Seminar: Three hours a week

4450 POLITICAL ECONOMY OF EAST AND SOUTHEAST ASIA
Students are introduced to selected theoretical perspectives on international political economy and apply them to region building in East and Southeast Asia using relevant case studies. The emergence of the region as a force in international economic and political arenas is examined by focusing on the development of the Association of Southeast Asian Nations, Asian Development Bank, and the Asia Pacific Roundtable. The region's relationship with other groupings such as the Asia-Pacific Economic Cooperation Forum and the Europeann Union also is considered.
PREREQUISITE: None
Seminar: Three hours a week

4610 SEMINAR IN THE HISTORY OF CANADIAN EXTERNAL RELATIONS
(See History 4310)
PREREQUISITE: Political Science 2820. Majors wishing to credit this course toward the international politics field requirement must secure the permission of the Political Science department.

**INTERNATIONAL POLITICS**

2310 WAR AND PEACE
What are the roots of war and what are the prospects for its end? Arms races, the balance of power, liberation wars, and nuclear proliferation are among the topics considered. Case studies include the World Wars, the Arab-Israeli wars, the Falklands war, and the two Persian Gulf wars. Finally, students explore prospects for world peace in the light of the end of the Cold War. In addition to lectures, there will be open class discussions and video presentations.
Lecture: Three hours a week

3900 US FOREIGN POLICY
This course examines the conduct of US foreign policy in the post-1945 period. It focuses on the key determinants and overarching objectives of US foreign policy, the major actors, and the various constraints acting upon these decision-makers—all within a theoretical context. Particular attention is paid to key developments and themes, case studies, various US administrations, and the ramifications of US foreign policy behaviour.

3910 COMPARATIVE FOREIGN POLICY
This course emphasizes comparative analysis of foreign-policy formulation in both developed and developing countries. Seminars focus on major powers, selected middle powers and small states. The use of case studies illuminates major theoretical concerns in foreign-policy analysis.
Seminar: Three hours a week

3920 INTERNATIONAL POLITICAL ECONOMY
The objective of the course is to provide students with an understanding of international political economy as a critical and analytical approach to the problems of world politics. Seminars focus on the politics of money, the debt crisis, international trade, energy and resource management, technology transfers and international investment. Although many of these issues are particularly significant in the content of North-South relations, the course also examines economic relations among advanced industrialized states including the emerging market economies in the former Communist world. The course explores the evolution of the contemporary international economy, and probes the impact of global economic institutions and regulations on the foreign policies of states.
Seminar: Three hours a week

3930 INTERNATIONAL THEORY
This course examines the principal theoretical debates in the literature of international relations theory in the post-war period. Students first concentrate on the impact of realism in international theory and move on to explore those currents of theory which have challenged realist analysis. Particular attention is given to systems theories, economic explanations of international relations, decision-making theory, game theory, and theories of regional integration.
Seminar: Three hours a week

4360 THE IDEAS THAT CHANGED MODERN EUROPEAN HISTORY
(See History 4850)

4710 INTERNATIONAL ORGANIZATIONS
This seminar analyzes the role of both inter-governmental and non-governmental organizations in the international system. Students examine theoretical approaches to international organization as well as the structures and functions of particular global and regional bodies. The focus of the course is the United Nations system and particularly the challenges facing the U.N. in a post-Cold War world.
Seminar: Three hours a week

4720 INTERNATIONAL LAW
This course examines the sources of international law, the changing nature of international legal principles, and the development of the institutional apparatus for the application of international law. Throughout the course, students

weigh the effectiveness of international law as a reflection of the values of a developing international community and as a contribution to world order.
Seminar: Three hours a week

4750 INTERNATIONAL HUMAN RIGHTS
This course examines the language and legal instruments of human rights, the international human rights agenda since 1945, and the arguments for and against states incorporating a human rights component into their external relations. Particular attention is paid to key issues, such as genocide, women, and transnational corporations, along with how states seek to punish governments that violate the rights of their citizenry.
PREREQUISITE: Political Science 2820
Seminar: Three hours a week

4810 SMALL STATES AND MICRO-STATES IN THE INTERNATIONAL SYSTEM
This course examines the ongoing proliferation of small states and micro-states in the international system. It gives particular attention to problems of legitimacy and status, and to the constraints of small size in undertaking effective diplomacy, ensuring security and achieving some measure of economic autonomy.
Seminar: Three hours a week

4820 THE POLITICS OF EUROPEAN INTEGRATION
Seminars focus on the principal theoretical schools of integration literature and their relevance to various strategies for advanced co-operation in Europe. Among the topics considered are problems of policy making and institutional development in the European Union, the terms of the Single Europe Act, and the debate over enlargement, the scale and depth of integration in an expanding continental community.
Seminar: Three hours a week

4830 AMERICAN-EUROPEAN RELATIONS IN THE POST-COLD WAR
In spite of enduring for nearly 60 years, the Atlantic Alliance continues to reflect sharply different perspectives facing the Western world in the 21'st century. In his landmark essay on the subject Robert Kagan argued that Americans are from Mars and Europeans are from Venus. This course will examine the roots of European-American tensions since 1945 but the essential focus of the seminars will be the contemporary global system and issues confronting both sides that have arisen with the end of Communism, the tragedy of 9/11, international terrorism, nuclear proliferation and challenges in the Middle East since the 2003 invasion of Iraq.

**POLITICAL THEORY**

2220 POLITICAL IDEOLOGIES
This course introduces students to the concept of ideology, or the "science of ideas." It examines the modern origin of ideologies, their various forms and evolution, and how ideological thought affects political change. Surveyed are Ideologies such as liberalism, conservatism, socialism, anarchism, fascism, feminism, and environmentalism. Lecture: Three hours a week

3310 20th CENTURY POLITICAL THOUGHT
This seminar provides an overview of the major trends in 20th century political thought. Special focus is placed on the political implications of various critiques of modern rationality. The writings of conservatives such as Leo Strauss and Eric Voegelin are contrasted against the more radical critiques of modernity offered by prominent Continental Thinkers such as Theodor Adorno and Max Horkheimer.
PREREQUISITE: Political Science 2530 or permission of the instructor
Seminar: Three hours a week

3320 POSTMODERNISM AND CONTEMPORARY POLITICAL THOUGHT
This seminar asks the question: What does it mean to act and think "after modernity?" The question is addressed

through readings of those contemporary social and political theorists who were among the first to announce the death of the modern order and to articulate the contours of a new "postmodern" order. Issues to be investigated include the disintegration of the human subject, the retribalizing of the human community, and the impact of the communications revolution on political processes.
PREREQUISITE: Political Science 2530 or permission of the instructor
Seminar: Three hours a week

3350 UTOPIA
This course explores utopian thought and its relation to Western society. The history of utopian literature and imagery is examined through a reading of the genre's leading proponents, including Plato, More, Bacon, Swift, Butler, Orwell, and Huxley. Questions pertaining to the political context of utopian literature, evolving historical trends in utopian thought, and the relationship between the utopian impulse and the human condition are entertained as well.
PREREQUISITE: None
Seminar: Three hours a week

4310 POLITICAL THINKERS
This seminar explores in depth the work of one or more political thinkers including theorists whose contribution to the discipline requires extensive treatment, as well as those significant thinkers often neglected in standard survey courses in political theory: Plato, Hegel, Rousseau, Kant, Nietzsche, Arendt, Voegelin, Strauss, Habermas, and Foucault are among those who may be considered.
PREREQUISITE: Political Science 2530 or permission of the instructor
Seminar: Three hours a week

4320 POLITICS AND THE MASS MEDIA
Students review the theory and practice of modern communication primarily as it affects Canadian politics. Principal themes examined include theories of mass communication, ideology and the media, media ownership, the political economy of the media, public regulation, and the political impact of the media. The writings of major communications thinkers such as Innis, McLuhan, and Chomsky are considered.
PREREQUISITE: None
Seminar: Three hours a week

4340 LEO STRAUSS, NEO-CONSERVATISM, AND AMERICAN FOREIGN POLICY
This course examines the political thought of one of North America's most influential political theorists and its impact on the foreign policy decisions of recent American administrations. It focuses on Strauss's teaching, the school of thought that bears his name, the formative influence of Straussian thought on neo-conservatism, the entry of Straussians into positions of political power, and the impact of this development on American foreign policy, especially as it relates to Iraq and the War on Terror. This extended investigation will speak to the central and abiding tension between politics and truth.
PREREQUISITE: Political Science 2530 or permission of the instructor
Seminar: Three hours a week

4350 THE GLOBALIZATION DEBATE
This course examines various arguments clustered around the theme of globalization. It investigates theoretical issues pertaining to globalism as an idea, outlines the forces that contribute to 'real world' globalization, reviews the responses and reactions to globalization, and assesses likely future scenarios for an increasingly globalized world.
PREREQUISITE: Political Science 2530 or permission of the instructor
Seminar: Three hours a week

4910-4920 DIRECTED STUDIES
This is a research or reading program available principally to Political Science majors. The student undertakes advanced

work in an area such as Canadian Politics, Political Theory, Comparative Politics, and International Politics and is supervised by a member of the Department in either semester. (See Academic Regulation 9 for Regulations Governing Directed Studies).

# 84. Psychology

http://upei.ca/arts/psychology
http://upei.ca/science/psychology

**Psychology Faculty**

Thomy Nilsson, Professor Emeritus
Annabel J. Cohen, Professor, Chair
Stephen Butler, Professor
Colleen MacQuarrie, Professor
Stacey MacKinnon, Professor
Catherine L. Ryan, Professor
Philip B. Smith, Professor
Michael Arfken, Associate Professor
Jason Doiron, Associate Professor
Tracy Doucette, Associate Professor
Scott Greer, Associate Professor
Raquel Hoersting, Associate Professor
Nia Phillips, Associate Professor
Jessica Strong, Associate Professor
Martha O'Meara, Assistant Professor

**REQUIREMENTS FOR A MAJOR IN PSYCHOLOGY**

Student may declare a major in Psychology at any time. Majors are expected to take five required courses, Psychology 1010-1020, Psychology 2700, Psychology 2730, and Psychology 2750, in their first two years. A formal review of each student's performance is conducted upon completion of the five core courses. Continuation of the program will be based upon a 70% average with no mark below 60% in the five core courses.

***Bachelor of Arts in with a Major in Psychology***

Students pursuing a Bachelor of Arts degree with a major in Psychology must take at least fourteen semester courses (42 semester hours). In selecting these 14 courses, students must satisfy the following course selection criteria: **NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

1. Majors are required to take:
Psychology 1010 Introduction to Psychology—Part I
Psychology 1020 Introduction to Psychology—Part II
Psychology 2700 Quantitative Research Methods
Psychology 2730 Qualitative Methods and Analysis
Psychology 2750 Quantitative Analysis

2. Majors are required to take at least one (1) course in six (6) of the seven areas listed below.

3. Majors must take at least two (2) courses selected at the 3000-level or above.

4. Majors must take at least one (1) course selected at the 4000-level.

NOTE 1: Completion of Psychology 2700, 2730, and 2750 satisfies the Research Methods and Statistics area requirement.

NOTE 2: Criteria (3) and (4) may be met in the process of satisfying criterion (2). That is, a course may satisfy both an area and a level requirement.

NOTE 3: Other courses may satisfy an area requirement at the discretion of the Chair (e.g. Directed Studies courses).

NOTE 4: Other electives may be drawn from all other courses in Psychology including Directed Studies Courses (Psychology 4310-4320), cross-listed courses offered by other Departments, and summer session courses in Psychology.

NOTE 5: Psychology 4800 and 4900 are honours thesis courses and do not satisfy this requirement.

**Behavioural Neuroscience**
2120 Drugs and Behaviour
3110 Physiological Psychology
3120 Brain and Behaviour
3130 Introduction to Neuropsychology
3210 Learning and Motivation: Basic Processes
4030 Issues in Developmental Psychopharmacology

**Clinical and Applied**
2020 Introduction to History and Theory of Psychology
3520 Psychological Disorders
3530 Childhood Psychological Disorders
3930 Health Psychology
4410 Existential – Phenomenological Psychology
4530 Human Services: Integrating Theory and Practice
4610 Psychological Assessment
4620 Psychotherapy

**Critical and Historical Perspectives**
3020 Modern Psychological Concepts and Practice in Historical Perspective
3330 Ecopsychology
3850 Cultural Psychology
3860 Buddhist Psychology
3910 Psychology of Women
3950 Gender and Violence
4130 Psychology of Social Class
4350 Gender and Sexuality
4630 Critical Issues for Contemporary Psychology
4720 Social Justice in Psychology

**Developmental**
2010 Developmental Psychology—General
3030 Psychology of Aging
3050 Adolescent Development and Adjustment
3080 Child Development
3090 Adult Development

**Personality and Social**
2220 Psychology of Personal Experience
2420 Introduction to Social Psychology
2910 Contemporary Psychoanalytic Thought
3310 Creativity

3420 Interpersonal Relationships
3510 Theories of Personality

**Perception and Cognition**
2600 Sensation and Perception
2630 Psychology of Music
3810 Human Learning and Memory
3820 Cognitive Psychology
3830 Psycholinguistics
4042 Animal Cognition
4110 Consciousness
4120 Music Cognition

**Research Methods and Statistics**
2700 Quantitative Research Method
2710 Statistics for the Behavioural Sciences
2730 Qualitative Methods & Analysis
2750 Quantitative Analysis
3710 Advanced Statistics
3740 Advanced Qualitative Research

***Bachelor of Science in with a Major in Psychology***
Students pursuing a Bachelor of Science degree with a major in Psychology will complete the Psychology course requirements as described above for the Bachelor of Arts degree. Students seeking a BSc will also be required to complete a minimum of seven courses (21 semester hours) of course work in the Faculty of Science. Credit in each of the following courses is required: **NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

1. Biology 1310 and 1320
2. Mathematics 1120 or Mathematics 1910
3. Chemistry 1110 and 1120 OR Physics 1210 and 1220
4. Two courses which have laboratory components at the 2000-level or above in one of Biology, Chemistry, Physics, or Foods and Nutrition. Both courses must be in the same discipline area.

**REQUIREMENTS FOR A MINOR IN PSYCHOLOGY**
Students may declare a minor in Psychology at any time. Minors complete the following core courses, preferably in their first two years: Psychology 1010-1020 (Introduction to Psychology I and II) and either Psychology 2700, 2730, and 2750 (Quantitative Methods, Qualitative Methods & Analysis, and Quantitative Analysis) or Psychology 2510 (Thinking Critically about Psychological Research). A formal review of each student's performance is conducted upon completion of the core courses. Continuation in the program requires a 70% average in the core courses with no mark below 60% in the core courses.

Students considering whether to take 2700, 2730, and 2750 or 2510 are advised that many upper-level courses are open only to students who have completed 2700, 2730, and 2750. Students planning a minor, but wanting the option to change from a minor to a major in Psychology within the same degree, are advised that the major requires 2700, 2730, and 2750, and that 2510 does not count as one of the 14 Psychology courses required for a major (but would count as a non-Psychology elective for someone who becomes a major). Students completing a minor in Psychology complete at least seven Psychology courses, including the core courses, and including at least one course at the 3000 or 4000 level.

**PREREQUISITES**

The Psychology Department strongly recommends that English 1010 be completed before taking 3000 and 4000 level Psychology courses. Psychology 1010 and 1020 are prerequisites for all other courses offered by the Department. Psychology 2700, 2730, and 2750 are prerequisites for all 3000-4000 level courses in Psychology except where extra-departmental requirements are accepted. Under exceptional circumstances, Third and Fourth Year students not majoring in Psychology may apply to the course instructor for a waiver of these prerequisites to 3000-4000 level courses. Prospective majors are expected to take Psychology 2700, 2730, and 2750 during their second year since these courses are required for entrance into the majors program. Courses not specifically listed as "Both semesters" are generally offered during only one semester of each year. Check the timetable to be certain.

**FACULTY ADVISOR**

Each Psychology major will be assigned a professor to serve as his/her Faculty Advisor. Your Advisor can help make you familiar with the Psychology program and offer assistance in course selection and career planning. Your Advisor will also be a person who will become familiar with you and your interests on an ongoing basis. It is recommended that you consult regularly with your Faculty Advisor to develop a course of study that will best prepare you for your future career plans.

**RELATED COURSES OF STUDY**

The Psychology Department also encourages its majors to take a wide variety of electives in the Sciences, Social Sciences and Humanities, in recognition of the value of a general education. Specific areas of study recommended because they both broaden the student's basis of knowledge and relate particularly well to the discipline of Psychology include Sociology & Anthropology (because Psychology is a social science), Biology (because Psychology is also a biological science), and Philosophy (because the roots of the discipline are in philosophy and because contemporary psychological issues continue to reflect philosophical issues). Specific electives are, of course, a matter of the student's choice but we encourage serious consideration of the above-mentioned suggestions. Those who wish further guidance should consult with their Faculty Advisor.

**REQUIREMENTS FOR HONOURS IN PSYCHOLOGY**

COURSE REQUIREMENTS

Nineteen (19) semester courses (57 semester hours) in Psychology which must include Psychology 1010-1020, Psychology 2700, 2730, and 2750, Psychology 4810, Psychology 4800 (Honours Literature Review) and Psychology 4900 (Honours Thesis). Students pursuing a Bachelor of Arts degree with Honours in Psychology must complete all of the requirements for a BA with a major in Psychology. Students pursuing a Bachelor of Science degree with Honours in Psychology must complete all of the requirements for a BSc with a major in Psychology. To graduate with an Honours degree requires a total of 42 semester courses (126 semester hours).

**NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

THE HONOURS THESIS

The Honours Thesis will consist of a paper written in the format specified by the Canadian Psychological Association. The thesis will most typically report a small research project (quantitative and/or qualitative), but other alternatives include: (a) a review paper that includes an original historical and theoretical overview of the topic, or (b) a critique of the theory, research, or practice of psychology. The thesis is evaluated by a committee of at least three faculty members including the student's supervisor. There is an oral defence of the thesis.

ADMISSION REQUIREMENTS AND PROCEDURES

1. Students must be a Psychology major, and must have met (or will be meeting in the upcoming academic year) all of the requirements for either a BA or BSc in Psychology.

2. Students must submit an official academic transcript, and have an overall average of at least 75% in all prior courses

and 80% in Psychology courses. Students must maintain these averages to graduate with Honours. 3. Before admittance to the honours program, students must apply for acceptance into a pre-honours pool. Acceptance to the pre-honours pool confirms honours eligibility but does not guarantee admittance to the honours program.

OTHER INFORMATION ABOUT THE HONOURS PROGRAM
Because of the extra course requirements and the extra time consumed by the process of producing an Honours Thesis, early planning is important. Students may be required to pay part or all of the expenses to produce the Honours Thesis. The Department of Psychology intends to provide some financial support for students, but the amount will depend on (a) the funding the Department receives, and (b) the number of students in the program.

# PSYCHOLOGY COURSES

1010 INTRODUCTION TO PSYCHOLOGY: Part I
A general introductory survey of theory and research on basic psychological processes: research methodology in psychology, biological basis of behaviour, sensation and perception, learning and motivation, memory and cognition.
Three hours a week

1020 INTRODUCTION TO PSYCHOLOGY: Part II
An introduction to psychological theory in the form of application of the basic processes (Psychology 1010) to the individual in a social context. Areas include developmental psychology, personality theory and testing, emotion, personal adjustment and problems in living, therapies, and social psychology.
PREREQUISITE: Psychology 1010
Three hours a week

2010 DEVELOPMENTAL PSYCHOLOGY (offered in both semesters)
This survey course examines human development across the life span through physical, cognitive, and socio-emotional domains. The course includes discussions surrounding applications of developmental theory in various contexts, including public policy, education, counselling, and health domains. Lectures, in-class assignments, and research papers are designed to encourage students to evaluate developmental change critically and to apply their knowledge to their communities.
PREREQUISITE: Psychology 1010 and 1020
Three hours a week

2020 INTRODUCTION TO THE HISTORY AND THEORY OF PSYCHOLOGY
This course offers an introduction to the history of psychology, beginning with the early modern period. We examine Enlightenment philosophy, Darwin and the naturalization of the mind, and the experimental revolution of the 19th Century. These developments lead to the main focus for the course: the founding of psychology as a separate discipline. The origins of psychology in North America are contrasted with the development of German psychology, and the impact of the different social and cultural contexts is explored. Students also learn about the first schools of psychology in the early 20th Century, the social and historical construction of “normal” and “abnormal”, the role of psychological testing in the professionalization of psychology, and the emergence of various systems in psychology, such as psychoanalysis, behaviourism, humanistic, and cognitive psychologies.
PREREQUISITE: Psychology 1010 and 1020
Three hours a week

2120 DRUGS AND BEHAVIOUR
This introduction to psychopharmacology examines drugs which act on the nervous system and their subsequent impact on behaviour. Topics include basic neurophysiology and mechanisms of drug addiction, tolerance and withdrawal. Discussion focuses on the effects and underlying mechanisms of several drug types including

antidepressants, antipsychotics, alcohol, cocaine, hallucinogens, nicotine, and caffeine.
PREREQUISITE: Psychology 1010 and 1020
Three hours a week

2220 PSYCHOLOGY OF PERSONAL EXPERIENCE
This course introduces students to the basic concepts and ideas in Humanistic and Existential psychologies, and involves applying and integrating psychological theory to personal experience. Students learn about theorists such as Jung, Rogers, Maslow, May, and Frankl, and the ways in which meaning, purpose, choice, and consciousness are fundamental to existence. The development of humanistic psychology from phenomenological and existential approaches is considered, and the differences from experimental psychologies are discussed. As ways of comprehending our lives, themes of personal ('self ') and interpersonal ('self-in-relation') experience will be explored within a larger sociocultural context. Topics may include: being/becoming, intentionality, authenticity, values, growth, agency, identity, anxiety, and transcendent experience. Since this course focuses on finding ways for students to apply psychological insights to their everyday lives, experiential learning, personal reflection and class discussion will be emphasized. Active class participation is therefore essential for this course, and may involve journals, small group work, written responses to the readings, or other opportunities for personal reflection, both inside and outside of class.
PREREQUISITE: Psychology 1010-1020
Three hours a week

2320 SPECIAL TOPICS
Creation of a course code for special topics offered by Psychology at the 2000 level.

2420 INTRODUCTION TO SOCIAL PSYCHOLOGY (offered in both semesters)
This course focuses on the ways in which an individual's thoughts, feelings, and actions are influenced by the social environment. It provides an introduction to major theories, principles, methods and findings of the discipline. Topics include social perception and cognition, attitudes and attitude change, gender, attraction, aggression, helping, conformity, obedience, group interaction, and cultural influences. Through a variety of assignments students are encouraged to attend to the operation of social psychological principles in daily living. The course includes both lectures and participation in group experiences.
Cross-listed with Sociology 2820.
PREREQUISITE: Psychology 1010-1020 and/or Sociology 1010-1020
Three hours a week

2510 THINKING CRITICALLY ABOUT PSYCHOLOGICAL RESEARCH
For non-Psychology majors only. This course develops students' abilities as consumers of psychological research. Students learn about paradigms of research and knowledge, consider key assumptions in both quantitative and qualitative research, and explore how quantitative and qualitative perspectives influence the construction of knowledge. Students apply critical thinking strategies within the context of psychological research and develop skills to evaluate claims made about psychological phenomena in the popular media and professional literature. Concepts explored include understanding and prediction, description and inference, biases in research conduct and communication, representativeness, evaluating testimonials, correlation and causation, multiple causation, operational definitions, placebo effects, experimental control, and probability.
PREREQUISITES: Psychology 1010 and 1020.

**NOTE:** Credit will not be given for this course to students who have already earned credit for PSY 2780, 2790, 2700. 2730 o 2750; or those who are currently enrolled in PSY 2700, 2730, or 2750.
**NOTE:** This course cannot be counted as one of the 14 courses required to earn a major in Psychology.

2600 SENSATION AND PERCEPTION
This course examines how the more basic senses work and how they contribute to our awareness of the world. The sense of touch seems to give us direct contact with the world. The abilities to sense chemicals in the food we eat and

the air we breathe guide not only what we eat but also our emotions. Sensing vibrations in air enables us to detect events out of sight and to receive both verbal and musical communications from others. Content covered in this course also considers principles and theories of how visual information is received, and how it is processed and combined to produce visual images. These vastly different sources of information-mechanical, chemical and gravitational, as well as the electromagnetic basis of vision are sensed by specialized biological receptors that transform the information into nerve impulses. This course examines how the principles used by the brain to interpret the diverse information are surprisingly similar.
PREREQUISITE: Psychology 1010 and 1020
Three hours a week
NOTE: Credit will not be allowed for Psychology 2600 if a student has already received credit for Psychology 2610 or Psychology 2620.

2630 PSYCHOLOGY OF MUSIC

The course introduces fundamental and exciting developments in the growing field of the psychology of music. Taking a cognitive psychological approach, topics in the course include memory for popular music, the distinctive sounds of musical instruments, music and the brain, rhythmic behaviour in humans and animals, absolute pitch, music and expectancy, the unheard melodies of film music, music and emotion, musical performance, musical creativity, musical intelligence, musical development, cross-cultural perspectives and world music, music appreciation and personality, music and well-being, and the historical context. Students will explore complexities underlying research findings and will aim to relate this understanding to music in their lives as well as to other areas in psychology.
Cross-listed with Music 2630
PREREQUISITE: Psychology 1010 and 1020
Three hours a week

2700 QUANTITATIVE RESEARCH METHODS

In this course, students are introduced to the use of the scientific method in psychology, including how statistical and experimental approaches promote specific assumptions about reality and psychological research. Key concepts include operational definitions, reliability and validity, within- and between-group experiments, quasi-experiments, surveys, cross-sectional and longitudinal designs, and observational methods. The course includes consideration of research ethics in quantitative research.
PREREQUISITE: Psychology 1010 and 1020
Three hours a week

2710 STATISTICS FOR THE BEHAVIOURAL SCIENCES

Intended for Nursing students and not intended for Psychology Majors or Minors, this course is an introduction to applied statistics as used by behavioural scientists in measurement, data, analysis, and design of experiments. This course stresses both an understanding of the rationale governing the selection of appropriate designs or techniques as well as practical experience in calculation. Topics include: scaling, measures of central tendency and variability, probability, statistical inference and hypothesis testing, means test (z and t), correlational techniques, chi-square and other non-parametric techniques, and analysis of variance.
Students cannot receive credit for Psychology 2710 and either of Psychology 2790 or Psychology 2750.
PREREQUISITE: Psychology 1010 and 1020 and enrolment in the Faculty of Nursing, or permission of instructor
Three hours a week

2730 QUALITATIVE METHODS AND ANALYSIS

This course introduces qualitative research methods and analysis in psychology, with a consideration of ontology, epistemology, and methodology. Qualitative methods emphasize how psychological concepts have various meanings across culture and time and include observations and interviews as well as analytical techniques to create meaning from the research. Key concepts include interviews, focus groups, naturalistic observation, grounded theory, and phenomenology. The course includes communication of research findings using APA format and consideration of research ethics in qualitative research.

PREREQUISITE: PSY 1010 and 1020
Three hours a week; One hour a week tutorial
NOTE: Students who have previously received credit for PSY 2780 will not receive credit for PSY 2730.

2750 QUANTITATIVE ANALYSIS

This course examines descriptive and inferential statistical techniques in psychological research. Discussion includes the normal distribution, z scores, probability, graphing, and the creation of tables. Research design paradigms include within-participant experiments, between-participant experiments, and quasi-experiments, which can be analyzed in terms of probability theory to enable using inferential statistics. The steps to statistical hypothesis testing will teach approaches and assumptions for chi-square, correlation, t-tests, and one-way ANOVA. The course includes communication of research findings using APA format.
PREREQUISITE: Psychology 1010, 1020, and Psychology 2700
Three hours a week; One hour a week tutorial
NOTE: Students who have previously received credit for PSY 2790 will not receive credit for PSY 2750.

2910 CONTEMPORARY PSYCHOANALYTIC THOUGHT

This course is devoted to exploring the work of Sigmund Freud, with special attention paid to his theory of mind and its emphasis on the unconscious and sexuality. We also consider some of Freud's case studies, his emphasis on narrative, his controversial theory of women, and an overview of his considerable legacy in psychology, psychiatry, and Western culture, including some examples of his reception in music, film, and art.
PREREQUISITES: PSY 1010 and 1020

3020 MODERN PSYCHOLOGICAL CONCEPTS AND PRACTICE IN HISTORICAL PERSPECTIVE

The focus for this course is the historical evolution of various contemporary psychological concepts and practices. It begins with a general introduction to the intersection of psychology, historiography, and philosophy of science. Then, unlike the traditional "grand narrative" history, students learn about the history of psychological concepts and methods by starting with the present and then investigating their more proximate influences. Topics will vary year to year but may include: the history of statistics, the development of psychotherapy, and the history of introspection and its use as a psychological method; other topics include the history of consciousness, behaviour, memory, the self, race, gender, and sexuality. Debates over how research should proceed with regard to these topics will also be addressed.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510
Three hours a week

3030 PSYCHOLOGY OF AGING

This course is designed to examine the psychology of aging from a variety of perspectives, theories, and research themes applicable to the later part of adulthood. Situating the psychology of aging within the broader discipline of gerontological studies, this course examines historical and current conceptions of aging along with contemporary research topics ranging across the physical to the psycho-social domains of aging. Lectures, in-class assignments, and research projects are designed to engage students in a critical analysis of gerontological concepts, research directions, and practices.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510; and Psychology 2010 or permission of instructor.
Three hours a week

3050 ADOLESCENT DEVELOPMENT AND ADJUSTMENT

This course examines both the research and theoretical perspectives in areas that are integral to an understanding of the period of adolescence and of adolescents themselves. We address the following areas: puberty and psychobiology; the development of cognition and social cognition; the formation of identity, including career options, and the development of sexuality and a system of values, factors that influence the formation of identity, such as the family,

the peer group, and the media, the school experience; and issues in adolescent development such as some aspects of psychopathology, juvenile justice, and the problems encountered by indigenous youth.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510; and Psychology 2010
Three hours a week

3080 CHILD DEVELOPMENT
This course explores children's development in depth by focussing on the various domains of change from birth to adolescence. Themes of change and stability throughout childhood are examined using analytical and descriptive theories of development. Implications of developmental approaches are examined for practice and public policy domains. Lectures, in-class assignments, and research projects are designed to encourage students to assess critically these developmental changes and to apply that understanding to other contexts.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510 and Psychology 2010;.
Three hours a week
NOTE: Students who have taken either 3040 or 3410 will not be eligible to enrol in 3080 without the instructor's permission.

3090 ADULT DEVELOPMENT
The purpose of this course is to better understand adult development by focussing on themes of change and stability from young adulthood through to older adulthood. Students use analytical and descriptive theories of adult development to explore how adults negotiate physical, cognitive, social, and emotional aspects of development. Lectures, in-class assignments, and research projects are designed to encourage students to evaluate critically the contemporary research in adult development and to apply their understanding of adult development to a wide array of contexts and policy environments.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510.
Three hours a week

3110 PHYSIOLOGICAL PSYCHOLOGY
This course focuses on the nervous system as the basis of all experience and behaviour. It examines how a biological perspective of the brain developed, how neuroanatomy defines brain function, how neurons transmit information, how body movement is controlled, and how touch, pain, sleep and arousal work.
PREREQUISITE: PSY 1010, 1020, 2120; AND, for Psychology Majors, EITHER all three of PSY 2700, 2730, 2750 OR PSY 2780 and 2790; AND, for non-majors, PSY 2510. Students who do not have PSY 2700, 2730 and 2750 OR 2780 and 2790 but do have equivalent statistics and research methods courses may enrol with permission of the instructor.
Three hours a week, two hours a week laboratory

3120 BRAIN AND BEHAVIOUR
This course builds on Psychology 3110 and is designed to explore complex behaviour in terms of brain physiology. Topics include: the operation of basic motivational mechanisms that regulate temperature, hunger and thirst; and sexual behavior; arousal, and sleep; emotions; brain pathology and mental disorders; and learning and memory.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510; Psychology 2120; Psychology 3110; or permission of instructor
Three hours a week class, two hours laboratory a week

3130 INTRODUCTION TO NEUROPSYCHOLOGY
This course explores current concepts of the function of the human forebrain as revealed through cortical damage and degenerative diseases. The course addresses basic principles of cortical organization and function and how these relate to issues of localization of function, hemispheric dominance, and sex differences in brain and behaviour. These

principles are then applied to discussions of the cause and diagnosis of specific language, memory, and sensory dysfunctions resulting from developmental disorders, head trauma, and degenerative diseases.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750; Psychology 2120; or permission of instructor. Students who do not have Psychology 2780 and 2790 OR 2700, 2730, and 2750 but do have equivalent statistics research methods courses may enrol with permission of the instructor
Three hours a week class, two hours a week laboratory

3210 LEARNING AND MOTIVATION: BASIC PROCESSES
This course provides a survey of learning theories presented by Thorndike, Pavlov, Hull, Skinner and others. It will concentrate on some of the controversial issues between the S-R and cognitive approaches, and explore some of the findings relating to the fundamental principles of learning, motivation, reinforcement, incentives, effects of punishment and the problem of generalization and discrimination in learning. The applicability of some of the basic principles discovered in the animal laboratory to the everyday behaviour of people will also be examined.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750. Students who do not have Psychology 2780 and 2790 OR 2700, 2730, and 2750 but do have equivalent statistics research methods courses may enrol with permission of the instructor.
Three hours a week class, two hours laboratory

3310 CREATIVITY
This course examines the nature of creativity as viewed from the psychoanalytic, cognitive problem solving, and humanistic existential perspectives. Topics include personality correlates of creative people, criteria and methods for judging creativity, the creative process, and the facilitation of creative potential. Small group participation is required.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510
Three hours a week

3320 SPECIAL TOPICS
Creation of a course code for special topics offered by Psychology at the 3000 level.

3330 ECOPSYCHOLOGY
This seminar-style course examines the important role of the human relationship with nature in order to better understand psychological experience and ecological issues. It explores a variety of factors that may contribute to human disconnection from nature (such as technology, consumerism, psychological views of health and of the self) and ways of developing more sustainable relationships and deepening personal connections with nature (such as direct experience in nature, environmental restoration and activism, nature-based worldviews and psychotherapies, and systems theory). Some “field work” is required.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510; or permission of the instructor.
Three hours a week seminar

3420 INTERPERSONAL RELATIONSHIPS
This course is designed to examine a variety of social psychological frameworks within the field of interpersonal relationships. Through in-class discussion, extensive writing, and major projects, students will gain an increased understanding of the multifaceted nature of interpersonal relationships. The course will focus on examples from one of three different relationships types each year: intimate relationships, family relationships, or group interactions.
PREREQUISITES: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510; Psychology 2420
Three hours a week

3510 THEORIES OF PERSONALITY

The purpose of the course is to survey, compare and evaluate different approaches to the study of personality. Relevant personality theory and research will be reviewed within a broad framework including the perspectives of the psychodynamic, behaviour theory, cognitive, and humanistic approaches. The processes of personality organization and disorganization will be examined from different theoretical perspectives. The emphasis will be placed on current personality theory and its relevance to the student as a person as well as its relevance to other psychological theories.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510
Three hours a week

3520 PSYCHOLOGICAL DISORDERS
This course engages students in a critical review of theories and research in psychological disorders. Strengths and limitations of current diagnostic classification systems, such as the DSM, are analyzed, as are the personal and social consequences of their use. Current models of diagnosis, etiology, maintenance, and treatment of various disorders are reviewed. We explore limits on the generalizability of key concepts and findings across individual and cultural diversities.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510
Three hours a week

3530 CHILDHOOD PSYCHOLOGICAL DISORDERS
This course examines developmental, behavioural, emotional, and social disorders in childhood. Those considered include autism, mental disability, conduct disorders, childhood depression, fears and anxieties, problems in social relationships, and health-related problems. Students explore the implications of various models for understanding the definitions, origins, and treatments of disorders.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510; and Psychology 3520
Three hours a week

3710 ADVANCED STATISTICS
A more advanced course in applied statistics as used by behavioural scientists in designing and analyzing experiments and field studies. The major concentration of the course is analysis of variance and linear regression. In addition students are introduced to a variety of topics in multivariate statistics, including multiple regression and correlation, discriminant analysis, Hotelling's $T^2$ and multivariate analysis of variance.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750. Students majoring in areas other than psychology may enrol provided they have completed an introductory statistics course
Three hours a week, two hours a week laboratory
**NOTE:** Psychology 3710 and Mathematics 3120 may not be double credited without the permission of the Dean and the Chair of the Department in which the second credit is being sought.

3740 ADVANCED QUALITATIVE RESEARCH
The purpose of this course is to help students gain a theoretical, practical and critical understanding of qualitative research methodology, and to teach skills for the execution of research projects based upon qualitative data. Qualitative research is research that focuses upon understanding, rather than predicting or controlling phenomena. Nine different paradigms of qualitative research methodology, their implications, and applications, are examined in this course. These paradigms are: data display, grounded theory, phenomenology, ethnography, psychobiography and historiography, psychoanalytic approaches, narrative psychology, hermeneutics and textual deconstruction, and social constructivism. Political and ethical issues are also highlighted in order to problematize and promote more critically informed inquiry.

PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750.
Lecture/Tutorial: Three hours a week

3810 HUMAN LEARNING AND MEMORY

This course provides a survey of contemporary approaches to the problem of human learning and memory. It involves an examination of theories and research relating to the structure and content of human memory, information encoding, and retrieval processes. A variety of related topics including mental imagery, mnemonics, the structure of intelligence tests, and the effects of drugs on memory may also be included. Laboratory exercises will involve work with human subjects.

PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750. Students who do not have Psychology 2780-and 2790, OR 2700, 2730 and 2750, but do have equivalent statistics research methods courses may enrol with permission of the instructor.

Three hours a week class, two hours a week laboratory

3820 COGNITIVE PSYCHOLOGY

This course examines recent developments in cognitive psychology with special emphasis on the study of thinking, problem solving and decision making. Its topics include theories and research in inductive and deductive reasoning, information processing approaches to thinking and problem solving, and the implications of the cognitive perspective for our understanding of intelligence, creativity and mental development.

PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 or OR Psychology 2510

Three hours a week class

3830 PSYCHOLINGUISTICS

This course reviews the psychology of language from the perspectives of sensation, perception, cognition, and interpersonal processes. Topics include the nature of speech production and perception, the nature of grammatical and lexical knowledge, semantics and pragmatics, language acquisition, the social bases of human communication, and computer systems for language understanding.

PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750; or permission of instructor

Three hours a week class

3850 CULTURAL PSYCHOLOGY

This course investigates how culture shapes human thought, behaviour, and the field of psychology broadly. The course begins with discussion of theoretical foundations and research methods in cultural psychology, followed by the application of a cultural perspective to psychological concepts including: self and identity, relationships, development, morality and justice, emotions, cognition, and physical and psychological health. Lectures, discussion, and in-class assignments challenge students to consider the sizable impact of culture on human life.

Cross-listed with Diversity and Social Justice Studies 3840.

PREREQUISITES: When taken as a psychology credit, Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 or OR Psychology 2510. When taken as a DSJS credit, prerequisites are a 1000-level DSJS course and at least one other DSJS course at the 2000+ level

Three hours a week

3860 BUDDHIST PSYCHOLOGY

Buddhist philosophy engages with a range of issues that are central to modern psychological research and practice including the mind, cognition, emotion, motivation, and therapeutic practice. Buddhism also intersects with a range of theoretical traditions that continue to inform psychology from phenomenology and existentialism to qualitative inquiry and neurophysiology. This course will focus on those intersections and attempt to articulate exciting ways to shape the future of psychological inquiry. Throughout this course students will encounter both theoretical attempts to integrate

Buddhism and psychological practice as well as practical activities designed to strengthen the connection between these different forms of inquiry.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 or OR Psychology 2510, or permission of instructor
Three hours a week

3910 PSYCHOLOGY OF WOMEN
This course will focus on women's development throughout the life span. Topics will include: views of the nature of women, biological influences, the socialization process and its consequences at the individual, interpersonal relationship, and societal levels, as well as recent alternative views of the psychology of women.
Cross-listed with Diversity and Social Justice Studies 3910.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510
Three hours a week

3930 HEALTH PSYCHOLOGY
This course examines how psychological, social, and biological factors interact to influence health and illness. Students explore the systematic application of psychology to health promotion and maintenance, illness prevention and treatment, the determinants of health and illness, health care systems, and health policy.
PREREQUISITE: PSY 1010, 1020; AND, for Psychology Majors, EITHER all three of PSY 2700, 2730, 2750 OR PSY 2780 and 2790; AND, for non-majors, PSY 2510
Three hours a week

4030 ISSUES IN DEVELOPMENTAL PSYCHOPHARMACOLOGY
This is an advanced course in drugs and behaviour focusing primarily on issues of developmental differences in drug action and drug effects. Because many drug effects are determined by the maturity of the brain, some time is spent on developmental aspects of neuroanatomy and neurophysiology. A large part of the course focuses on factors which determine, or contribute to, developmental deficits/effects consequent to early (pre-and perinatal) drug exposure. Within this developmental framework, current pharmacological models, and debates surrounding pharmacological-based causes and treatments of disorders, such as hyperactivity and Alzheimer's disease, are discussed.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750; Psychology 2120 and one of the following: Psychology 3210, 3100, 3120, or 3810; or permission of instructor. Students who do not have Psychology 2780- and 2790 OR 2700, 2730, and 2750, but do have equivalent statistics research methods courses may enrol with permission of the instructor.
Three hours a week

4042 ANIMAL COGNITION
What do animals think? Do they have emotions? Topics such as animal memory, numerosity, and communication, as well as more controversial topics such as animal emotions, morality, and empathy will be addressed in this course. We will explore the developments in both Cognitive Psychology and Neuroscience, that are revealing fascinating insights into the animal mind. An underlying perspective of the course is the theme of how our perceptions of the cognitive abilities of animals shapes our expectations and relationships with them and how this, in turn, impacts on both the questions we ask and our animal welfare practices.
Cross-level listed with VHM 8520
PREREQUISITES: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750; Psychology 3210; or permission of instructor. Students who do not have Psychology 2780- and 2790 OR 2700, 2730, and 2750, but do have equivalent statistics research methods courses may enrol with permission of the instructor
Three hours a week

4110 CONSCIOUSNESS

This course focuses on what is arguably the most profound issue to humankind: Consciousness. It is more than our experience of the world around us as compiled by the brain from various sense organs. Also compiled are nerve impulses from within that tell us about our body and our past. We use it to plan what we do both in the next few seconds and for as far ahead as we can envision a future. Consciousness is what and who we are. Until the 1990's the word was almost taboo in psychology – not used by respectable scientists. Yet as cognitive psychology burst forth in the 1970's, the study of consciousness soon followed it into respectability, aided by ever more sophisticated methods of studying the brain. This course reviews the philosophical ideas that preceded and then accompanied the science. It examines the current state of what we know about the operations of the brain that produce consciousness.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510; or permission of instructor
Three hours a week

4120 MUSIC COGNITION
This course focuses on the mental processes underlying music perception, performance and composition. Following a discussion of basic hearing mechanisms, students examine research on perception of musical elements (e.g., tone, interval, triad, harmony and rhythm) and then proceed to broader issues (e.g., musical memory, meaning, aesthetics and intelligence). Music cognition is also compared to other kinds of cognition. Students conduct experimental research.
NOTE: While students with musical background would be especially interested in this course, there is no need for prior formal training or knowledge of music.
Cross-listed with Music 4120.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750; or permission of instructor
Three hours a week class

4130 PSYCHOLOGY OF SOCIAL CLASS
This course explores the role that social stratification plays in human thought, behaviour and experience. It studies the history of social stratification and the relatively recent emergence of a class based society. It examines some of the ways that psychologists and other social scientists have integrated social class into their work. A rigorous interrogation of everyday experiences of economic injustice is central to this course. Topics may include the way that social class intersects with a range of identity categories, classism, poverty, inequality, commodity fetishism, and consumer society.
Cross-listed with Diversity and Social Justice Studies 4130.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510; and Psychology 2020; or Permission of Instructor. If taking DSJS 4130, the prerequisites are at least 3rd year standing and at least 2 DSJS courses.
Three hours a week

4310 DIRECTED STUDIES
These courses may take at least two different forms: (1) Directed Readings in Psychology, (2) Directed Research in Psychology.
PREREQUISITE: Psychology 1010 and 1020; and either 2780 and 2790 or 2700, 2730 and 2750, and permission of instructor
Three hours a week

*Directed Readings* is a course of supervised readings for individual students on advanced or specialized topics. Selected topics in the student's area of interest are submitted to and discussed with a faculty member. Reading will involve critical evaluation of the literature. Students will be evaluated on the basis of either oral or written performance.

*Directed Research* provides an opportunity for students, with the help of a faculty supervisor, to design and carry out research in Psychology. Students will be expected to write up their study according to the accepted format for publication. This course is recommended for students who intend to do post-graduate work in Psychology.

NOTE: Students should meet with a professor in the Psychology Department well in advance of registration to discuss the nature, design and content of the course. No one will be allowed to register for the course unless he/she has made arrangements with a professor in the Department. In accordance with present Senate regulations, no student shall take a total of more than 12 semester hours of Directed Studies courses in any one Department. (See Academic Regulation #9 for regulations governing Directed Studies). PSY 4310 cannot be used to fulfill the 4000-level Psychology Major requirement.

4320 SPECIAL TOPICS

Special Topics are courses offered by individual members of the Psychology faculty, or visiting instructors, which provide advanced instruction in specialized areas of study, and supplement the general program of courses in Psychology.

PREREQUISITE: Psychology 1010-1020, 2780-2790 and permission of the instructor.

Students may receive repeated credit for 4320 so long as the course topic varies.

Three hours a week

4350 GENDER AND SEXUALITY

This course provides a critical examination of gender and sexuality. It explores the individual, interpersonal, and societal constructions of gender and sexuality within varying biological, cultural, and historical contexts; and uses psychological theory and research to analyze experiences and representations of gender and sexuality.

Cross-listed with Diversity and Social Justice Studies 4350.

PREREQUISITE: When taken as a Psychology credit, Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510; Psychology 2420; and Psychology 3010 OR Psychology 3910; or permission of the instructor. When taken as a Diversity and Social Justice Studies credit, minimum of 3rd year standing and at least 3 DSJS courses OR permission of the instructor.

Three hours a week seminar

4370 GENDER AND VIOLENCE (Previously PSY 3950)

This course investigates the role of gender in violence and abuse. Adopting a critical perspective, the course considers the limitations of mainstream social constructions of forms of gender-based violence. Topics for consideration may include offenses such as domestic violence, stranger and acquaintance rape, sexual assault, and sexual harassment. The course also explores how traditional, heteronormative understandings of domestic violence may fail to reflect accurately the experience of violence in GLBT relationships. Consideration is given to the psychological consequences of victimization, as well as to how societal institutions could better address the needs of both victims and offenders.

Cross-listed with Diversity and Social Justice Studies 4730

PREREQUISITES: When taken for Psychology credit, Psychology 1010-1020, and 2780-2790 or 2510. When taken for DSJS credit, a 1000-level DSJS course and at least one other DSJS course at the 2000+ level.

4410 EXISTENTIAL – PHENOMENOLOGICAL PSYCHOLOGY

This is an inquiry into a psychology of the experience of the person. This part of the course is an attempt to understand the personal world through a critical examination of the problems of becoming a person in our time. The approach to be taken is problem-centred with the person as a focal point. Each student is encouraged to formulate questions by which their inquiry will be guided. Extensive reading lists on existential themes will be provided. Possible topics include alienation, values, meanings, and identity.

PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510; and Psychology 2220; or permission of instructor

Three hours a week

4530 HUMAN SERVICES: INTEGRATING THEORY AND PRACTICE

This course focuses on the connections between theories about human behaviour, cognition, and emotion, and the experience of clients and workers in human service settings. Students participate in service provision at an assigned

agency and independently study and write about theoretical perspectives in psychology relevant to their field placement. Discussions include ethical issues in human services.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510; and permission of instructor
One hour a week class, three to four hours field placement

4610 PSYCHOLOGICAL ASSESSMENT
This course provides an introduction to the theory and practice of psychological assessment with an emphasis on psychometric issues. The major approaches within the process are examined within multiple contexts such as clinical, school, and forensic settings. Students also gain experience in the application of fundamental assessment-related skills such as active listening, interviewing, and test administration.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750; and Psychology 3520; or permission of the instructor
Three hours a week

4620 PSYCHOTHERAPY
This course provides an introduction to the theory and practice of psychological treatment of mental health problems. Students will learn about prominent contemporary approaches to psychotherapy and how they are applied in practice.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750; and Psychology 3520; or permission of instructor
Three hours a week

4630 CRITICAL ISSUES FOR CONTEMPORARY PSYCHOLOGY
This course focuses on some of the fundamental assumptions and questions in contemporary psychology. It begins with a discussion of psychological methods as forms of social practice, and the resulting product/knowledge of these practices as situated within a socio-historical context. We then discuss the importance of metaphor, and language in general, for psychological description and explanation, and the historicity this language displays. These issues lead to a review of the most foundational challenge to contemporary psychology: its reception of and reaction to postmodernism. This includes readings and discussion on social constructionist thought, feminist epistemologies, critical psychology, hermeneutics, and qualitative (vs. quantitative) research. The last portion of the course is devoted to student seminars, where students select a topic from class discussion and develop a presentation.
PREREQUISITE: Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510.
NOTE: Psychology 2020 or 3020 is strongly recommended.
Three hours a week

4720 SOCIAL JUSTICE IN PSYCHOLOGY
This course examines the praxis (practice and theory) of social justice through psychologies of liberation and decolonization. The focus is on a critical understanding of radical moments of theorizing and action and will examine psychologies created to resist broad social systems of colonization and control. Students interrogate contemporary issues of inequity embedded within systems of privilege and how these systems create as much as reflect psychological phenomena.
Cross-listed with Diversity and Social Justice Studies 4720.
PREREQUISITES: When taken as a Psychology credit, Psychology 1010 and 1020; and Psychology 2780 and 2790 OR Psychology 2700 and 2730 and 2750 OR Psychology 2510; and Psychology 3330 OR Psychology 3910; or permission of the instructor. When taken as a Diversity and Social Justice Studies credit, minimum of 3rd year standing and at least 3 DSJS courses.
Three hours a week

**HONOURS COURSES**

4800 HONOURS LITERATURE REVIEW

Under the supervisor's direction, the student seeks out and studies reports of previous research and theoretical essays that relate to the conducting of a research project for an Honours degree in Psychology. Evaluation is based on the student's written review of the literature.

PREREQUISITE: Acceptance into the Psychology Honours Program.

Six semester hours of credit

4810 ORIGINS AND CONTEXTS OF PSYCHOLOGICAL THOUGHT AND PRACTICE

The focus for this course is the evolution of various contemporary psychological concepts and practices, and provide students with an opportunity for critical reflection on the role historical, social, and cultural contexts have on these. It begins with a general introduction to the intersection of psychology, historiography, and philosophy of science. Students learn about the development of Psychology in North America and Europe as characterized by their various methods and theories. Discussions range across topics from all areas of Psychology, and may include: the history of statistics, mental testing, psychotherapy, gender, and consciousness. Students are encouraged to reflect upon the implications of these discussions for their areas of Honours research. Debates over how current research should proceed with regard to these topics are also addressed. Course enrollment is restricted to Psychology Honours students. Completion of PSY 3020 is recommended but not required.

**Note:** This course does not meet any psychology area requirement, and does not meet the requirement for taking a 4000-level course.

PREREQUISITE: Acceptance into the Psychology Honours Program.

3 semester hours of credit

4900 HONOURS THESIS

This is a course that offers selected students the opportunity to conduct a research project and to write a thesis on that subject under the direction of a faculty supervisor. The topic of this project is established through consultation with one or more faculty members who have agreed to supervise the student in pursuing an Honours degree. The thesis is to be written in the professional format specified by the Canadian Psychological Association. The thesis is evaluated by a committee of at least three faculty members including the student's supervisor.

PREREQUISITE: Psychology 4800

Six semester hours of credit

# 85. Public Administration

**Coordinator**
Susan C. Graham

THE PROGRAM

The University of Prince Edward Island, through the McDougall Faculty of Business, offers an interdisciplinary program of studies leading to a Certificate and a Diploma in Public Administration. The program is intended for working federal, provincial, and municipal public servants who wish to prepare themselves for higher administrative and management positions. Others with similar interests may apply. Every effort is made to schedule the compulsory and elective courses for the program at times convenient for those employed.

ADMISSION:
Admission requirements to the Certificate and Diploma Programs are as for the McDougall Faculty of Business.

OBJECTIVES
The UPEI Public Administration program has three basic objectives:
-to develop, along with specific skills, an understanding of the interpersonal and interorganizational roles of an individual within the public service;
-to assist in the training and development of individuals for policy and administrative positions in the public service; and
-to equip individuals with knowledge and techniques for efficient and effective decision making.

**CERTIFICATE PROGRAM**

The Certificate program is designed and intended for advancement to the middle management in the public service. To qualify for a Certificate, a student must complete ten (10) three semester-hour courses for a total of thirty (30) semester hours. Eight (8) of the three semester hour courses are compulsory and two (2) are chosen from the list of approved electives.

**COMPULSORY CERTIFICATE COURSES**
Organizational Behaviour – Business 1710
Introductory Microeconomics- Economics 1010
Introductory Macroeconomics – Economics 1020
UPEI 1010
A writing intensive course
Canadian Politics I: Government – Political Science 2010
Law Politics and the Judicial Process I – Political Science 2110
Canadian Public Administration – Political Science 3110

**DIPLOMA PROGRAM**

The Diploma program is designed and intended for more advanced Public Administration education. To qualify for a Diploma, a student must complete an additional ten (10) three semester hour courses beyond the Certificate. Six (6) of the additional three semester hour courses are compulsory and four (4) are chosen from the list of approved electives. In addition, candidates for the Diploma in Public Administration must satisfy the coordinator that they have completed a public service work experience of four months, full-time, in a public administration environment.

**COMPULSORY DIPLOMA COURSES**
Human Resource Management – Business 2720

Communications – Business 4610
Organizational Development and Change – Business 4710
Canadian Economic Problems – Economics 3040
Canadian Federalism – Political Science 3020
Canadian Public Policy – Political Science 3140

**APPROVED ELECTIVES**

Electives from the following list may be selected for either the Certificate or the Diploma requirement but an elective cannot be used for both Certificate and Diploma.

**Certificate and Diploma Electives**

Management Information Systems – Business 2410
Industrial Relations – Business 3720
Business Law I– Business 3010
Business Law II – Business 3020
Postwar Prince Edward Island – History 4890
The Canadian Experience – Canadian Studies 3010 and 3020
Public Finance – Economics 4120
Politics and Government of Prince Edward Island – Political Science 2020
Law, Politics and the Judicial Process II – Political Science 2120
Canadian Provincial Politics: A Comparative Perspective – Political Science 3220
Public Policy in Small Island Jurisdictions – Political Science 4140

Any one of the following statistics courses:
Introductory Statistics – Statistics 1210
Statistics and Research Design I – Psychology 2780
Methodology and Research I – Sociology 3310
Introduction to Management Science – Business 2510

The substitution of one university credit course not now in the listing of elective courses which is directly related to the present work of the applicant may be permitted with the approval of the program coordinator.

# 86. Radiography

http://upei.ca/radiography

**Prince Edward Island School of Radiography Faculty**
Julie Hall, MEd, BSc, BScR, MRT (R), Program Coordinator
Stacey MacEwen, BScR, MRT (R), Instructor
Cassie MacLean, MEd, BScR, MRT (R), Instructor
Lisa Norton, BScR, MRT (R), CTIC, Instructor

NOTE: For academic regulatory purposes in the Radiography program, Radiography students' Dean is the Dean of Science, and the Radiography Program Coordinator has the authority of a Department Chair.

**THE BACHELOR OF APPLIED SCIENCE IN RADIOGRAPHY PROGRAM**
In 1997, in cooperation with the Prince Edward Island School of Radiography, the University of Prince Edward Island and the Queen Elizabeth Hospital (QEH) in Charlottetown entered an articulation agreement to enable the offering by the University of a Bachelor of Applied Science in Radiography. Students admitted to the program are subject to all of the Academic Regulations of the University, whether while taking courses offered by the University of Prince Edward Island or taking courses offered by the Queen Elizabeth Hospital. The QEH has its own regulations governing the behaviour of staff and students while on QEH premises.

**COURSE SEQUENCING**

**NOTES:**
1. Radiography courses must be taken in the prescribed sequence.
2. Students are required to maintain satisfactory certification in CPR, as required by the QEH, throughout their program.
3. **As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

**First Year (recommended first year course schedule – see *Admissions Criteria* for details)**
Biology 1310/1320 Introduction to Organisms /Introduction to Cell & Molecular Biology
Physics 1110/1120 Physics for Physical Sciences OR Physics 1210/1220 Physics for Life Sciences
Chemistry 1110/1120 General Chemistry
Mathematics 1120 Calculus for Life Sciences **OR** Math 1910 Single Variable
Calculus I
UPEI 1010 or 1020
Psychology 1010/1020 Introduction to Psychology I & II
**Total Credit Hours = 30 or 31**

**Second Year (after admission to the program)**
FN 2610 Communications
RAD 2010 Anatomy & Physiology I
RAD 2020 Anatomy & Physiology II
RAD 2110 Radiographic Technique I
RAD2120 Radiographic Technique II
RAD 2210 Patient Care I
RAD 2310 Radiography Physics
RAD 2420 Digital Imaging
RAD 2510 Clinical Experience I

RAD 2520 Clinical Experience II
RAD 2720 Image Quality
RAD 2820 Computed Tomography I
RAD 2920 Clinical Rotation
Total Credit Hours = 30

**Third Year**

RAD 3110 Clinical Rotation
RAD 3210 Radiographic Technique III
RAD 3310 Pathology I
RAD 3420 Radiation Protection
RAD 3530 Computed Tomography
RAD 3620 Sectional Anatomy
RAD 3510 Clinical Experience III
RAD 3910 Clinical Radiography I
Statistics 1210 Introductory Statistics
IKE 1040 Indigenous Teachings of Turtle Island
Elective: (Philosophy 1010, 1020 or any course at the 2000 level or above from the Faculty of Arts)
2 Free Electives

**Total Credit Hours = 33**

**Fourth Year**

Writing Intensive Course
1 Free Elective
An approved general elective at the 2000 level or above
Foods and Nutrition 3310 Introduction to Research Methods
Elective – Any Psychology course at the 2000 plus level or above
RAD 4030 Quality Management
RAD 4120 Patient Care II
RAD 4320 Pathology II
RAD 4520 Clinical Experience IV
RAD 4920 Clinical Radiography II

**Total Credit Hours = 27**

1. In order for any student to advance to the next semester of the program, the student must obtain a grade of at least 70% in each RAD-designated course taken in the previous semester.

2. Attendance in all activities related to clinical/laboratory components of Radiography courses is mandatory. A student who is absent repeatedly from clinical/laboratory sessions may be required by the Dean to withdraw from a course. The Program Coordinator may prohibit a student from attending a clinical session if there is reasonable evidence that the student's physical or psychological health may be detrimental to patients or patient care.

3. Once admitted to the program, students must complete all of the required Radiography (RAD) courses in the following three academic years. Any exceptions are by special permission of the Dean.

4. Because Radiography has a strong clinically-based component, radiographic course work does not necessarily fit within the formal academic calendar. Certain second semester Radiography courses may continue until the summer months, with completion as late as August. Students are encouraged to consult with the School of Radiography.

# RADIOGRAPHY COURSES

NOTES:
-Radiography courses must be taken in the program sequence.
-No Radiography course may be taken unless the student has first completed the Program Orientation, offered by the QEH after admission and prior to the beginning of the program.

2010 ANATOMY AND PHYSIOLOGY I
This course introduce students to the study of human anatomy. There is a strong focus on organ systems commonly imaged in radiography. The use of proper medical terminology while describing the location of anatomical structures is emphasized as well as identifying structures on both radiographs and CT images.
PRE-REQUISITE: Acceptance into the Radiology Program
LECTURES/DEMONSTRATIONS: 3 hours
Three hours of credit

2020 ANATOMY AND PHYSIOLOGY II
This courses is a continuation of RAD 2010 . There is a continued focus on organ systems commonly imaged in radiography. The use of proper medical terminology while describing the location of anatomical structures is emphasized as well as identifying structures on both radiographs and CT images.
PRE-REQUISITE: RAD 2010 and acceptance into the Radiology Program.
LECTURES/DEMONSTRATIONS: 3 hours
Three hours of credit

2110 RADIOGRAPHIC TECHNIQUE I
This course introduces students to the fundamental principles of radiography positioning. In order to produce high quality radiographs, students must understand the importance of several radiographic principles including: patient position, part position, central ray(CR) direction, source to image distance(SID), object to image distance(OID), image receptor(IR) selection, and collimation. Students will learn the basic steps of radiography and then apply these to radiography of the upper & lower limb, thoracic viscera and abdomen. In addition to positioning principles, students will practice critically evaluating radiographs.
LECTURES/LABORATORIES: 3 hours,
Three hours of credit
PRE-REQUISITE: Acceptance into the Radiography Program

2120 RADIOGRAPHIC TECHNIQUE II
This course is a continuation of RAD 2110. Students learn the proper patient positioning, part position, central ray orientation, collimation, radiation protection, and image receptor placement required in order to demonstrate a number of different body structures including shoulder girdle and humerus, pelvic girdle and femur, vertebral column, and bony thorax. There is also a portion of each week spent performing image analysis and critique
LECTURES/LABORATORIES: 3 hours
Three hours of credit
PRE-REQUISITE RAD 2110 and Acceptance into the Radiography Program

2210 PATIENT CARE I
This course places emphasis on the technical and interpersonal skills needed in meeting the physical and emotional needs of patients. Students learn techniques of therapeutic communication; clinical, legal and ethical responsibilities; infection control, and medical assistance in certain areas.
LECTURES/LABORATORIES: 3 hours
Three hours of credit

2310 RADIOGRAPHIC PHYSICS

This course begins with fundamental physics principles such as the atom, properties of photons, electricity, magnetism, and electromagnetism and discuss how they apply to radiography. The circuitry and equipment required to produce radiation is covered. It concludes with knowledge of the x-ray tube, its safe use and how radiation is actually produced.
LECTURES/LABORATORIES: 4 hours
Three hours of credit

2420 DIGITAL IMAGING
This course introduces students to the principles of digital image acquisition and processing with its applications in radiography. Topics include a comparison of film-based radiography to digital radiography, structure of a digital image, digital image quality and a comparison of storage and flat panel digital radiography.
LECTURES/LABORATORIES: 2 hours
Three hours of credit

2510 CLINICAL EXPERIENCE I
Commencing immediately after program orientation, students in year two of the Radiography Program will do 1.5 days per week, in mandatory clinical practice at the Queen Elizabeth Hospital. This is in addition to all 2000 level QEH courses listed in the Program calendar.
This is a compulsory 0 credit clinical component with a Pass/Fail grade mode.

2520 CLINICAL EXPERIENCE II
In the second semester of year two, students will spend 1.5 days per week, in mandatory clinical practice at the Queen Elizabeth Hospital. This is in addition to all 2000 level QEH courses listed in the Program calendar.
This is a compulsory 0 credit clinical component with a Pass/Fail grade mode.

2720 IMAGE QUALITY
This course provides students with background in the operation of the x-ray tube and with in-depth knowledge of the factors that determine a good quality image.
LECTURES/LABORATORIES: 3 hours
Three hours of credit

2820 COMPUTER TOMOGRAPHY I
This course focuses on Computed Tomography (CT) and provides students with an in-depth knowledge of the principles and instrumentation of CT. Major components, image reconstruction and image display in CT are discussed. The role other imaging modalities play in the diagnostic imaging chain are briefly covered as well as future technological developments.
Three hours of credit

2920 CLINICAL ROTATION
At the end of second semester in year two students will spend 10 weeks in mandatory clinical practice at various hospitals. This will involve rotating shifts and weekends.
This is a compulsory 0 credit clinical component with a Pass/Fail grade mode.
Non-credit course

3110 CLINICAL ROTATION
At the end of the second semester in year three students will spend 14 weeks in mandatory clinical practice at various hospitals. This will involve rotating shifts and weekends.
This is a compulsory 0 credit clinical component with a Pass/Fail grade mode.

3210 RADIOGRAPHIC TECHNIQUE III
This course is a continuation of Radiographic Technique II, QEH 2120, and focuses on the clinical aspects of body systems. Emphasis is placed on invasive, therapeutic, and specialized contrast procedures performed in an imaging

department. The course also familiarizes students with procedure protocols, and contrast media preparation with indications and contraindications.
LECTURES/LABORATORIES: 3 hours
Three hours of credit

3310 PATHOLOGY I
This course examines the terminology used in the study of disease. Emphasis is placed on means of recognizing signs and symptoms of specific diseases in which radiography offers a major contribution in reaching a diagnosis. The radiographic appearance of these diseases and the effect played in diagnosis by the correct selection of technical factors are considered.
LECTURES/DEMONSTRATIONS: 3 hours
Three hours of credit

3420 RADIATION PROTECTION
This course provides students with a comprehensive review of the biological risks associated with ionizing radiation, and instruction in the methods and practices which ensure that radiation doses are held to the lowest practical levels.
LECTURES/SEMINARS: 3 hours
Three hours of credit

3510 CLINICAL EXPERIENCE III
In first semester of year three students will spend 2.5 days per week in mandatory clinical practice at the Queen Elizabeth and Prince County Hospitals. This is in addition to all 3000 level QEH courses listed in the program calendar. This is a compulsory 0 credit clinical component with a Pass/Fail grade mode.

3530 COMPUTED TOMOGRAPHY II
Computed Tomography II is a continuation of Computed Tomography I. Topics include; image quality considerations, post processing of images, radiation dose, quality control and selection/manipulation of imaging parameters in CT. Routine procedures & protocols of the head & neck, thorax, and abdomen are thoroughly covered.
LECTURES/LABORATORIES: 3 hours
Three hours of credit

3620 SECTIONAL ANATOMY
This course places emphasis on the physical relationships among anatomic structures. Teaching materials provide a learning aid for students to better understand anatomy in sectional images. Students learn to recognize and identify cross-sectional anatomy that is needed for technology advances in diagnostic imaging.
LECTURES/LABORATORIES: 3 hours
Three hours of credit

3910 CLINICAL RADIOGRAPHY I
In this course, students enhance their skills in clinical Radiography with hands-on clinical experience, advanced image analysis and critique, and with labs focused on special topics.
Three hours of credit

4030 QUALITY MANAGEMENT
This course examines the principles of total quality management, including a review of pertinent radiographic equipment and quality-control testing procedures. A laboratory component allows students to become familiar with the testing equipment and to understand corrective action that may be required.
LECTURES/LABORATORIES: 3 hours
Three hours of credit

4120 PATIENT CARE II

This course is a continuation of Radiography 2210, and focuses on patients with special needs such as infection, altered body image, unconsciousness, and critical illness or terminal illness. Students learn basic nursing skills, the pharmacology of common drugs and reactions, and basic first aid.
LECTURES/LABORATORIES: 3 hours
Three hours of credit

4320 PATHOLOGY II
This course is a continuation of Pathology I, and emphasizes the characteristics and radiographic significance of pathological conditions and their impact on producing a radiographic examination.
LECTURES/DEMONSTRATIONS: 3 hours
Three hours of credit

4410/4420 DIRECTED STUDIES IN RADIOGRAPHY
This course is designed for the student who wants to delve deeper into a Diagnostic imaging modality by taking an additional course or doing research on a relevant topic of special interest. (See Academic Regulation 9 for Regulations Governing Directed Studies)
Three hours of credit

4520 CLINICAL EXPERIENCE IV
In second semester of year four students will spend approximately 2.5 days per week in mandatory clinical practice at the Queen Elizabeth Hospital. This is in addition to all 4000 level QEH courses listed in the program calendar.
This is a compulsory 0 credit clinical component with a Pass/Fail grade mode.

4920 CLINICAL RADIOGRAPHY II
This course provides final clinical preparation for writing national certification examinations. Time is spent in the clinical setting with a didactic component focused on advanced image analysis and special topics of interest.
Three hours of credit

# 87. Religious Studies

http://upei.ca/religiousstudies

**Religious Studies Faculty**
Robert H. Dennis, Assistant Professor, Chair
Edward Y.J. Chung, Professor
Airana Patey, Assistant Professor
Joe Velaidum, Associate Professor

**THE RELIGIOUS STUDIES PROGRAM**

The Department of Religious Studies offers courses of general interest on religion as well as Major and Minor programs. Religion is one of the vital elements of human existence. Religious inspirations and aspirations help to shape the personal, cultural and social life of human beings; in turn, religious systems reflect and respond to the historical and social settings in which they find themselves. No understanding of human life is complete without some consideration of the basic questions of truth and meaning posed by religions and the rich variety of answers professed and lived within the religious traditions of the world.

**REQUIREMENTS FOR A MAJOR IN RELIGIOUS STUDIES**
Forty-two semester hours in Religious Studies are required for the Major. These must include:

* RS 1050 or both RS 1010 and RS 1020,
* At least one course each from groups B and F,
* At least two courses (one of which must be at the 3000 level) from each of groups C, D, and E.

The remaining hours of credit may be chosen from among all Religious Studies offerings, including cross-listed courses.

**NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

**REQUIREMENTS FOR A MINOR IN RELIGIOUS STUDIES**
Twenty-one semester hours in Religious Studies are required for the Minor. These must include:

* RS 1050 or both RS 1010 and RS 1020,
* At least one course from each of groups B, C, D, and E,
* At least two courses in total must be at the 3000 or 4000 level.

The remaining hours of credit may be chosen from among all Religious Studies offerings, including cross-listed courses.

**Christian Studies Program**

The Department of Religious Studies offers a Minor program in Christian Studies. Christianity is not only the single most powerful influence on the history and development of Western civilization and culture, but the largest and most widespread religion in the world today. The Minor in Christian Studies offers an academic and scholarly exploration, open to students of all backgrounds, of the fundamental Christian teachings and values, and of Christianity's continuing role in the shaping of the contemporary world and its issues.

**REQUIREMENTS FOR A MINOR IN CHRISTIAN STUDIES**
a. Three core courses: 2020, 2110, 2320
b. Two courses from group C (Western Religious History)
c. Two courses from group E (Religion and Modernity)
d. At least two courses in total should be at the 3000 level

**Catholic Studies Program**

The Department of Religious Studies offers a Minor program in Catholic Studies. The Catholic tradition has had a profound impact on all aspects of Western culture and civilization, from learning and the arts to moral values and social structures. The Minor in Catholic Studies offers an academic and scholarly exploration, open to students of all backgrounds, of Catholicism's rich heritage and its contemporary engagement with both Western and global issues.

**REQUIREMENTS FOR A MINOR IN CATHOLIC STUDIES**

a. One core course — 1710
b. Two courses from 2110, 2835, 3310, 3320, 3770,3870
c. Two courses from 2750, 2790, 3740, 3750, 3760
d. Two courses from 2760, 2770, 2780, 2860, 3735, 3780
At least two courses in total should be at the 3000 level.

**RELIGIOUS STUDIES COURSES**

**A. General Introductions**

1010 Religions of the World: Western Traditions
1020 Religions of the World: Eastern Traditions
1050 World Religions

**B. Thematic Introductions**

1030 Myths of Love, Sex and Marriage
1040 Myths of Hate and Evil

**C. Western Religious History**

1710 Introduction to Catholic Christianity
2020 Christianity
2060 The Great Conversation II: 21st Century Perspective
2110 The Bible
2430 Judaism
2440 Islam
2750 Crises in Religious Authority
2780 Catholic Sacraments and Ritual
2835 Development in Early Catholic Thought
2840 Introduction to Medieval Theology and Philosophy
2860 Spiritual Journey of Christian Mystics
3020 Cults, Sects, and New Religions
3310 History of Christianity to Reformation (see History 3210)
3320 History of Christianity from the Reformation to the Present (see History 3220)
3760 Thomas Aquinas and the Thomist Tradition
3770 Death and the Afterlife in the Catholic Tradition
3870 The New Testament

**D. Eastern Religions and Comparative Religion**

2210 Buddhism East and West
2420 Hinduism
2510 Japanese Religion and Culture
2610 Chinese Religion and Philosophy
2790 Catholicism, Christian Unity, and World Religions
3040 Alternative Spiritualities

3220 Religious Ethics East and West
3230 Interreligious Dialogue
3520 Mysticism in Buddhism and Christianity

**E. Religion and Modernity**
2120 Why are we Here: Explorations on the Meaning of Life
2320 Christianity and the Moral Imagination
2350 Skepticism, Agnosticism, Atheism and Belief
2360 Religion and Politics
2620 Psychology of Religion
2760 Catholic Moral Thought
2770 Catholic Social Teaching
3510 Religion and Society (see Sociology/Anthropology 4210)
3620 Philosophy of Religion (see Philosophy 3620)
3735 Pleasure and Pain: The Catholic Body
3740 Beauty and Belief
3750 Faith and Reason in Modern Catholic Thought
3780 Moral Problems and the Catholic Tradition
3860 Science and Religion

**F. Advanced Seminar**
4010 Theory and Method in the Study of Religion

**Special Topics and Directed Studies**
2880, 3880, and 4880 Special Topics
4510 and 4520 Directed Studies

**Other**
1210 Classical Mythology (see Classics 2210)
2720 Medieval Art (see Fine Arts 2120)

# RELIGIOUS STUDIES COURSES

1010 RELIGIONS OF THE WORLD: WESTERN TRADITIONS
This course is an introduction to the major living religions of the West: Judaism, Christianity and Islam. Attention is directed to the ways in which each defines and promotes human fulfilment. Various audio-visual materials complement the lectures to convey an awareness of the spiritual and cultural dimensions of religion.
Three hours a week
NOTE: Credit will not be permitted if a student has already received credit for RS 1050.

1020 RELIGIONS OF THE WORLD: EASTERN TRADITIONS
This course is an introduction to the major living religions of the East: Hinduism, Buddhism, Confucianism, and Taoism. Attention is directed to the ways in which each defines and promotes human fulfilment. Various audio-visual materials complement the lectures to convey an awareness of the spiritual and cultural dimensions of religion.
Three hours a week
NOTE: Credit will not be permitted if a student has already received credit for RS 1050.

1030 MYTHS OF LOVE, SEX, AND MARRIAGE
This course explores the great mythologies of love. The historical significance of religion and love is discussed, leading

to a better understanding of our current religious values and secular presuppositions. Recurring themes drawn from various Western religious traditions may include the topics of fidelity, marriage, divine love, human love, sexuality, and personal identity.
Three hours a week

1040 MYTHS OF HATE AND EVIL
This course explores the great mythologies of hate and evil. The historical development of this topic in Western literature is discussed, leading to a better understanding of our current religious and secular presuppositions of hatred and evil. Recurring themes may include scapegoating, the Devil, theodicy, heresy, violence, immorality, and religious intolerance.
Three hours a week

1050 WORLD RELIGIONS
This course is an introduction to the major western and eastern religions of the world: Judaism, Christianity, Islam, Hinduism, Buddhism, Confucianism, and Taoism. Students will explore the origins of each religion, its core beliefs and its central practices.
Three credit hours
NOTE: Credit will not be permitted if a student has already received credit for RS 1010 and/or 1020.

1060 IDEAS THAT CHANGED THE WORLD: ANCIENT THOUGHT AND BEYOND
This course is a global historical introduction to various religious, secular, and philosophical speculations about questions that are common to human experience across different historical and cultural contexts. Recurring themes may include different visions of creation, the nature of reality, and understandings of immanence and transcendence. Material will be drawn from traditional and non-traditional sources, as well as contemporary critical scholarship, from the beginning of recorded history until the year 1500.
Three credit hours

1210 CLASSICAL MYTHOLOGY
(See Classics 2210)

1710 INTRODUCTION TO CATHOLIC CHRISTIANITY
This course provides an introduction to the central aspects of Catholic Christianity. Topics may include faith, revelation, the Trinity, creation, the human person, the problem of sin and evil, grace, salvation, and the church's relation with the world.
Three hours a week

2020 CHRISTIANITY
This course begins with an examination of the basic teachings of the Christian religion, particularly the nature of God, Christ, the Church, and the process of salvation. The course explores the characteristic doctrines and practices of Orthodox, Roman Catholic and Protestant churches, with special consideration of their roles in Canadian society and culture. Smaller groups like the Hutterites, Mennonites, and Quakers may also receive attention.
Three hours a week

2060 IDEAS THAT CHANGED THE WORLD: MODERN THOUGHT AND BEYOND
This course is a global historical consideration of various religious, secular, and philosophical speculations about questions that are common to human experience across different historical and cultural contexts. Recurring themes may include the place of religion in the public sphere, the relationship between science and religion, and discourses on human rights. Material will be drawn from traditional and non-traditional sources, as well as contemporary critical scholarship, from the year 1500 to present.

Three credit hours
Note: RS 1060 strongly encouraged but not required.

2110 THE BIBLE
The Bible lies at the heart of three major world religions – Judaism, Christianity, and Islam – and it has been shaping Western civilization and culture for over 1500 years. This course examines the essentials of the Bible: its origins, its contents, its themes, and the ways it has been used in religion and society.
Three credit hours

2120 WHY ARE WE HERE: EXPLORATIONS ON THE MEANING OF LIFE
This course explores various religious, secular, scientific, and philosophical answers to the question: "why are we here"?
Three credit hours

2210 BUDDHISM EAST AND WEST
This course is an introduction to Buddhism, the most influential and popular religion in East Asia. There is special emphasis on the historical development of its major doctrines, practices, and institutions in India, and their transformation in East Asia (China, Japan and Korea). The course studies the recent spread of schools such as Zen in Europe and North America, and also investigates their impact on Western religion and thought.
Three hours a week

2320 CHRISTIANITY AND THE MORAL IMAGINATION
This course explores the place of morality in Christian thought and life, the basis and content of Christian moral teaching, and Christian approaches to contemporary moral and ethical issues.
Three hours a week

2350 SKEPTICISM, AGNOSTICISM, ATHEISM, BELIEF
This course is an historical examination of the meaning of existence for several theologians, religious thinkers, philosophers, and scientists, and the importance or irrelevance that religious faith and values hold in their systems of thought and various historical circumstances. The historical meanings of skepticism, agnosticism, atheism and belief are studied alongside various contemporary issues, such as the problems posed by science and technology. Writers with both philosophical and theological perspectives are considered.
Cross-listed with Philosophy 2350.
Three hours a week

2360 RELIGION AND POLITICS
This course examines the intersection between religion and politics, primarily from the perspective of the western intellectual tradition. With the help of both classical and contemporary texts, students will explore such issues as the separation between church and state, the role of religious argument and authority in public reason, the difference between a secular society and a secularist society, and the basis and implications of the freedom of religion.
Cross-listed with Political Science 2360
Three credit hours

2420 HINDUISM
This course explores the development of Hinduism from its origins in the Indus Valley Civilization and the arrival of the Indo-Aryans through to the maturation of Hindu culture and civilization. The course covers myths of the Hindu gods and goddesses, approaches to personal and social life, karma and reincarnation, yoga, meditation and the quest for absolute truth. The influences of Islam and European colonialism on Hinduism, and Hindu influences on modern Western religion and thought, also receive attention.
Three hours a week

2430 JUDAISM

This course follows the development of Judaism from biblical times to the present day. After considering the religious beliefs and practices of the ancient Israelites, Jews and Samaritans, the course examines the character of Jewish life and community as it was formed by the laws of the Torah, the commentaries of the Talmud, and the spirituality of Kabbalism and Hasidism. The course also explores the shaping of modern Judaism by such factors as emancipation, the Holocaust, and the establishment of the state of Israel.
Three hours a week

2440 ISLAM
Beginning with the establishment of Islam as a religion and a community under Muhammad, the course follows the spread of Islamic culture and civilization, and gives a thorough introduction to the main Islamic teachings and their basis in the Qur'an and Hadith. Finally, it covers some current issues such as relations with the modern West, the Palestinian-Israeli conflict, and contemporary "Islamist" movements.
Three hours a week

2510 JAPANESE RELIGION AND CULTURE
This course is an introduction to Japanese religion and culture. It examines the role of the "New Religions" as well as the transformation of the older traditions (Shinto, Buddhism, Confucianism) in Japanese society. The course also explores the impact of Western thought and modern developments on traditional Japanese religion and the balance between tradition and modernity in Japan.
Three hours a week

2610 CHINESE RELIGION AND PHILOSOPHY
This course is an introduction to Chinese religion and philosophy. It examines the so-called "Three Teachings" in China: Confucianism, Taoism, and Buddhism. Most of the course deals with the basic philosophical concepts, moral values and religious beliefs of these major traditions. Attention is directed also to their impact on traditional China, as well as on other East Asian countries, including Japan and Korea. The course concludes by considering the contemporary situation of each tradition in response to recent economic, social and political changes.
Cross-listed with Philosophy 2640.
Three hours a week

2620 PSYCHOLOGY OF RELIGION
Psychological theories and insights are used to explain and inquire into the nature of religious phenomena.
Three hours a week

2720 MEDIEVAL ART
(See Fine Arts History 2120)

2750 CRISES IN RELIGIOUS AUTHORITY
This course explores challenges to religious authority that were precipitated by the discoveries of the New World, Galileo's theory of the universe, the critical reading of the Bible, and the claim of emerging nations to democratic forms of government.
Three hours a week

2760 CATHOLIC MORAL THOUGHT
This introduction to Catholic moral theology explores the foundational questions regarding the person as a moral agent, natural law, conscience, freedom, responsibility, Church magisterium, and the beatitudes.
Three hours a week

2770 CATHOLIC SOCIAL TEACHING
This course provides a survey of Catholic thought on social ethics by exploring the principles of the common good and

their influence on global issues such as human rights, the family, economics, politics, peace, and the environment.
Three hours a week

2780 CATHOLIC SACRAMENTS AND RITUAL
This course explores the relationship between the various mysteries of life and the liturgical rites of the Catholic faith. Topics may include community life, spiritual maturity, forgiveness, marriage, suffering, and death.
Three hours a week

2790 CATHOLICISM, CHRISTIAN UNITY, AND WORLD RELIGIONS
This course is a study of the texts and practices of dialogue, hospitality, and prayer that form the foundation of the Catholic Church's participation in the movement to promote relations with other Christian communities and world religions.
Three hours a week

2835 Developments in Early Catholic Thought
This course explores the historical development of the principal doctrines of Christianity from the period of the Early Church to the Middle Ages. Topics will include the doctrine of the Trinity, the doctrine of the Person of Christ, the nature of the Church, and the doctrine of the sacraments.
Three hours a week

2840 INTRODUCTION TO MEDIEVAL THEOLOGY AND PHILOSOPHY
This course introduces major medieval thinkers and ideas, their sources in Neoplatonism and Aristotelianism, and their influences upon later philosophers and theologians. Topics may include the problem of evil, the relationship between faith and reason, the idea of salvation, and the certainty of human knowledge.
Cross-listed with Philosophy 2840.
Three hours a week

2860 SPIRITUAL JOURNEY OF CHRISTIAN MYSTICS
This course provides a study of the spiritual journey and its impact on the transformation of the self. Themes from Catholic mystical literature may include: interiority, ascent, light, and darkness.
Three credit hours

2880 SPECIAL TOPICS
This is a course in which topics or issues in Religious Studies are explored and analyzed at an introductory level.

3020 CULTS, SECTS AND NEW RELIGIONS
This course investigates various marginal or unorthodox religious movements which have existed in Europe and North America during the past two centuries. After an introductory discussion of the ways in which religious groups can be classified, the course is devoted to examining the origins, beliefs and practices of movements such as Jehovah's Witnesses, the Latter-Day Saints (Mormons) and the Unification Church (Moonies).
Three hours a week

3040 ALTERNATIVE SPIRITUALITIES
This course examines how the quest for fresh and direct ways of encountering the sacred has driven much of human religious history. Increasingly, people in Western societies express dissatisfaction with both the traditional Judaeo-Christian religions and the purely materialistic and secular understanding of existence. This is a comparative survey of alternative forms of spirituality, focusing upon those arising from three major sources: Western occultism, Eastern religions and mysticism, and revived or reconstructed ancient spiritualities.
Three credit hours

3220 RELIGIOUS ETHICS EAST AND WEST
This course is a study of religious ethics focusing on two major traditions: Confucianism, an "ethical humanism" that

emphasizes wisdom, and Christianity, a "prophetic religion" that emphasizes revelation. Specific ethical doctrines (e.g., suffering and sin, human nature, good and evil, love/jen, moral self-cultivation, ideal human life and society) are compared from cross-cultural perspectives.
Cross-listed with Philosophy 3220.
PREREQUISITE: Religious Studies 1050 or both Religious Studies 1010 and 1020, or permission of the instructor
Three hours a week

3230 INTERRELIGIOUS DIALOGUE

This lecture-seminar course explores interreligious dialogue, a growing topic in comparative religion. The major models, methodological questions, practical issues, and their ongoing developments are discussed from Western, Eastern, and comparative perspectives: e.g., Jewish-Christian-Islamic dialogue, ecumenical dialogue, Hindu-Christian dialogue, Buddhist-Christian dialogue, and Confucian-Christian dialogue. Various readings are selected from the current scholarship on relevant topics, theories, and ideas.
PREREQUISITES: Any two Religious Studies, one of which must be at the 2000 level or higher, or permission of the instructor
Three hours a week

3310 HISTORY OF CHRISTIANITY TO THE REFORMATION

An examination of the growth and development of Christianity from the time of Jesus up to the Reformation. Special emphasis on the relationship between the growth of the Church and the broader historical context within which it occurred.
Cross-listed with History 3210.
Three hours a week

3320 HISTORY OF CHRISTIANITY FROM THE REFORMATION TO THE PRESENT

An examination of some of the principal developments within Christianity from, and including, the Reformation until the present. Special emphasis on the relationship between these developments and the broader historical context within which they occurred.
Cross-listed with History 3220.
Three hours a week

3520 MYSTICISM IN BUDDHISM AND CHRISTIANITY

This course is an introduction to mysticism in two major traditions: Buddhism and Christianity. Some of the major Buddhist doctrines and practices are compared with those of Christianity. Special attention is given to notions of mystical experience, I-Thou relationship, God/Emptiness, sainthood/Buddhahood, and self-transformation. The approach is textual and comparative, using cross-cultural perspectives.
PREREQUISITE: Any two Religious Studies, one of which must be at the 2000 level or higher, or permission of the instructor
Three hours a week

3620 PHILOSOPHY OF RELIGION

(See Philosophy 3620)

3735 Pleasure and Pain: The Catholic Body

This course examines the understanding of the human person (body and soul) in Roman Catholic theology and history. Beginning with the debates on the Incarnation in the early church, the course explores the impact that doctrine had, and continues to have, on the development of Catholic theology, practice and culture. Topics to be discussed may include martyrdom, death, sexuality, asceticism, mysticism and liturgy.
Three hours a week

3740 BEAUTY AND BELIEF

This course is an analysis of the relationship between artistic creativity and Catholic belief. Various visual, literary,

musical and dramatic arts will be explored.
Three hours a week

3750 FAITH AND REASON IN MODERN CATHOLIC THOUGHT
This course studies major Catholic debates on the relation between faith and reason. Particular attention is directed to a reading of Pope John Paul's encyclical, Faith and Reason; 19th- and early 20th-century background; and its setting in the contemporary university.
Three hours a week

3760 THOMAS AQIUNAS AND THE THOMISTIC TRADITION
This course is intended as an introduction to the philosophical and theological thought of Thomas Aquinas. In addition to investigating Thomas' thoughts on questions of knowledge, God, and morality, and the relationship between faith and reason, we will also raise questions concerning his contribution to the history of philosophy, Christianity, and the development of western civilization. To accomplish all this, we will consider the writings of St. Thomas himself, as well as the writings of some key contributors to what is now called the "Thomistic renewal" of the twentieth century, such as Etienne Gilson, Jacques Maritain, and Josef Pieper.
Three hours a week

3770 Death and the Afterlife in the Catholic Tradition
This course will examine Catholic ideas about what happens at and after death. It will look at the theology of death, ideas of heaven, hell and purgatory, as well as conceptions of death and the afterlife in popular culture (ex. ghosts and zombies), architecture, literature, etc. of Catholic Christianity.
Three hours a week

3780 Moral Problems and the Catholic Tradition
This course explores modern moral problems from the perspective of the Catholic tradition. Topics discussed may include sexuality and gender, contraception, abortion, and medically assisted dying.
Three hours a week

3860 SCIENCE AND RELIGION
This course focuses on the current and historical interactions between science and religion. Readings from scientists, philosophers of science, theologians, and scholars of religion are included in this investigation of the interaction, conflict, and continuing dialogue between science and religion. This course aims to provide a better understanding of the current relationship between these two forces and a greater appreciation of their long history.
Three hours a week

3870 THE NEW TESTAMENT
This course examines the New Testament's historical context, literary genres, and impact on the formation of faith within early Christian communities.
Three credit hours

3880 SPECIAL TOPICS
This is a course in which topics or issues in Religious Studies are explored and analyzed at an intermediate undergraduate level.

4010 THEORY AND METHOD IN THE STUDY OF RELIGION
This course explores various methods, theories, and research tools employed in the academic study of religion.
PREREQUISITE: At least four previous courses in Religious Studies, two of which must be at the 2000-level or above.
Three hours a week

4510-4520 DIRECTED STUDIES
This is a course in selected topics in Religious Studies offered by visiting professors, or by way of supervised reading,

or other special circumstances approved by the Chair and the Dean. Suggested topics include modern research on Jesus; biblical prophetic and apocalyptic literature; Jewish messianism and early christology; interreligious dialogue; Christianity in Asia; shamanism and folk religion in Asia; the thought of Paul Tillich and Karl Barth; the Ecumenical Movement (Protestant, Catholic, Jewish); religion, politics and the economy.
(See Academic Regulation 9 for Regulations Governing Directed Studies.)

4880 SPECIAL TOPICS
This is a course in which topics or issues in Religious Studies are explored and analyzed at an advanced undergraduate level.

# 88. Science

SCIENCE 3010 INNOVATION AND ENTREPRENEURSHIP IN SCIENCE

This course provides an overview on how to start and sustain a science-oriented company, with an emphasis on entrepreneurship and innovation in biotechnology. Topics will include specific innovation cases, intellectual property and regulatory hurdles in science including biotechnology, business feasibility studies, financial planning, sources of capital, business structure, marketing, operational and human resource management. Students will be expected to identify and develop an idea which has the potential to be commercialized. The output of this research will be developed into a business idea to be aimed at potential investors, and participation in pitch competitions including the Panther Pitch will be encouraged.

PREREQUISITE: Students must have at least third-year standing OR permission of instructor

Three semester hours of credit

SCIENCE 4440 EXPERIENTIAL LEARNING PLACEMENT IN THE SCIENCES

This course recognizes a student's learning experience as a volunteer outside the traditional framework of a university course in a context or organization that closely relates to the major; equates with skills, knowledge, or perspectives currently taught in courses required for the major; involves analysis or reflection at the undergraduate level or higher. Placements will need to be approved by the department and the Dean of Science prior to the beginning of the experience. Students will be required to submit a detailed report of their activities and present their work during a public presentation.

PREREQUISITE: Third or fourth year standing in Science

Three semester hours of credit

# 89. Social Studies of Science

**Co-ordinators:**
James Moran (History)
Udo Krautwurst (Sociology and Anthropology)

Science Studies is an interdisciplinary field whose primary object is the study of science as an institution. Going beyond familiar ideals, the field aims to understand how science was and is practised, how it shapes and is shaped by its objects of study, how science represents itself and is represented beyond its institutional boundaries, and how various technosciences increasingly blur the boundaries between nature and society. Within that, there is tremendous scope in terms of what to study (disciplines, technologies, skills, objects, traditions, non- human and human animals, scientists and their discourses) and how to study it (the whole range of humanities, natural science, and social science methodologies and theories). As such, a minor in Social Studies of Science (SSS) speaks to students throughout the Schools and Faculties on campus including Nursing, Music, Science, Business, and Arts.

**REQUIREMENTS FOR A MINOR IN SOCIAL STUDIES OF SCIENCE**
The minor's structure consists of 21 semester hours of credit as follows:

a) taking EITHER SSS/History 2220 'Science and Society in Historical Perspective' OR SSS/SocAnth 2660 'Science, Culture, and Society' as a mandatory core course in the program;
b) taking at least one additional SSS course at the 2000-level, with SSS 2220 or SSS 2660 as the prerequisite;
c) taking at least two 3000-level courses, with SSS 2220 or SSS 2660 as the prerequisite;
d) taking at least two 4000-level courses, with at least one 3000-level SSS course as the prerequisite;
e) the remaining course at the 2000- 3000-, or 4000- level.

Below is a preliminary list of courses instructors/departments have agreed to cross list into the minor. (Some additional courses are still in the process of being developed).

DSJS 4120 – Theories of the Body
SOC 4120 – Sociology of Health
SOC/ANTH 2660 – Science, Culture, and Society
PHIL 2030 – Environmental Philosophy
PHIL 2040 – Bio-medical Ethics
PHIL 3010 – Philosophy of Science
PHIL 3630 – Philosophy of Biology
HIST 2220 – Science and Society in Historical Perspective
HIST 3110 – Science, Magic, Witchcraft, and the Occult in Premodern Europe
HIST 3330 – Healthcare and North American Society in Historical Perspective
HIST 4340 – Madness and Society
ENG 2240 – Literature and Science
ANTH 4010 – Medical Anthropology
ANTH 4030 – Cybercultures

Additional courses not on the above list may be applied to the minor with permission of the Program Co-ordinator and the course instructor.

# 90. Sociology and Anthropology

http://www.upei.ca/arts/sociology-anthropology

**Sociology and Anthropology Faculty**
Charles Adeyanju, Associate Professor, Chair
Udo Krautwurst, Associate Professor
Jean Mitchell, Associate Professor
Judy Lynn Richards, Associate Professor
Philippe Messier, Assistant Professor

**PROGRAMS IN SOCIOLOGY AND ANTHROPOLOGY**

The Department of Sociology and Anthropology offers eight programs:
1.An honours in Anthropology
2.An honours in Sociology
3.An honours in Sociology/Anthropology
4.A major in Anthropology
5.A major in Sociology
6.A major in Sociology/Anthropology
7.A minor in Anthropology
8.A minor in Sociology

**GENERAL PREREQUISITES**

A. Sociology 1010, completed with a minimum grade of 60%, will qualify a student for admission into any 2000-level Sociology or Sociology/Anthropology course.

B. Anthropology 1050, completed with a minimum grade of 60%, will qualify a student for admission into any 2000-level Anthropology or Sociology/Anthropology course.

C. All students must complete Anthropology 1050 and Sociology 1010, with a combined average of 60%, and at least one Anthropology, Sociology, or Sociology/Anthropology course at the 2000-level in order to enrol in any Anthropology, Sociology, or Sociology/Anthropology course at the 3000-level. Normally, students take 2000 level courses before proceeding to higher levels.

D. Students registering for their first 4000-level course are required to have completed at least two 3000-level courses.

E. Courses designated as Sociology/Anthropology (S/AN) are designed for both sociology and anthropology students and are appropriate for both majors.

NOTE: Introductory courses do not count as electives within any of the programs offered by the Sociology and Anthropology Department.

**DEPARTMENT PROGRAMS**
The following are the departmental requirements for each program:

**REQUIREMENTS FOR A MAJOR IN SOCIOLOGY**
**NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

a. Sociology 1010 and Anthropology 1050
b. Four core courses (Sociology 3010, Sociology 3020, Sociology 3310 and Sociology 3320)
c. Eight electives, of which:
-one must be an area course
-two must be at the 2000-, 3000-, or 4000-level in Sociology or Sociology/Anthropology
-three must be at the 3000-4000 level in Sociology or Sociology/Anthropology
-two must be at the 4000-level in Sociology or Sociology/Anthropology
d.
-Prospective majors have to complete the prerequisite introductory courses with a combined average of 60%.
-When applying for a major the student must have a combined average of 65% in a minimum of four or more Anthropology, Sociology, or Sociology/Anthropology courses at or above the 2000 level.
-It is strongly recommended that students take 2000-level courses in their second year.
-It is recommended that students apply for a major at the end of their second year or at the beginning of their third year.

**REQUIREMENTS FOR A MAJOR IN ANTHROPOLOGY**
**NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

a. Sociology 1010 and Anthropology 1050
b. Three core courses (Anthropology 3210, Anthropology 3320, and Anthropology 3610)
c. Nine electives, of which...
-two must be area courses
-two must be 2000-, 3000-, or 4000-level courses in Anthropology or Sociology/Anthropology
-three must be 3000-4000 level courses in Anthropology or Sociology/Anthropology
-two must be 4000-level courses in Anthropology or Sociology/Anthropology
d.
-Prospective majors have to complete the prerequisite introductory courses with a combined average of 60%.
-When applying for a major the student must have a combined average of 65% in a minimum of four or more Anthropology, Sociology, or Sociology/Anthropology courses at or above the 2000-level.
-It is strongly recommended that students take 2000-level courses in their second year.
-It is recommended that students apply for a major at the end of their second year or at the beginning of their third year.

**REQUIREMENTS FOR A JOINT MAJOR IN SOCIOLOGY/ANTHROPOLOGY**
**NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

a. Sociology 1010 and Anthropology 1050
b. Six core courses (Sociology 3010, Sociology 3020, Sociology 3320, Anthropology 3320, Anthropology 3610, and either Sociology 3310 or Anthropology 3210)
c. At least nine electives, of which...
-two must be area courses
-two must be Sociology/Anthropology courses at the 2000-, 3000-, or 4000- level
-four must be at the 3000-4000 level
-one must be any Anthropology, Sociology, or Sociology/Anthropology course at the 2000-, 3000-, or 4000- level
d.
-Prospective majors have to complete the prerequisite introductory courses with a combined average of 60%.
-When applying for a major the student must have a combined average of 65% in a minimum of four or more Anthropology, Sociology, or Sociology/Anthropology courses at or above the 2000-level.

-It is strongly recommended that students take 2000-level courses in their second year.
-It is recommended that students apply for a major at the end of their second year or at the beginning of their third year.

**HONOURS PROGRAM REQUIREMENTS**

Research Component
The Honours research course (Sociology/Anthropology 4900) constitutes the research component of the Honours program. The course involves supervised reading and research on specific topics. The student is required to write a substantial Honours essay or research report, which will be assessed by a three-member committee consisting of the supervisor, one additional member of the Department of Sociology and Anthropology, and a member from another Department.

Admission Requirements
Students intending to join the program must apply to the Department of Sociology and Anthropology. Applicants must be registered in, or have completed, the combined Sociology/Anthropology major program. Applications are normally submitted during the sixth semester. To be eligible to apply for admission to the program, students must have an average of 70% in all prior courses and an average of 75% in all previous Sociology and Anthropology courses taken. To continue in the Honours program, students must maintain an overall average of 70% in all courses and an average of 75% in Sociology and Anthropology courses.

Admission to the program is competitive, and subject to the availability of a full-time faculty supervisor in the student's chosen thesis area.

**REQUIREMENTS FOR HONOURS IN SOCIOLOGY/ANTHROPOLOGY**
**NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

For an Honours in Sociology/Anthropology, which is a combined Honours in Sociology and Anthropology, the student will take fifty-seven semester hours of courses as listed below:

a. Sociology 1010 and Anthropology 1050
b. Twenty-one semester hours of required courses as follows:
-Sociology 3010 (Sociological Theory I), Sociology 3020 (Sociological Theory II), Sociology 3310 (Methodology and Research I), and Sociology 3320 (Methodology and Research II).
-Anthropology 3210 (Field Methods), Anthropology 3320 (Knowledge and Culture), and Anthropology 3610 (Anthropological Theory).
c. A six semester hour research course: Sociology/Anthropology 4900 (Honours Research).
d. Twenty-four semester hours of elective courses, of which:
-two must be area courses
-two must be any Anthropology, Sociology, or Sociology/Anthropology course at the 2000-, 3000-, or 4000- level
-four must be at the 3000-4000 level.

To graduate with an Honours degree in Sociology/Anthropology a student requires a total of 42 semester courses (126 semester hours). **NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

**REQUIREMENTS FOR HONOURS IN SOCIOLOGY**

For an Honours in Sociology, the student will take fifty-seven semester hours of courses as listed below:
a. Sociology 1010 and Anthropology 1050
b. Twelve semester hours of required Sociology courses as follows: Sociology 3010, Sociology 3020, Sociology 3310 and Sociology 3320

c. A six semester-hour research course—Sociology/ Anthropology 4900
d. Twenty-one semester hours of Sociology or Sociology/ Anthropology elective courses as follows:
-one must be an area course
-two must be at the 2000-, 3000-, or 4000-levels
-two must be at the 3000- or 4000-level
-two must be at the 4000-level(excluding S-AN 4900)
e. Twelve semester hours of Anthropology or Sociology Anthropology as follows:
-one of either Anthropology 3210 (Field Methods); Anthropology 3320 (Knowledge and Culture); or Anthropology 3610 (Anthropology Theory). Please talk to your advisor. Course selection would depend on the nature of your thesis research.
-Sociology/Anthropology 4420 (Social and Cultural Change)
-Sociology 3350 (Globalization)
-one of either Sociology 4320 (Comparative Sociology) or Sociology 4010 (Doing Social Research) or Sociology 4620 (Applied Sociology). Please talk to your supervisor or prospective supervisor. Course selection would depend on the nature of your thesis research.

To graduate with an Honours degree in Sociology, a student requires a total of 42 semester courses (126 semester hours). **NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

**REQUIREMENTS FOR HONOURS IN ANTHROPOLOGY**

For an Honours in Anthropology, the student will take fifty-seven semester hours of courses as listed below:
a. Sociology 1010 and Anthropology 1050
b. Twelve semester-hours of required anthropology courses as follows: Anthropology 3210; Anthropology 3320; Anthropology 3610; Anthropology 4020
c. A six semester hour research course—Sociology/ Anthropology 4900
d. Twenty-one semester hours of Anthropology or Sociology/ Anthropology elective courses as follows:
-two must be area courses;
-three must be at the 3000-level; and
-two must be at the 4000-level (excluding SAN 4900)
e. Twelve semester-hours of Sociology or Sociology/ Anthropology as follows:
-one of Sociology 3010; Sociology 3020; Sociology 3310; Sociology 3320
-three other Sociology or Sociology/Anthropology courses at the 3000-4000 level

To graduate with an Honours degree in Anthropology, a student requires a total of 42 semester courses (126 semester hours).

**NOTE: As per Academic Regulation #1 h), all undergraduate degree programs require successful completion of IKE-1040, one of UPEI-1010, 1020 or 1030, and a Writing Intensive Course.**

**REQUIREMENTS FOR A MINOR IN ANTHROPOLOGY**

a. Sociology 1010 and Anthropology 1050
b. Five electives of Anthropology or Sociology/Anthropology as follows:
-two courses must be at the 2000-, 3000-, or 4000-levels
-two courses must be at the 3000-4000 level
-one course must be at the 4000-level
c. To qualify for a minor, students are required to have an overall average of 65% in all courses required for the minor with no mark below 60%.

**NOTE:** A minor in Anthropology is not available to students with a joint major in Sociology/Anthropology.

**REQUIREMENTS FOR A MINOR IN SOCIOLOGY**

a. Sociology 1010 and Anthropology 1050

b. Five additional Sociology or Sociology/Anthropology courses:

-two must be at the 3000 or 4000 level

-three must be at the 2000-, 3000-, or 4000-level.

c. To qualify for a minor, students are required to have an overall average of 65% in all courses with no mark below 60%.

**NOTE:** A minor in Sociology is not available to students with a joint major in Sociology and Anthropology.

**COURSES**

The Department offers the following courses in Sociology, Anthropology and Sociology/Anthropology:

**Sociology**

1010 Introduction to Sociology
2010 Deviance and Control
2020 Criminology
2090 Special Topics
2110 Marriage and the Family
2420 Social Problems
2710 Self and Society
2750 Social Inequality
2820 Social Psychology
2900 Introduction to Social Work
2920 Work and Society
3010 Sociological Theory I (core course)
3020 Sociological Theory II (core course)
3090 Special Topics
3110 Small Groups
3310 Methodology and Research I (core course)
3320 Methodology and Research II (core course)
3620 Urban Sociology
3710 Canadian Society
3720 Collective Behaviour and Social Movements
3740 Victims of Crime: An Introduction to Victimology
3910 Sociology of Organizations
3920 Media and Society
4010 Doing Social Research
4120 Sociology of Health
4320 Comparative Sociology
4510 Sociology of the Body
4610 Directed Studies
4620 Approaches in Applied Sociology

**Anthropology**

1050 Introduction to Anthropology
2010 Cultural Anthropology
2090 Special Topics
2110 Introduction to Archaeology
3090 Special Topics

3210 Field Methods (core course)
3320 Knowledge and Culture (core course)
3520 Kinship and Family
3610 Anthropological Theory (core course)
4010 Medical Anthropology
4020 Issues in Contemporary Anthropology
4030 Cybercultures
4310 Directed Studies

**Sociology/Anthropology**
2080 Developing the Socio-cultural Imagination
2120 Peoples of South Asia (area course)
2220 Indigenous Peoples of Canada (area course)
2420 Peoples of Oceania (area course)
2510 Peoples of Africa (area course)
2560 Anatomy of Addictions
2590 Special Topics
2610 Sex, Gender, and Society
2630 Global Youth Cultures
2660 Science, Culture, and Society
3030 International Migration, Transnationalism, and the Canadian Mosaic
3060 Demography of Aging
3410 Technology, Society, and the Environment
3550 Globalization
3590 Special Topics
4310 Minority/Ethnic Groups and Canadian Mulitculturalism
4420 Social and Cultural Change
4560 Visual Culture
4610 Special Topics
4810 Directed Studies in Sociology and Anthropology
4900 Honours Research

# SOCIOLOGY COURSES

1010 INTRODUCTION TO SOCIOLOGY
This course introduces many of the main concepts within the field of sociology such as culture, socialization, norms, social roles, values, deviance, and social structure. In addition, this course utilizes the basic concepts and perspectives in sociology to examine critically and to interpret the kinds of interaction experienced in social institutions such as the economy, the polity, the family, education, and religion.
PREREQUISITE: None
Three hours a week

**NOTE:** All 2000-level Sociology courses have Sociology 1010 as a prerequisite.

2010 DEVIANCE AND CONTROL
An objective analysis of different sociological approaches to the meaning of deviance and to the nature of social control. The causes and consequences of social deviance are critically examined utilizing the following theories: social disorganization, functionalism, anomie and opportunity, value-conflict, interactionism, labelling, and critical conflict.

Ideologies associated with each approach are compared. Substantive areas include: crime and delinquency, suicide, drug use, as well as various forms of sexual, occupational, and institutional deviance.
PREREQUISITE: Sociology 1010
Three hours a week

2020 CRIMINOLOGY
This course examines the historical and contemporary structure and functions of the Canadian criminal justice system, including legislation, policing, courts, corrections, and parole. Various forms of law breaking are studied such as youth offences, conventional street crime, family violence, white collar and corporate crime, and organized and political crime. Topics include social, cultural, and demographic correlates of crime; patterns of victimization; the role of the community and of society's institutions; and various theoretical explanations used in criminology
PREREQUISITE: Sociology 1010
Three hours a week

2090 SPECIAL TOPICS
Course code for Special Topics offered by the Department of Sociology at the second year level.
PREREQUISITE: Sociology 1010
Three hours a week

2110 MARRIAGE AND THE FAMILY
Family and courtship are examined from a variety of perspectives: the origins and development of the family institutions, the family's present position in Canadian society, the social, political and economic factors affecting modern marriage and the manner in which these are leading to the emergence of new family forms (e.g., single-parent and blended families).
PREREQUISITE: Sociology 1010
Three hours a week

2210 INTRODUCTION TO THE SOCIOLOGY OF SPORT AND EXERCISE
(See Kinesiology 2620)

2420 SOCIAL PROBLEMS
A sociological approach to the nature and definition of social problems, their theoretical explanations, and their interventions. Topics are selected from: alcoholism and drug addiction, the criminal justice system, poverty, racism, sexism, familial instability, aging, mental disorders, alienation, political and religious dissent and overpopulation.
PREREQUISITE: Sociology 1010
Three hours a week

2710 SELF AND SOCIETY
This course presents students with the concepts and theories used in the study of social definitions of the Self and its relationship to social institutions and structures. Emphasis is placed on ideas regarding personality, communication, motivation, and the interpersonal forces at play in face-to-face and group processes. The course is based on a study of the "symbolic interactionist" paradigm, as well as important new sociological research emerging in the area of cross-cultural interaction.
PREREQUISITE: Sociology 1010
Three hours a week

2750 SOCIAL INEQUALITY
This course examines how social, economical and political inequality is organized along the lines of class, age, gender, race, and ethnicity. Students are introduced to the major theoretical and ideological explanations (and justifications) for such inequalities and given the opportunity to engage in a critical examination of how power, ideology, and the

distribution of material, cultural, and social resources continue to contribute to social injustice.
Cross-listed with Diversity and Social Justice Studies 2750.
PREREQUISITE: Sociology 1010 or permission of the instructor. For students taking the course as DSJS 2750, any 1000-level DSJS course or permission of the instructor.
Three hours a week

2820 SOCIAL PSYCHOLOGY
Cross-listed with Psychology 2420.
PREREQUISITE: Sociology 1010

2900 INTRODUCTION TO SOCIAL WORK
This course provides students with an overview of the foundations and practice of social work. Students will gain a comprehensive understanding of the historical development of social work in Canada, what social workers do, the setting and methods used as part of social work and the opportunities available to professionally trained social workers. The course includes an evaluation of emerging issues and future directions.
PREREQUISITE: Sociology 1010
Three hours a week

2920 WORK AND SOCIETY
This survey of the sociology of work will focus on the study of the following aspects of work: how work has changed through history in keeping with technological and political change, the new workplace, work and inequality, work and the family, types of work, training for work, and future trends in a workplace increasingly affected by globalization.
Cross-listed with Diversity and Social Justice Studies 2920.
PREREQUISITE: Sociology 1010. For students taking the course as DSJS 2920, any 1000 level DSJS course or permission of the instructor.
Three hours a week

**NOTE:** All 3000-level Sociology courses require Anthropology 1050, Sociology 1010, and one 2000-level Anthropology, Sociology, or Sociology/Anthropology course as prerequisites, unless otherwise stated.

3010 SOCIOLOGICAL THEORY I
This course examines the social and political contexts in which sociology was formally constituted as an academic discipline. It also offers an interpretive analysis of some of the major ideas, systems of explanation, and modes of analysis generated by the early sociologists. It is strongly recommended that Sociology 3010 and 3020 not be taken in the same year as Sociology 3310 and 3320.
PREREQUISITES: Sociology 1010, Anthropology 1050, and one 2000-level Anthropology, Sociology, or Sociology/Anthropology course
Three hours a week

3020 SOCIOLOGICAL THEORY II
This course offers critical assessments of the varieties, structures, and directions of modern social theories, with major emphasis on their relevance and usefulness for understanding contemporary social systems. It is strongly recommended that Sociology 3010 and 3020 not be taken in the same year as Sociology 3310 and 3320.
PREREQUISITES: Sociology 1010, Anthropology 1050, and one 2000-level Anthropology, Sociology, or Sociology/Anthropology course
Three hours a week

3090 SPECIAL TOPICS
Course code for Special Topics offered in Sociology at the third year level.
PREREQUISITES: Sociology 1010, Anthropology 1050, and one 2000-level Anthropology, Sociology, or Sociology/

Anthropology course
Three hours a week

3110 SMALL GROUPS
Students combine the use of theory and practical techniques to learn about and to participate in the processes that are unique to small groups. Micro-level theories, such as symbolic interactionism and systems theory, are employed to examine small groups as social systems. In addition, students learn how to apply theory to elementary, everyday relationships among individuals in small groups.
PREREQUISITES: Sociology 1010, Anthropology 1050, and one 2000-level Anthropology, Sociology, or Sociology/Anthropology course
Three hours a week

3310 METHODOLOGY AND RESEARCH I
An examination with practical experience, of current data-gathering techniques including experimental and quasi-experimental designs, surveys and interviewing, the use of available documents, and participant observation. Also covered are large scale sampling techniques, coding and procedures, composite and simple measures, and panel analysis. It is strongly recommended that Sociology 3310 and 3320 not be taken in the same year as Sociology 3010 and 3020.
PREREQUISITES: Sociology 1010, Anthropology 1050, and one 2000-level Anthropology, Sociology, or Sociology/Anthropology course
Three hours a week

3320 METHODOLOGY AND RESEARCH II
An introductory course in the sociological inquiry process giving the student a working knowledge of applied techniques in sociological data manipulation and analysis. Topics include measurement of sociological phenomena, association, elaboration of relationships between two or more variables, path and space analysis, and the logic and methods of hypothesis development and testing in sociological research. It is strongly recommended that Sociology 3310 and 3320 not be taken in the same year as Sociology 3010 and 3020.
PREREQUISITES: Sociology 1010, Anthropology 1050, one 2000-level Anthropology, Sociology, or Sociology/Anthropology course, Sociology 3310 or Anthropology 3210, and permission of instructor
Three hours a week

3620 URBAN SOCIOLOGY
A critical review of major theoretical and methodological approaches to the study of urban communities. Specific topics include: the nature of urbanization, city growth patterns, urban life styles, suburbia, ethnic and racial urban groups, transportation problems, urban power structures, some world cities, and cities of the future. Emphasis is on Canadian urban development, particularly the role of developers, financial institutions, and government in shaping the nature of Canadian cities and in creating various urban problems.
PREREQUISITES: Sociology 1010, Anthropology 1050, and one 2000-level Anthropology, Sociology, or Sociology/Anthropology course
Three hours a week

3710 CANADIAN SOCIETY
A sociological analysis of the overall structural and dynamic character of contemporary Canadian society. Several macro- level explanatory theories, such as functional and conflict, on the nature of Canadian society provide a framework for an integrated study of the following issues: the Canadian identity, regionalism, various elites, the class structure and class conflict, Quebec's status, Canadian-American relations, and Canadian nationalism.
PREREQUISITES: Sociology 1010, Anthropology 1050, and one 2000-level Anthropology, Sociology, or Sociology/Anthropology course
Three hours a week

3720 COLLECTIVE BEHAVIOUR AND SOCIAL MOVEMENTS

A sociological review and analysis of the various forms of collective norm-challenging social action: crowds, mobs, riots, fads, cults, revolutions and social movements. Students are introduced to their structural sources, their political content and their implications for social change. Specific movements are studied via textual and video records.

PREREQUISITES: Sociology 1010, Anthropology 1050, and one 2000-level Anthropology, Sociology, or Sociology/ Anthropology course

Three hours a week

3740 VICTIMS OF CRIME: AN INTRODUCTION TO VICTIMOLOGY

The fairly recent area of Victimology has given victims of crime their rightful place in the Criminal Justice System. This course provides a survey of the evolution of victim rights, the emergence of victim-friendly legislation, and the establishment of victim services within the broader criminal justice system. Upon completion of the course, students should possess a comprehensive understanding of the complicated, sensitive and difficult issues associated with this long-overlooked segment of society.

PREREQUISITES: Sociology 1010, Anthropology 1050, and one 2000-level Anthropology, Sociology, or Sociology/ Anthropology course

Three hours a week

3910 SOCIOLOGY OF ORGANIZATIONS

Formal/complex organizations are analyzed using classical and contemporary sociological theory and research. The course uses three levels of analysis which focus on individual/ group behaviour, organizational structures and processes, and organizations as social actors in their environments. Topics will include the nature of power/authority, conflict, decision- making, organizational change, effectiveness, socialization, goals, organizational technologies, and inter-organizational relations.

PREREQUISITES: Sociology 1010, Anthropology 1050, and one 2000-level Anthropology, Sociology, or Sociology/ Anthropology course

Three hours a week

3920 MEDIA AND SOCIETY

This course looks at how media play significant cultural and political roles in contemporary societies. Drawing upon various media, including television, film, and the Internet, the course examines the social, economic, and political organization of media; the content of media messages; and the role the media plays in preserving and reforming social values at the local and global levels.

PREREQUISITES: Sociology 1010, Anthropology 1050, and one 2000-level Anthropology, Sociology, or Sociology/ Anthropology course

Three hours a week

**NOTE:** All 4000-level Sociology courses require Anthropology 1050, Sociology 1010, one 2000-level Anthropology, Sociology, or Sociology/Anthropology course, and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses as prerequisites, unless otherwise stated.

4010 DOING SOCIAL RESEARCH

Students engage in sociological inquiry at an intermediate level. Using statistical computer software, such as SPSS and SAS, students learn to code, manipulate, analyze, and interpret data from a variety of data sources. Students learn also how to carry out multi-variate data analysis (including how to store and retrieve data and create graphic presentations).

PREREQUISITES: Sociology 1010, Anthropology 1050, one 2000-level Anthropology, Sociology, or Sociology/ Anthropology course, and Sociology 3310 and Sociology 3320 or Anthropology 3210 and Sociology 3320, and permission of the instructor

Seminar: Three hours per week

4120 SOCIOLOGY OF HEALTH

Students adopt a salutogenic (health promotion and illness prevention) approach to examine the relationship between social factors (lifestyle, environment, and organization of the health care system) and health. Health is posited as a multi-dimensional construct. The implications of adopting a mainstream theoretical view of the relationship between social factors and health are investigated, i.e., how adopting a certain theoretical perspective can help to explain further or to hinder our understanding of the effect of social factors on health.

PREREQUISITES: Sociology 1010, Anthropology 1050, one 2000-level Anthropology, Sociology, or Sociology/Anthropology course, and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses, and permission of the instructor

Seminar: Three hours a week

4320 COMPARATIVE SOCIOLOGY

This course provides students with the opportunity to acquire a multinational and multidisciplinary understanding of a chosen topic in Comparative Sociology, which is the study of a given social phenomenon across national and cultural boundaries and/or different periods of time. Offered in the form of a seminar, themes are selected from year to year, and may include such topics as civility, sociology of emotions and the body, youth culture, socialization, childhood, and courtship.

PREREQUISITES: Sociology 1010, Anthropology 1050, one 2000-level Anthropology, Sociology, or Sociology/Anthropology course, and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses, and permission of the instructor

Seminar: Three hours a week

4510 SOCIOLOGY OF THE BODY

What are the social forces that affect human bodies and human emotions? What is the body's relation to the self? How do conceptions (and treatments) of the body vary in different societies and different historical periods? In this course, we will study the body as the product of complex social interactive processes and political-economic values; as the expression of the self; and as the object of social control. Particular attention will be paid to race, gender, identity symbols, and body awareness within a culture of consumption.

PREREQUISITES: Sociology 1010, Anthropology 1050, one 2000-level Anthropology, Sociology, or Sociology/Anthropology course, and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses, and permission of the instructor

Seminar: Three hours a week

4610 DIRECTED STUDIES

Offered as a seminar in which selected topics are studied in depth and/or as a directed reading course within the specialized area selected by the student in consultation with one or more members of the Department and approved by the Dean.

PREREQUISITES: Sociology 1010, Anthropology 1050, one 2000-level Anthropology, Sociology, or Sociology/Anthropology course, and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses, and departmental permission; generally restricted to the majors in Sociology at Third and Fourth Year levels.

(See Academic Regulation 9 for Regulations Governing Directed Studies)

4620 APPROACHES IN APPLIED SOCIOLOGY

Sociologists are increasingly having influence in the development of public policy. Research projects in aging, work and globalization, social injustice, families, crime and media have contributed to the improvement of society. This course reviews the development of applied sociology and provides students with practical applications in a selected area of social life in which sociologists have had a strong impact.

PREREQUISITES: Sociology 1010, Anthropology 1050, one 2000-level Anthropology, Sociology, or Sociology/Anthropology course, and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses, or permission

of the instructor
Seminar: Three hours a week

# ANTHROPOLOGY COURSES

1050 INTRODUCTION TO ANTHROPOLOGY I
This course introduces students to the field of cultural anthropology through an examination of cultural practices (religious, political, familial, economic) in various areas of the world.
PREREQUISITE: None
Three hours a week

**NOTE:** All 2000-level Anthropology courses have Anthropology 1050 as a prerequisite, except where permission of the instructor is allowed.

2010 CULTURAL ANTHROPOLOGY
This course provides a survey of the development, contributions, and contemporary socio-cultural issues of selected non-Western peoples and cultures. In addition, the course addresses how contact with non-Western cultures over the last 5 centuries has played a substantial role in developing modern Western thought.
PREREQUISITE: Anthropology 1050
Three hours a week

2090 SPECIAL TOPICS
Course code for Special Topics offered in Anthropology at the second year level.
PREREQUISITE: Anthropology 1050

2110 INTRODUCTION TO ARCHAEOLOGY
This course describes how archaeologists discover, reconstruct and interpret cultures of the past. Topics include: the development of archaeology as a discipline; the framework of archaeological enquiry; the techniques of site identification, survey, and excavation; the methods used in artifact analysis; dating methods; and the theoretical approaches underlying the interpretation of archaeological remains.
PREREQUISITE: Anthropology 1050 or permission of the instructor
Three hours a week

**NOTE:** All 3000-level Anthropology courses require Anthropology 1050, Sociology 1010, and one 2000-level Anthropology, Sociology, or Sociology/Anthropology course as prerequisites, unless otherwise stated.

3090 SPECIAL TOPICS
Course code for Special Topics offered in Anthropology at the third-year level.
PREREQUISITES: Anthropology 1050, Sociology 1010, and one 2000-level Anthropology, Sociology, or Sociology/Anthropology course
Three hours a week

3210 FIELD METHODS
This course explores the different research methods used in cultural anthropology. In the evaluation of these methods, the course combines readings with field experience.
PREREQUISITES: Anthropology 1050, Sociology 1010, and one 2000-level Anthropology, Sociology, or Sociology/Anthropology course
Seminar: Three hours a week

3320 KNOWLEDGE AND CULTURE

An advanced course on how the forms of knowledge production used influence social anthropology's perspectives on structure and organization in human society. The principal focus is on comparing scientific and interpretive approaches to social organization in a range of societies through case studies. Two area courses are strongly recommended, but not required.
Cross-listed with Diversity and Social Justice Studies 3320.
PREREQUISITES: Anthropology 1050, Sociology 1010, and one 2000-level Anthropology, Sociology, or Sociology/Anthropology course. For students taking the course as DSJS 3320, Second Year standing or above, or permission of the instructor.
Three hours a week

3520 KINSHIP AND FAMILY
A cross-cultural examination of marriage, family, descent groups and kin-like groups with the fundamental objective of understanding the primary and natural features of human values and organization, and their variations.
Cross-listed with Diversity and Social Justice Studies 3520.
PREREQUISITES: Anthropology 1050, Sociology 1010, and one 2000-level Anthropology, Sociology, or Sociology/Anthropology course. For students taking the course as DSJS 3520, Second Year standing or above, or permission of the instructor.
Three hours a week

3610 ANTHROPOLOGICAL THEORY
History, construction, and evaluation of anthropological theory; anthropological theory as a response to changing social-cultural conditions.
PREREQUISITES: Anthropology 1050, Sociology 1010, and one 2000-level Anthropology, Sociology, or Sociology/Anthropology course
Three hours a week

**NOTE:** All 4000-level Anthropology courses require Anthropology 1050, Sociology 1010, one 2000-level Anthropology, Sociology, or Sociology/Anthropology course, and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses as prerequisites, unless otherwise stated.

4010 MEDICAL ANTHROPOLOGY
This course provides an overview of medical anthropology and its approaches to understanding human illness and healing systems in a cross-cultural context. Students examine theoretical and applied approaches to topics which include: ethno-medical systems; biomedical models; symbolism in the healing process; the interrelationships of gender, class, and race in the cultural construction of illness and well-being. The impact of colonialism and globalization, infections and inequalities, as well as cross-cultural conceptualizations of the body, are also considered.
Cross-listed with Diversity and Social Justice Studies 4010.
PREREQUISITES: Anthropology 1050, Sociology 1010, one 2000-level Anthropology, Sociology, or Sociology/Anthropology course, and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses. For students taking the course as DSJS 4010, Third Year standing or permission of the instructor.
Three hours a week

4020 ISSUES IN CONTEMPORARY ANTHROPOLOGY
This course examines selected issues of an interdisciplinary nature which have contributed to the emergence and development of current interpretative theories in anthropology. Students explore issues relating to the concepts of culture and hybridity; representation and power; colonialism and postcolonialism. Feminist anthropology and recent ethnographies are of central interest as are issues related to modernity, memory, and identity.
PREREQUISITES: Anthropology 1050, Sociology 1010, one 2000-level Anthropology, Sociology, or Sociology/Anthropology course, and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses or permission

of the instructor
Three hours a week

4030 CYBERCULTURES
This course examines how cyberspace in its various guises (e.g., web pages, virtual communities) and its associated technologies create numerous and often conflicting identities while shaping and being shaped by local and global cultural forces. It provides students with the opportunity to reflect critically upon, and engage with, the symbolic meanings and social effects of cyberspace. The course examines recent anthropological theories of technology and looks at the impact of social organization and cultural practices of communities around the world and on the identities of individuals within those different cultural contexts.
Cross-listed with Diversity and Social Justice Studies 4020.
PREREQUISITES: Anthropology 1050, Sociology 1010, one 2000-level Anthropology, Sociology, or Sociology/Anthropology course, and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses. For students taking the course as DSJS 4020 see Diversity and Social Justice Studies prerequisites
Three hours a week

4310 DIRECTED STUDIES
Offered as a seminar in which topics are studied in depth and/or as a directed reading course within the specialized area selected by the student in consultation with one or more members of the Department and approved by the Dean.
PREREQUISITES: Anthropology 1050, Sociology 1010, one 2000-level Anthropology, Sociology, or Sociology/Anthropology course, two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses and Anthropology, Sociology, or Sociology/Anthropology permission; generally restricted to majors in Anthropology at Third and Fourth Year levels.
(See Academic Regulation 9 for Regulations Governing Directed Studies)

# SOCIOLOGY/ANTHROPOLOGY COURSES

**NOTE:** All 2000-level Sociology/Anthropology courses require either Anthropology 1050 or Sociology 1010 as a prerequisite, except where permission of the instructor is allowed.

2080 DEVELOPING THE SOCIO-CULTURAL IMAGINATION
This course introduces students to the basic theoretical and methodological tools necessary for critical and analytical thinking. Explored are major anthropological and sociological concepts, with reference to selected readings and current events. Emphasis is placed on identifying assumptions and using both theory and research in the analysis of socio-cultural
behaviour.
PREREQUISITE: Anthropology 1050 or Sociology 1010
Three hours a week

2110 ISLAND TOURISM: THE SEARCH FOR PARADISE
(See Island Studies 2110)

2120 PEOPLES OF SOUTH ASIA
A survey of the peoples of South Asia; an integrated description and analysis of their cultural history and present-day economics, social, political and religious ways of life.
PREREQUISITE: Anthropology 1050 or Sociology 1010
Three hours a week

2220 INDIGENOUS PEOPLES OF CANADA

Students will be introduced to the historical and contemporary social, economic, legal and political perspectives of First Nations, Inuit, and Métis peoples of Canada. Using anthropological and sociological theories and scholarly work, as well as experiencing cultural practices through community connections and visual culture, the primary focus will be to develop a student's understanding of and respect for Indigenous peoples in Canada.
PREREQUISITE: Anthropology 1050 or Sociology 1010
Three hours a week

2420 PEOPLES OF OCEANIA
This course provides an introduction to the peoples and the complex cultures of the Pacific Islands (Oceania) in the areas known as Melanesia, Polynesia and Micronesia. Topics include gender, social stratification, leadership and exchange, conflict and war, ritual and symbolism as well as the relationship between tradition and modernity. The course examines the past and the present and the ways in which contact, colonization, the introduction of Christianity, and the cash economy shaped and continue to shape life in the Island Pacific.
PREREQUISITE: Anthropology 1050 or Sociology 1010
Three hours a week

2510 PEOPLES OF AFRICA
A survey of the principal cultures of sub-Saharan Africa with an emphasis on social and cultural change as a result of colonialism, urbanization and nationalization.
PREREQUISITE: Anthropology 1050 or Sociology 1010
Seminar: Three hours a week

2520 AGING AND SOCIETY
This is an introduction to the study of aging which provides an overview of the field of social gerontology, the variation of individual aging within societies and the social structures of aging. Special emphasis will be given to social gerontology in the context of the Maritime Provinces.
PREREQUISITE: Anthropology 1050 or Sociology 1010
Three hours a week

2550 GLOBAL HEALTH ISSUES
This course provides an overview of the growing field of global health including: health care systems and practices; ideas about illness and wellbeing in cross-cultural contexts; issues related to health development; global health inequities; and human rights. It will focus on key political, economic, and cultural factors associated with the nature and magnitude of global health issues such as pandemics, epidemics and endemic disease while paying particular attention to how poverty and a range of inequalities are embodied. The political, socioeconomic, ecological, and cultural complexities of global health issues will be underlined.
PREREQUISITE: SOC 1010 or ANTH 1050 with a minimum grade of 60%
Three hours a week

2560 ANATOMY OF ADDICTIONS
This course provides an in-depth introduction to addictions and their impact on families, communities and societies. Students are given the opportunity to study various forms of addictions and the manner in which professionals intervene to help addicts as well as those who are impacted by them in a secondary way. An important part of the course focuses on the unintended additional social consequences and problems that emerge when communities are distracted from their usual norms and routines by substance abuse.
PREREQUISITE: Anthropology 1050 or Sociology 1010
Three hours a week

2570 PEOPLES OF SOUTHEAST ASIA
Although neighbours in Southeast Asia, Thailand and Vietnam are culturally dissimilar and have distinctive linguistic, religious, and philosophical roots. This course focuses on the media, economical, and technological dimensions of daily

lives in these countries and consider the entanglements of such dimensions for Thai and Vietnamese citizens. After examining the historical foundations for such realities, we will retrace their current manifestations—from rock music in Hanoi, educational films in North Vietnam, to industrial zones on Thailand frontiers and shopping malls in Bangkok. In parallel, and comparatively, we will briefly explore aspects of the contemporary realities in Indonesia and Malaysia.
PREREQUISITE: ANTH 1050 or SOC 1010 with a minimum grade of 60%
Three hours a week

2590 SPECIAL TOPICS
Course code for Special Topics offered in Sociology/Anthropology at the second year level.
PREREQUISITE: Anthropology 1050 or Sociology 1010
Three hours a week

2610 SEX, GENDER, AND SOCIETY
This course examines gender (the social concept of masculinity and femininity) and compares it to current views about sex (the biological distinction of female and male). Several sociological and/or anthropological issues are examined, such as the biological bases and evolutionary development of sexual differences; abortion; homosexuality; sexual violence; and affirmative action. Cross-cultural information is introduced throughout the course.
Cross-listed with Diversity and Social Justice Studies 2610. Credit cannot be received for both of these courses.
PREREQUISITE: Anthropology 1050 or Sociology 1010. For students taking the course as DSJS 2610, any 1000-level DSJS course or permission of the instructor
Three hours a week

2630 GLOBAL YOUTH CULTURES
The emergence of global youth cultures of desire, self expression, consumption and representation will be considered from a number of perspectives including gender, age and globalization. Issues related to youth, which are a critical factor in understanding contemporary change, conflict, and cleavages, will be explored cross-culturally. Attention will be given to theoretical developments as well as ethnographic case studies.
Cross-listed with Diversity and Social Justice Studies 2630. Credit cannot be received for both of these courses.
PREREQUISITE: Anthropology 1050 or Sociology 1010. For students taking the course as DSJS 2630, any 1000-level DSJS course or permission of the instructor.
Three hours a week

2650 GENDER IN CANADIAN SOCIETY
This course provides an overview of anthropological, sociological, and feminist approaches to gender with an emphasis on the Canadian context. Through an intersectional lens that addresses gender in conjunction with other power laden categories of race, religion, sexuality, and social class, students will gain a greater awareness of and sensitivity to the psychological, social, and political effects of gender in Canada and its connections to colonial and capitalist systems of oppression and privilege. Changes to social values, governmental policies, and laws in Canadian society that have redefined the meaning of "normal" and "deviant" gender roles and behaviours will be highlighted. Particular attention will be paid to how these redefinitions have impacted marginalized groups in Canadian society in terms of their health, human rights, political empowerment/disempowerment, and identity.
Cross-listed with Diversity and Social Justice Studies 2650. Credit cannot be received for both of these courses.
PREREQUISITE: Anthropology 1050 or Sociology 1010, for students taking the course as DSJS 2650 any 1000 level DSJS course or permission of the instructor.
Three hours a week

2660 SCIENCE, CULTURE, AND SOCIETY
This course considers three centuries of modern Western science as it has been imagined and practised in Europe, initially, and eventually the rest of the globe. It especially considers the relationships between contemporary science and its socio-cultural contexts; discrepancies between the ideal of Science and its actual practice; the role of gender,

class, and race in the production of scientific knowledge; and some important debates within the field of science studies, such as the place of subjectivity and objectivity, or whether science is universal or dependent on time, place and field of study.
PREREQUISITE: Anthropology 1050 or Sociology 1010
Three hours a week

2770 GIFTS, MARKETS, AND COMMODITIES

This course considers various economic forms by which societies have made, and continue to make, goods and services available. Students will investigate how different kinds of economies and economic practices that existed in the past are not simply evolutionary forerunners of modern industrial capitalist markets. Moreover, these different kinds of economies and economic practices, though subordinated to contemporary capitalism, persist everywhere today, including PEI. Finally, students will consider the extent to which economic actors and economic behaviour of any sort is thoroughly infused with matters of morality, ethics, politics, emotion, identity, and more.
PREREQUISITE: Sociology 1010 or Anthropology 1050 with a minimum grade of 60%
Three hours a week

2950 ANIMALS AND HUMANS

This course explores the relationships between humans and animals which have long been considered, represented and contested in a range of academic disciplines. Today the unprecedented species extinction, the effects of industrial farming, climate change, the proliferating scientific technologies and a host of other issues are provoking new questions and controversies about the survival and the ontological status of both humans and animals. Through a range of interdisciplinary material, the complex relations between humans and animals across history and cultures are explored with a focus on probing the nature of these relationships in the Anthropocene.
Cross-listed with Diversity and Social Justice Studies 2950. Credit cannot be received for both of these courses.
PREREQUISITE: ANTH 1050 or SOC 1010, for students taking the course as DSJS 2950 any 1000 level DSJS course or permission of the instructor.
Three hours a week

**NOTE:** All 3000-level Sociology/Anthropology courses require Anthropology 1050, Sociology 1010, and one 2000-level Anthropology, Sociology, or Sociology/Anthropology course as prerequisites, unless otherwise stated.

3030 INTERNATIONAL MIGRATION, TRANSNATIONALISM, AND THE CANADIAN MOSAIC

This course focuses on some of the central issues and debates concerning immigration to Canada, and the experiences of immigrants within Canada. The course examines both historical and contemporary sources that synthesize thematic issues of globalization, transnational migration, and ethno-racial diversity in Canada. Topics may include theories of migration, Canadian immigration policies and forces that shape them, the economic adjustment of immigrants, immigrants and the labour market, ethno-racial diversity and racism, and migrant agricultural workers and domestics in Canada.
PREREQUISITES: Anthropology 1050, Sociology 1010, and one 2000-level Anthropology, Sociology, or Sociology/Anthropology course
Three semester hours of credit

3060 DEMOGRAPHY OF AGING

Students examine the relationship between demographic forces and our aging population. Considered are the effects of: migration on forming an aged ethnic population, social policies as related to the economics and health of an aged population, mortality levels as related to aging as a woman's issue, and baby boom and echo fertility levels. Demographic theories will be used to understand better these and other demographic forces.
PREREQUISITES: Anthropology 1050, Sociology 1010, and one 2000-level Anthropology, Sociology, or Sociology/Anthropology course
Three hours a week

3121 RACE AND WHITENESS

This course explores how "whiteness" as both an identity and a structure has long been overlooked, denied, and disavowed—and with what consequences. Topics addressed include: the idea of race and definitions of racism; multiple and conflicting ideas about whiteness-es; everyday whiteness, white normativity, and white privilege; "white fragility" and "white guilt"; and white anti-racism and "good white people."
Cross-listed with DSJS 3120. Credit cannot be received for both of these courses.
PREREQUISITE: Anthropology 1050, Sociology 1010, and one 2000 level Anthropology, Sociology, or Sociology/Anthropology course. For students taking the course as DSJS 3120, second year standing and above, or permission of the instructor.
Three semester hours of credit

3130 DISABILITY STUDIES

This course questions the more usual way of understanding disability as an individual attribute of the body or mind that needs to be either accommodated or fixed. Disability Studies, as both a theoretical approach and a political movement, challenges this understanding, asking questions about bodies and embodiment, about norms and normal, and about access and inclusion, and destabilizing many common assumptions about all these terms. Disability Studies asks us to think complexly about compulsory able-bodiedness and able-mindedness, and about the broad implications and consequences of those demands.
Cross-listed with DSJS 3130. Credit cannot be received for both of these courses.
PREREQUISITE: Anthropology 1050, Sociology 1010, and one 2000 level Anthropology, Sociology, or Sociology/Anthropology course. For students taking the course as DSJS 3130, second year standing and above, or permission of the instructor.
Three semester hours of credit

3220 RACE AND RACISM IN CANADA

This course will introduce students to concepts, theories, and a range of issues in the sociology of race and ethnic relations. Our focus will be on Canadian racial and ethnic relations in the historical past and the contemporary period, with reference to the United States. Throughout the semester, we will deal with sociological issues pertaining to race and racism, institutional or structural racism, and the barriers and opportunities confronting ethnic groups in Canada, with special interest in Blacks and Aboriginal Canadians.
Cross-listed with Diversity and Social Justice Studies 3220. Credit cannot be received for both of these courses.
PREREQUISITE: Anthropology 1050, Sociology 1010, and one 2000 level Anthropology, Sociology, or Sociology/Anthropology course. For students taking the course as DSJS 3220, second year standing and above, or permission of the instructor.
Three hours a week

3330 KNOWLEDGE MOBILIZATION

Skills developed in knowledge mobilization (KM) enable students (regardless of discipline) to share knowledge among researchers and community members. The focus is on closing the "know-do" gap, referring to what is "known" and what needs to be "done" in the community to benefit its members. Overall, students learn how to share/move research evidence into the community and how to accept/respect and value community-based evidence. Students develop KM skills (e.g., knowledge exchange, translation, true collaboration), study various mainstream/Indigenous KM models, and engage in experiential learning (e.g., knowledge brokering), allowing them to learn to navigate the research/community environments and disparate values/guidelines.
PREREQUISITE: Sociology 1010 or Anthropology 1050 with a minimum grade of 60% and one 2000 level course
Three hours a week

3410 TECHNOLOGY, SOCIETY AND THE ENVIRONMENT

This course explores the interaction between technology, science, society, and the environment in the past and present, and examines the potential implications of such interaction in the future.
PREREQUISITES: Anthropology 1050, Sociology 1010, and one 2000-level Anthropology, Sociology, or Sociology/

Anthropology course
Three hours a week

3550 GLOBALIZATION

Students in this course study globalization as an ongoing, dynamic process as it affects societies, cultures, environments, communities, organizations, groups, and individuals. Debates over these effects are addressed by various theoretical perspectives, including structural-functionalism, conflict analysis, interactionism, cultural studies, and postmodernism. Issues include technological advances, free-market capitalism, cultural homogenization, national policies and programs, international relations, global institutions and organizations, social inequality, demographic trends, asocial problems, social conflicts, and opposition to globalization.
Cross-listed with Diversity and Social Justice Studies 3550.
PREREQUISITES: Anthropology 1050, Sociology 1010, and one 2000-level Anthropology, Sociology, or Sociology/Anthropology course. For students taking the course as DSJS 3550, Second Year standing or above, or permission of the instructor.
Three hours a week

3590 SPECIAL TOPICS

Course code for Special Topics offered in Sociology/Anthropology at the third year level.
PREREQUISITES: Anthropology 1050, Sociology 1010, and one 2000-level Anthropology, Sociology, or Sociology/Anthropology course

**NOTE:** All 4000-level Sociology/Anthropology courses require Anthropology 1050, Sociology 1010, one 2000-level Anthropology, Sociology, or Sociology/Anthropology course, and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses as prerequisites, unless otherwise stated.

4112 GENETICS AND SOCIETY

This course considers the social implications of the enormous advances made in genetics. The study of the functioning of cells at the molecular level has become the dominant, though far from only, form of studying biological organisms. Along with the media exaggerations which raise expectations among various publics, students will also consider quieter and more subtle changes taking place in the socio-cultural background related to advances in genetics. These less overt changes include the changing conceptions of 'life', the redefinition of health in terms of 'risk', the molecularization of identities, and the financialization and capitalization of basic biological research.
Cross-listed with Diversity and Social Justice Studies 4112.
PREREQUISITE: Anthropology 1050, Sociology 1010, one 2000-level Anthropology, Sociology, or Sociology/Anthropology courses and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses. For students taking the course as DSJS 4112, third year standing or above or permission of the instructor.
Three hours a week

4140 COLONIAL AND POSTCOLONIAL DISCOURSE THEORIES

Students will be introduced to the basic elements of colonial and postcolonial discourse analysis, an interdisciplinary field of study. Some of the prominent practitioners and debates in the field will be considered, as well as some of the cultural, historical, and political reasons for its emergence. A particular emphasis will be placed on colonialism and postcolonialism as applied to current events in Canada and globally.
Cross-listed with DSJS 4140 and Cross-level listed with IST 6180
PREREQUISITES: Anthropology 1050, Sociology 1010, one 2000-level Anthropology, Sociology, or Sociology/Anthropology courses and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses.
For students taking the course as DSJS 4140, third year standing or above or permission of the instructor.
For students taking the course as IST 6180, must be admitted into a UPEI graduate program or be eligible for graduate studies.
Three hours a week

4310 MINORITY/ETHNIC GROUPS AND CANADIAN MULTICULTURALISM

A study of minority and ethnic groups (native and immigrant) within Canadian "multicultural" society. The course also includes a review of Canada's immigration policies and their effects on Canada's multicultural landscape.

Cross-listed with Diversity and Social Justice Studies 4310.

PREREQUISITES: Anthropology 1050, Sociology 1010, one 2000-level Anthropology, Sociology, or Sociology/Anthropology course, and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses. For students taking the course as DSJS 4310, third year standing or above, or permission of the instructor.

Seminar: Three hours a week

4420 SOCIAL AND CULTURAL CHANGE

This course critically reviews the dominant theoretical frameworks that have shaped interpretations of social and cultural change in the Global South. More recent theories are explored in order to locate change in both colonial and postcolonial contexts. Through ethnographic case studies, the realm of the everyday where change is demanded, crafted, and resisted in the Global South and North, will also be examined.

PREREQUISITES: Anthropology 1050, Sociology 1010, one 2000-level Anthropology, Sociology, or Sociology/Anthropology course, and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses

Seminar: Three hours a week

4560 VISUAL CULTURE

This course addresses in a critical manner the importance of visual representation in Western thought. Topics include: analysis of stereotypes of non-Western people as portrayed in print and information media, advertising, ethnographic documentary production, and the entertainment industry. Students will also examine the export of Western visual culture to non-Western cultures.

Cross-listed with Diversity and Social Justice Studies 4560.

PREREQUISITES: Anthropology 1050, Sociology 1010, one 2000-level Anthropology, Sociology, or Sociology/Anthropology course, and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses. For students taking the course as DSJS 4560, Third Year standing or above, or permission of the instructor.

Seminar: Three hours a week

4610 SPECIAL TOPICS

Course code for Special Topics offered in Sociology and Anthropology at the fourth year level.

PREREQUISITES: Anthropology 1050, Sociology 1010, one 2000-level Anthropology, Sociology, or Sociology/Anthropology course, and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses

Three hours a week

4625 MEDIA AND INFRASTRUCTURE

How do objects mediate and transform culturally specific understandings of the world? How do media shape communication and what kinds of utterances belong to which media? This course offers a critical perspective on different forms of media produced, distributed, and consumed in a variety of contexts and locales. We will also consider how media are shaped by—but also constitutive of—the physical and virtual infrastructures, across human and non-human environments. We will reflect on how digital infrastructures shape aesthetics and social interactions through audio-visual effects and Internet connectivity, whether you live in urban India, Vietnam's highlands, or rural Canada.

PREREQUISITE: Anthropology 1050, Sociology 1010, one 2000-level Anthropology, Sociology, or Sociology/Anthropology courses and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses.

Three hours a week

4810 DIRECTED STUDIES IN SOCIOLOGY AND ANTHROPOLOGY

This interdisciplinary course is offered for advanced students as a seminar in which selected topics are studied in depth and/or as a directed reading course within a specialized area selected by the student in consultation with one or more members of the Department and approved by the Dean.

PREREQUISITES: Anthropology 1050, Sociology 1010, one 2000-level Anthropology, Sociology, or Sociology/Anthropology course, and two 3000-level Anthropology, Sociology, or Sociology/Anthropology courses, and departmental permission; generally restricted to majors in Sociology/Anthropology at third and fourth year levels
(See Academic Regulation 9 for Regulations Governing Directed Studies)

4900 HONOURS RESEARCH
The course involves supervised reading and research on specific topics. The student is required to write a substantial honours essay or research report which is assessed by a three-member committee consisting of the supervisor, one additional member of the Department of Sociology and Anthropology, and a member from another Department.
Six semester hours of credit

# 91. Theatre Studies

**Coordinator**
Greg Doran, English

Theatrical performance is one of the most significant art forms in the history of civilization; it exemplifies the connection between Art and people. Unlike most forms of studied literature, dramatic literature is intended to be performed for and experienced by an audience. As a result, Dramatic literature exists between scholarly and practical realms. It requires the acquisition of both analytic and practical skills. UPEI's Minor in Theatre Studies offers students the opportunity to develop their analytic, practical, and creative skills required for theatrical production. The Minor in Theatre Studies provides students with foundational skills on which they can pursue their interest in the Theatre, or any area of study.

**REQUIREMENTS FOR A MINOR IN THEATRE STUDIES**
A Minor in Theatre Studies consists of twenty-one (21) semester hours of credit taken from the list of approved courses. Theatre 2440, Theatre 3440, Theatre 4560, and Theatre 4440 are compulsory for the Minor. Prospective students should note, however, that Theatre 4440 requires students to make a significant contribution to a Theatre Studies production, or another production approved by the Coordinator of Theatre Studies. Theatre 4440 will, typically, be only offered in the Winter Term of the academic year. Students enrolled in Theatre 4440 will be under the direct supervision of the Coordinator of Theatre Studies, or an approved supervisor. In addition, students must select three elective courses. Students using any of the approved courses to complete the Minor in Theatre Studies may not also use them to complete a Major.

## THEATRE STUDIES CORE COURSES

2440 INTRODUCTION TO THEATRE STUDY – TEXT, CHARACTER, AND PERFORMANCE
This course introduces students to core performance skills: voice, movement, and character development. Through a series of practical performance exercises and assignments, students will develop these skills. Students will also learn how to break down a script and prepare for a performance. Using a selection of plays, students will learn how to translate a text into a performance.
Cross-listed with English 2440.
PREREQUISITE: Permission of the Coordinator of Theatre Studies
Three hours a week

3440 ADVANCED THEATRE STUDIES – DIRECTING, CRITICISM, AND PLAY-CREATION
In this course, students will build on the performance skills developed in Theatre 2440. Students will complete units in Performance Criticism, Directing, and Play-Creation. Through a series of hands-on, practical assignments, students will come to understand the steps to take a script from the page to the stage. Students will also learn how to transform an empty space into a theatre.
PREREQUISITES: Successful completion of Theatre 2440 and permission of the Coordinator of Theatre Studies.
Three hours a week

4340 SPECIAL TOPICS IN THEATRE STUDIES
This course is designed to expand students' understanding of Theatre. Theatre 4340 is a variable topic course taught by Theatre Practitioners, who teach in their area of expertise. For course information, please contact the Coordinator of Theatre Studies.
PREREQUISITES: Theatre 3440, enrolment in the Theatre Studies Minor, and the permission of the Coordinator of

Theatre Studies
Three hours a week

4440 THEATRE PRACTICUM
Theatre 4440 is the capstone course for the Theatre Studies Minor. It provides students with the opportunity to put the skills and theories into practice. Students are expected to make a significant contribution to a production. Each Practicum is tailored to the individual student, in consultation with the Coordinator of Theatre Studies. The production must be approved by the Coordinator of Theatre Studies.
PREREQUISITES: Theatre 3440, enrolment in the Theatre Studies Minor, and the permission of the Coordinator of Theatre Studies
Three hours of credit

4560 DRAMATURGY
This course will introduce students to the important pre-production work of the Dramaturge. During the term, students will complete a variety of assignments, culminating in a dramaturgy portfolio. Students will develop their knowledge of theatre history, production practices, and the structures of dramatic literature. Through the activities of the course, students will develop research, communication, and design skill.
PREREQUISITES: Theatre 2440 and Theatre 3440, and must be enrolled in the Theatre Studies Minor Program.
Three hours of credit

**ELECTIVES**
NOTE: Students who are in the Majors or Honours English programs must take at least one elective outside the English Department.

***English***
English 2220 Reading Film: Introduction to Film Studies
English 2330 The Beginnings of Drama
English 2550 Introduction to Shakespeare
English 2560 Shakespeare in Film and Media
English 2850 Linguistics I: The Sound System of English
English 3030 Contemporary Drama
English 3150 English-Canadian Drama
English 3410 Modern Drama

***Theatre Studies***
Theatre Studies 4340: Special Topics

***Classics***
Classics 2120 Ancient Tragedy
Classics 2220 Ancient Comedy

***Modern Languages (French)***
3390 Théâtre Canadienne-Français
3440 XVIIe Siecle: Le Grand Siecle II

DIRECTED STUDIES
With the approval of the Coordinator, the Dean of Arts, and the relevant Department, a student may credit three hours of Directed Studies in any subject towards the Minor in Theatre Studies.

# 92. University 1000

University 1000 is a course for First Year students. It provides an introduction to the university, to university studies, to the varieties and methods of intellectual inquiry, and an opportunity to develop communications and research skills.

**NATURE AND GOALS OF THE COURSE**

University 1000 is a six semester-hour course restricted to students in their first year of university studies. The course is taught in sections of no more than 25 students in order to permit individual attention. Various teaching techniques are used, including lectures, discussions, individual research, film and video tapes, and frequent written exercises. Various occupational and personality inventories are employed to assist students in forming career plans and developing self-awareness. Specifically, the course has the following goals:

1. To develop oral and written communication skills;

2. To develop study and research skills;

3. To introduce effective critical thinking and argumentation;

4. To introduce the varieties of knowledge and methods of inquiry;

5. To encourage the development of self-knowledge and self-discovery;

6. To develop an awareness of the university both past and present.

Generally, the course seeks to afford entering students the opportunity to obtain the maximum benefits from university education by developing both practical studentship skills and a broad perspective which will help them to realize their potentials.

## COURSES

UPEI 1010 WRITING STUDIES – ENGAGING WRITING, RHETORIC, AND COMMUNICATION
(See English 1010)
NOTE: *Credit will only be granted for one (1) of the UPEI First Year Experience courses (UPEI/ENG-1010, UPEI-1020 or UPEI-1030). In exceptional circumstances, permission to receive credit for more than one of these courses may be permitted by the Dean.*

UPEI 1020 INQUIRY STUDIES – ENGAGING IDEAS AND CULTURAL CONTEXTS
This course is for students who want to explore a broad array of issues and 'big' questions that are related to human culture and the natural world from a local to a global perspective. This course emphasizes and cultivates critical inquiry, writing and reading skills through an analysis of texts/topics of contemporary significance.
NOTE: *Credit will only be granted for one (1) of the UPEI First Year Experience courses (UPEI/ENG-1010, UPEI-1020 or UPEI-1030). In exceptional circumstances, permission to receive credit for more than one of these courses may be permitted by the Dean.*
Three hours a week

UPEI 1030 UNIVERSITY STUDIES – ENGAGING UNIVERSITY CONTEXTS AND EXPERIENCE
This is a course for students who seek a well-supported, strongly integrated adjustment to life and learning within the university environment. This course is designed to create a cohesive learning community for students, connecting them to each other and

to their instructors in the classroom and beyond. The curriculum focuses on helping students to develop the attitudes, study strategies, and broad communication and research skills they will need to thrive throughout their post-secondary experience.
NOTE: *Credit will only be granted for one (1) of the UPEI First Year Experience courses (UPEI/ENG-1010, UPEI-1020 or UPEI-1030). In exceptional circumstances, permission to receive credit for more than one of these courses may be permitted by the Dean.*
Three hours a week

UNIVERSITY 1510 DIGITAL LITERACY FOR WORKFORCE LEARNING AND SUCCESS IN THE 21ST CENTURY
The goal of this course is to teach and assess digital concepts and skills that over 80% of employers look for in potential employees. The course will scaffold learning in a three themes module format as: (1) Digital Citizenship in Learning and the Workplace; (2) Information and Communication in the 21st Century; and (3) Applying Digital Literacy in the 21st Century Workplace. As students gain experience with various digital tools, students will be asked to apply these tools in a project-based setting to investigate real-world issues and create meaningful and relevant products. Students will experience the course in a hybrid model of face-to-face and online formats; along with elements of a flipped classroom where students review learning before class so that class time can be spent on critical dialogue and meaningful discussion and project work.
Three semester hours

UNIVERSITY 1930 CAREER AND LEARNING PORTFOLIO DEVELOPMENT
This course is designed to review and clarify a student's learning and career objectives, and to document and demonstrate experiential learning. Learners understand the various purposes of portfolios; know the conventions of developing and professionally presenting a portfolio; and are capable of articulating acquired learning in job descriptions or degree requirements.
Cross-listed with Education 3190 and Integrated Studies 1930.
Three semester hours

UNIVERSITY 1990 SPECIAL TOPICS

UNIVERSITY 2030 INTRODUCTION TO LEADERSHIP STUDIES
This course introduces leadership using a personal experience perspective and framework. Students will be exposed to various leadership models, best practices, and concepts essential to leadership such as sustainability and community development. University 2030 will assist students in developing an understanding of self, their role in community and in their profession. Students will be required to develop and implement a service learning project as part of the course work.
Cross-listed with ACLC 2030.
PREREQUISITE: Second year standing
Three semester hours

UNIVERSITY 3030 LEADERSHIP THEORY AND PRACTICE
This course is designed to merge theory and professional practice. A leadership field placement (32 hours) is a requirement of the course. The field placement will allow students to explore and actively engage in the community through educational efforts, activism, organizational efforts or other means. The placement will provide experiential learning and an opportunity to practice skills and knowledge related to leadership, and content acquired in previous university courses. Leadership portfolio models will be introduced and practiced. The portfolio will allow the student to identify strengths, learning experiences and competencies that they may wish to develop.
Cross-listed with ACLC 3030.
PREREQUISITE: University 2030 or permission from instructor
Three semester hours

# 93. University Writing Minor

**Coordinator**
Wendy Shilton, English

The University Writing Minor is a cross-disciplinary program designed to give special emphasis to writing throughout a student's education. In this age of information and knowledge based economies, the Writing Minor will help prepare students to be effective communicators and active participants in civic and cultural life. The Minor has four primary goals: first, to enhance learning through writing across the disciplines; second, to ensure continuous development of student writing throughout the educational experience; third, to promote awareness of the rhetorical function of language across the disciplines; fourth, to provide students with a means of indicating a writing emphasis in their education for purposes of graduate school and/or future employment.

**REQUIREMENTS FOR A MINOR**

A Minor in University writing consists of twenty-one semester hours of credit taken from the list of approved Writing Intensive (WI) courses.* Nine semester hours (three WI courses) are compulsory for the Minor: English 2860, English 3810 and the core course, Writing 4040. The remaining twelve semester hours are fulfilled by taking four WI elective courses after the prerequisite courses, One of UPEI 1010, UPEI 1020, or UPEI 1030 and one writing intensive course as specified in Academic Regulation 1(g), have been taken.

A maximum of 3 semester hours from the major subject may be credited towards the Minor, but only if at least three semester hours of credit in the major subject additional to those required for the Major are taken.

WI elective courses are designated by the Coordinating Committee and published before the registration period begins for each semester. Students are strongly encouraged to consult the Coordinator before registering.

Electives must be in at least two disciplines.

**COMPULSORY WRITING MINOR COURSES**

English 2860 Linguistics II: The Grammar and Vocabulary of English
English 3810 Professional Writing
Writing 4040 Communication and Rhetoric in Context

**WRITING MINOR ELECTIVES**

Course offerings are determined on a semester-by-semester basis. For current offerings, consult the UPEI web pages, or communicate directly with the Coordinator.

## * Writing Intensive Courses

Writing-intensive (WI) courses at UPEI use writing as a major means of developing thinking and learning in the disciplines. Such courses integrate a significant amount of writing (and opportunities for revision) into the work of the course, providing a variety of formal and informal occasions for students to write and learn the goals, assumptions and key concepts of a course. Formal writing opportunities allow students to learn the formats characteristic of a discipline, such as a research report, a critical essay, an essay examination, or a laboratory report. Formal writing is used primarily as a means for demonstrating learning outcomes.

Informal writing opportunities allow students to use writing as an instrument of learning through write-to-learn

strategies, such as journals, letters, logs, lists, questions, short in-class responses to readings, lectures, and discussion. Informal writing enhances the quality and depth of the learning process.

Although no definitive quantity of writing can be stipulated for a WI course because of disciplinary differences, writing opportunities, both formal and informal, should account for a minimum of 50% of the grade weight. In addition, apart from informal writing and examinations, at least 10-15 pages of writing should be assigned (e.g., reports and essays); and, on at least one occasion, students should be allowed opportunities for revision, with critical comments on drafts, before a final grade is awarded.

4040 COMMUNICATION AND RHETORIC IN CONTEXT
This course examines rhetorical effects in language in a variety of contexts. It offers a comprehensive examination of the history of rhetoric, how words are used to talk about other words, questions about truth, and the connections between persuasion and power. The goal of the course is to explore a rhetorical understanding of language and other communicative practices in context.
PREREQUISITE(S): English 1010 and a writing intensive course
Three hours a week

## * List of Writing Intensive Courses

# 94. Veterinary Medicine

http://upei.ca/avc

**ACADEMIC REQUIREMENTS—DVM**

**REGULATIONS**

**Course Load and Course Prerequisites**

Except in rare circumstances, each student will take a full course load each year. Students must pass prerequisite courses prior to enrolling in courses which require a listed prerequisite.

**Materials in Exams**

No materials of any kind, other than pencils and pens, may be brought into an examination room without explicit permission of the course coordinator.

**Pass-Fail Option**

The pass-fail option for courses (Academic Regulation 10c) will apply in the DVM Program only in certain specified courses at the recommendation of the course coordinator and upon approval of the AVC Curriculum Committee and AVC Dean's Council.

**Grading in Year 4**

Internal and external courses (rotations) in year 4 are graded according to the following 3-point scale:
Passing Performance – achieves entry-level competency.
Marginal Performance – approaches entry-level competency.
Failing Performance – does not achieve entry-level competency.

**Challenge for Credit by Examination**

Challenge for credit by examination is normally not permitted in the DVM Program. Students who are able to demonstrate to the satisfaction of the relevant chair that they have previously taken an equivalent course at the Atlantic Veterinary College, may challenge for credit by examination as outlined in Academic Regulation 15.

**Advancement and Probation**

**Years 1 – 3**

In Years 1 – 3, student success is measured by both course grades and semester weighted averages. In order to advance to the next semester a student must:

1. achieve a grade of at least 50% in all courses taken for credit, regardless of the total number of credits taken. In any multicomponent course a passing grade will be assigned only if each component identified by the course coordinator (e.g., laboratory and didactic sections) has been successfully completed.
2. achieve a weighted average of at least 65%. However, a student with a weighted average of at least 55% but under 65% in first semester of year 1, and at least 60% but under 65% in all other semesters, will be placed on academic probation and allowed to advance.

NOTE: Weighted averages are not rounded up. The following criteria will apply to a student on academic probation:

a. the student will be permitted only one probationary period (up to a maximum duration of 2 semesters) in the DVM program.

b. failure to achieve a weighted average of at least 65% by the end of the probationary period will result in academic dismissal.

c. return to a weighted average of under 65% after coming off probation will result in academic dismissal.

d. except with permission of the Dean, or designate, a student cannot advance to year 4 without a weighted average of at least 65%.

**Year 4**

In Year 4 student success is measured by both clinical rotation grades and programmatic outcomes tracked across rotations.

1. Regarding clinical rotation grades:

a. A student must achieve a "Passing Performance" in all rotations taken for credit regardless of the total number of credits taken. A student with a "Marginal Performance" in one 3 week rotation, or in multiple rotations equalling 3 weeks, will receive written notification of the academic regulations pertaining to "Marginal Performance" but will be allowed to advance.

b. A student with a "Marginal Performance" in a second 3 week rotation, or in multiple rotations equalling 6 weeks, must develop and execute a remediation plan to address noted deficiencies. Once the plan is approved by the Associate Dean Academic and Student Affairs, the student will be allowed to advance.

c. A student with a "Marginal Performance" in a third 3 week rotation, or in multiple rotations equalling 9 weeks, will be academically dismissed from the program.

d. A student with a "Failing Performance" in a rotation will be required to successfully repeat the failed rotation or complete an equivalent alternative experience (approved by the course coordinator of the failed rotation and Associate Dean Academic and Student Affairs). The performance assessment attained in the repeated rotation will be recorded on the student's transcript. A student who is unsuccessful when repeating the rotation will be academically dismissed from the program.

e. A student with a "Failing Performance" in a second rotation, after successfully repeating a first failed rotation, will be academically dismissed from the program.

2. Regarding programmatic outcomes:

a. A student must consistently attain ratings of "Competent" or better for all criteria on the Evaluation of Student Performance in all rotations taken for credit regardless of the total number of credits taken. A student with a rating of "Marginal" on a single criterion, despite receiving an overall grade of "Passing Performance", will be allowed to advance.

b. A student with a rating of "Marginal" on the same criterion on two different rotations, despite receiving an overall grade of "Passing Performance," will receive written notification of the academic regulations pertaining to "Marginal" ratings but will be allowed to advance.

c. A student with a rating of "Marginal" on the same criterion on a third rotation, despite receiving an overall grade of "Passing Performance," must develop and execute a remediation plan to address deficiencies on future rotations or undergo reassessment of the deficient criterion. The decision regarding whether a student may remediate the criterion on a future rotation or be required to undergo reassessment will be made collaboratively by the course coordinators of the eight core rotations and the Associate Dean Academic and Student Affairs. Reassessment of the deficient criterion may involve written and/or oral presentation of clinical cases, demonstration of specific clinical skills, or a combination of multiple formats. The reassessment activity/assignment will be designed, administered and evaluated by an independent faculty member. The student must achieve a rating of at least "Competent" on the reassessment activity/assignment in order to be considered to have achieved the criterion in question.

d. A student achieving a rating of "Marginal" after reassessment of a deficient criterion will be provided with further time and mentoring and will be reassessed a second and, if necessary, a third time. A student who fails to achieve a rating of "Competent" on a particular criterion after three reassessment activities/assignments will be academically dismissed from the program.

e. A student with a rating of "Marginal" on the same criterion on a fourth rotation, despite receiving an overall grade of "Passing Performance," and after undergoing the remediation process outlined in c. above, will be academically dismissed from the program.

**Academic Dismissal**

1. The following will result in academic dismissal:
a. failure to achieve a grade of 50% in any course taken for credit.
b. failure to achieve a weighted average of: (i) at least 55% in semester 1 of year 1, and (ii) at least 60% in any semester (other than semester 1 of year 1) in years 1-3.
c. failure to achieve a weighted average of at least 65% by the end of a probationary period in year 1-3 or return to a weighted average of under 65% after coming off probation in years 1-3.
d. "Failing Performance" in a single rotation that is not successfully repeated in year 4.
e. "Failing Performance" in a second rotation after successfully repeating a first failed rotation in year 4.
f. receive 9 or more rotation credit hours of a "Marginal Performance" in year 4.
g. receive a "Marginal" rating after three reassessment activities for the same Evaluation of Student Performance criterion in year 4.
h. receive a "Marginal" rating for the same Evaluation of Student Performance criterion on a fourth rotation after successfully remediating that criterion in year 4.

**Petition for Readmission**

1. Dismissed students may petition the Dean for readmission to the program. Dismissed students who are successful in their petition for readmission in years 1 – 3 will normally be required to:

a. repeat all courses in the semester in question if dismissed for failing one or more courses.
b. repeat all courses in the academic year in question if dismissed for failing to attain a weighted average of at least 60% in years 1 – 3.
c. re-enter the program at the beginning of the academic year in which they were first placed on probation if dismissed for failing to achieve the required weighted average of at least 65% at the end of a two semester probationary period.

2. Dismissed students who are successful in their petition for readmission in year 4 will normally be required to repeat year 4.

**SUPPLEMENTAL EXAMINATION**

A supplemental examination provides an opportunity for a student who failed a course to be re-examined in that course.

With the exclusion of certain specified courses noted in course syllabi, a student who fails a course in years 1 – 3 of the DVM program will be granted a supplemental examination if the following criteria are met:

a. a student will be granted only two (2) supplemental examinations in the DVM program.
b. to be eligible for a supplemental examination the overall course grade, including performance in the final examination, must be at least 40%.
c. the maximum grade attainable in a course or course component (as specified by the course coordinator) in which a supplemental examination is written shall be 50%.
d. if the maximum grade of 50%, attainable in a course in which a supplemental examination is written, contributes to a weighted average that will allow the student to remain in the program.

The scope of the supplemental examination is at the discretion of the course coordinator and will be communicated to the student in advance. In order to pass the supplemental examination, the student must achieve a grade of at least 60% in that exam.

A student who fails a course in semester 1, and is granted a supplemental examination, will normally be required to write

the examination before being permitted to continue with courses in semester 2 of the DVM program. A student who fails a course in semester 2 of the DVM program, and is granted a supplemental examination, will normally be expected to write the examination no later than the end of the third week of May.

**ATTENDANCE POLICY**

**Lectures and Laboratories**

Student attendance at didactic lectures and laboratories is strongly encouraged but not mandated. Individual course coordinators may choose to make attendance mandatory for a particular course or course component, and points may be assigned based on attendance. If attendance at didactic lectures or laboratories is required for an individual course, it must be specified in the course outline. Submission of a "Pre-Clinical Absence Request" form is not required for missed lectures or laboratories, unless mandated by a particular course coordinator.

**Assessments**

1. Student attendance at scheduled quizzes, in-class or in-lab graded learning experiences, and midterm and final examinations is required. Permission to make-up missed work involving any of these will be granted for excused absences only. Excused absences may be planned or unplanned. In the event of an excused absence, the instructor may provide a make-up assignment or examination that is different from the one given during regularly scheduled class time.

2. Unplanned absences are due to unavoidable, unpredictable circumstances and include illness, family emergency, or death in the family. The student should follow the procedure below for requesting an excused absence. The student is responsible for communicating with the course coordinator(s) to make arrangements for making up missed work. In emergency situations, the Associate Dean of Academic and Student Affairs may be contacted to assist with these arrangements.

a. If the student is able, he/she should complete a "Pre-Clinical Absence Request" form before the day of missed work and submit it to the Office of Academic and Student Affairs. If this is not possible, the student should contact the Office by phone at 902-894-2827, or email (avc-acad-stu@upei.ca) as soon as possible. The Office will contact the necessary course coordinator(s) to notify them of the student's absence. In the case of illness, a doctor's certificate may also be required at the discretion of the Associate Dean of Academic and Student Affairs.

3. Planned absences may be excused when they are for legitimate reasons and when the appropriate procedure for requesting permission has been followed. Legitimate reasons for planned absences include attendance at a scientific meeting where the student is making a scholarly presentation, receiving an award, or representing the AVC in an officially approved capacity; or in observance of a religious holiday. The student should follow the procedure below for requesting an excused absence. If a planned absence is excused, the student is responsible for communicating with the course coordinator(s) to make arrangements for making up missed work.

a. Adequate documentation detailing the reason for the absence must be provided and a "Pre-Clinical Absence Request" form must be submitted to the Office of Academic and Student Affairs within the first three weeks of the semester and at least four weeks prior to the planned absence. Students will be notified of the decision regarding their request by the Office of the Academic and Student Affairs. Students should not schedule travel without prior approval and incurred travel expenses do not in themselves warrant an excused absence.

4. Absences not falling into one of the above categories will be considered on a case-by-case basis according to their merit. Students should follow the procedure outlined above for requesting an excused absence. If the absence is excused, the student is responsible for communicating with the course coordinator(s) to make arrangements for making up missed work.

Consequences of Unexcused Absences

-In the event that a quiz, in-class or in-lab graded assignment, or midterm examination is missed and the absence was unexcused, the student will be assigned a grade of zero for the missed work. In the case of multiple absences, the

student may be withdrawn from the course and assigned a grade of F.
-In the case of missed final examinations Academic Regulations 13b (Special Examinations and Missed Final Examinations), and 10e (Incomplete Courses) in the UPEI calendar apply.

**Clinical Rotations**
1. Attendance in clinical rotations is mandatory. In total, eight personal days are allowed during the fourth year. Examples of personal days include, but are not limited to, job interviews, personal or family illness, attendance at scientific meetings, etc.

2. All absences must be excused by the rotation coordinator and duty clinician.

3. In all cases of missed rotation days, students must complete a "Clinical Rotation Absence Request" form and have it signed by the rotation coordinator and, if applicable, the duty clinician. A copy of the form will be forwarded by the rotation coordinator to the Office of Academic and Student Affairs so that a central record of absences can be kept.

4. Make-up of missed clinical experiences is normally not required for absences of up to 15% of the rotation duration. The Associate Dean of Academic and Student Affairs will notify rotation coordinators of total absences in excess of eight personal days and coordinate make-up of missed clinical experiences.

**IMMUNIZATION**
The Atlantic Veterinary College has a mandatory rabies vaccination policy which requires that all students be vaccinated or sign a waiver declining vaccination. The Rabies vaccination program is administered by the UPEI Health Centre on behalf of the Atlantic Veterinary College. The Atlantic Veterinary College shares the cost of the Rabies vaccination program with its students.

**COURSE SUPPLIES**
Students requiring course materials or supplies over and above what is normally provided by the Atlantic Veterinary College may be responsible for the additional costs that are incurred.

**ANIMAL USE**
The humane use of animals in teaching is a normal part of the Atlantic Veterinary College (AVC) curriculum and a necessary component of the veterinary medical education. Examples of such uses include, but are not limited to, dissection of cadavers in Macroscopic Anatomy; post-mortem examination of animals in the Diagnostic Laboratory; handling, restraint, and physical examination of animals in Clinical Orientation; and performing surgery and invasive diagnostic procedures in Medical and Surgical Exercises laboratories. All teaching animal use at the Atlantic Veterinary College is approved by the UPEI Animal Care Committee and conforms to the principles and guidelines of the Canadian Council on Animal Care (CCAC).

**DOCTOR OF VETERINARY MEDICINE PROGRAM**

**First Year**
**Semester 1**

| | | Weekly Contact | | |
|---|---|---|---|---|
| Course | | **Lecture** | **Lab** | **Credit** |
| VBS 1010 | Macroscopic Anatomy I | 2 | 5 | 4 |
| VBS 1110 | Microscopic Anatomy I | 1 | 2 | 2 |
| VBS 1210 | Physiology I | 2 | 0 | 2 |
| VBS 1410 | Integration of Structure and Function I | 0 | 5 | 2 |
| VBS 1040 | Principles of Veterinary Research | 1 | 0 | 1 |
| VBS 1050 | Professional Foundations I | 1 | 2 | 2 |
| VHM 1030 | Animal Behaviour and Welfare | 2 | 0 | 2 |
| VHM 1110 | Animal Production Systems | 2 | 1 | 2 |
| VPM 1110 | Veterinary Immunology | 2 | 1 | 2 |
| | | **13** | **16** | **19** |

**Semester 2**

| | | Weekly Contact | | |
|---|---|---|---|---|
| Course | | **Lecture** | **Lab** | **Credit** |
| VBS 1020 | Macroscopic Anatomy II | 2 | 5 | 4 |
| VBS 1120 | Microscopic Anatomy II | 1.4 | 1.7 | 3 |
| VBS 1220 | Physiology II | 2 | 0 | 2 |
| VBS 1420 | Integration of Structure and Function II | 0 | 3 | 1 |
| VHM 1120 | Principles of Veterinary Epidemiology | 2 | 1 | 2 |
| VHM 1130 | Clinical Skills I | 0 | 3 | 1 |
| VPM 1220 | Parasitology | 2 | 2 | 3 |
| VPM 1520 | General  Pathology | 2 | 2 | 3 |
| | | **11.4** | **17.7** | **19** |

**Second Year**
**Semester 3**

| | | Weekly Contact | | |
|---|---|---|---|---|
| Course | | **Lecture** | **Lab** | **Credit** |
| VBS 2130 | Veterinary Pharmacology I | 3 | 1 | 3 |
| VCA 2520 | Diagnostic Imaging I | 1 | 1 | 1 |
| VHM 2310 | Veterinary Public Health | 2 | 0 | 2 |
| VHM 2410 | Evidence-based Veterinary Medicine | 1 | 1 | 1 |
| VHM 2510 | Clinical Skills II | 1 | 2 | 1 |
| VPM 2010 | Bacteriology and Mycology | 3 | 2 | 4 |
| VPM 2110 | Virology | 2 | 2 | 3 |
| VPM 2210 | Systemic Pathology I | 2 | 2 | 3 |
| VPM 2020 | Professional Foundations II | 1 | 2 | 2 |
| | | **16** | **13** | **20** |

**Semester 4**

| | | Weekly Contact | | |
|---|---|---|---|---|
| Course | | **Lecture** | **Lab** | **Credit** |
| VBS 2140 | Veterinary Pharmacology II | 1 | 1 | 1 |
| VBS 2150 | Veterinary Toxicology | 2 | 1 | 2 |
| VCA 2140 | Diagnostic Imaging II | 1 | 1 | 1 |
| VCA 2120 | Principles of Medicine | 2 | 0 | 2 |
| VCA 2310 | Principles of Surgery | 1.5 | 0 | 1.5 |
| VCA 2410 | Principles of Anaesthesiology | 1.5 | 0 | 1.5 |
| VCA 2150 | Small Animal Primary Care Practice I | 2 | 0 | 2 |
| VCA 2130 | Clinical Skills III | 0 | 4 | 1 |
| VHM 2220 | Principles of Theriogenology | 1 | 0 | 1 |
| VPM 2220 | Systemic Pathology II | 2 | 2 | 3 |
| VPM 2420 | Clinical  Pathology | 2 | 2 | 3 |
| VPM 2620 | Aquaculture and Fish Health | 1 | 0 | 1 |
| | | **17** | **11** | **20** |

**THE THIRD YEAR**

The third year of the DVM program consists of core and elective courses. Students are required to take all of the core courses and at least 16 credit hours of elective courses. The majority of elective courses are delivered in 5-week modules (M) in semester 6.  Elective course offerings are subject to change in any academic year.

**Third Year**

**Semester 5**

| | | Weekly Contact | | |
|---|---|---|---|---|
| **Course** | | **Lecture** | **Lab** | **Credit** |
| VCA 3160 | Small Animal Primary Care Practice II | 1 | 0 | 1 |
| VCA 3150 | Small Animal Medicine | 4 | 0 | 4 |
| VCA 3170 | Small Animal Surgery | 4 | 0 | 4 |
| VCA 3130 | Clinical Skills V | 0 | 2 | 0 |
| VHM 3220 | Food Animal Health and Disease | 5 | 0 | 5 |
| VHM 3230 | Equine Health and Disease | 4 | 0 | 4 |
| VHM 3540 | Clinical Skills IV | 0 | 3 | 1 |
| VHM 3630 | Professional Foundations III | 1 | 0 | 1 |
| | | **19** | **5** | **20** |

**Semester 6**

| Core Course | | Weekly Contact Lecture | Lab | Credit |
|---|---|---|---|---|
| VCA 3130 | Clinical Skills V | 0 | 2 | 2 |
| VCA 3140 | Professional Foundations IV | 0 | 1 | 0.5 |

| | |
|---|---|
| **Third Year Electives** | |
| VBS 3110 Comparative Medicine | 1.5 |
| VBS 3125 Small Animal Clinical Toxicology | 1 |
| VCA 3230 Advanced Large Animal Anesthesiology | 1 |
| VCA 3231 Advanced Feline Medicine | 1 |
| VCA 3232 Advanced Small Animal Cardiology | 1 |
| VCA 3233 Advanced Small Animal Medicine for General Practice | 1 |
| VCA 3234 Advanced Small Animal Medicine for General Practice II | 1 |
| VCA 3235 Advanced Small Animal Surgery | 1 |
| VCA 3236 Applied Client Communication | 1 |
| VCA 3240 Advanced Small Animal Anesthesiology | 1 |
| VCA 3241 Mindful Well-being in Veterinary Medicine | 1 |
| VCA 3510 Introduction to Exotic Pet Medicine | 1 |
| VCA 3520 Introduction to Zoo, Wildlife and Aquatic Animal Medicine | 1 |
| VCA 3522 Clinical Nutrition for Small Animal General Practice | 1 |
| VCA 3524 Decision-Making in Small Animal General PracticeVCA 3525 Clinical Application of Anti-Infective Stewardship | 0.5<br>1 |
| VCA 3612 Spectrum of Care in Small Animal General Practice | 1 |
| VCA 3615 Advanced Small Animal Neurology | 0.5 |
| VCA 3617 Advanced Small Animal Oncology | 0.5 |
| VCA 3619 Advanced Small Animal Ophthalmology | 0.5 |
| VCA 3621 Advanced Small Animal Pain Management | 1 |
| VCA 3623 Small Animal Behavioural Medicine I | 1 |
| VCA 3625 Small Animal Behavioural Medicine II | 1 |
| VCA 3825 Small Animal Emergency and Critical Care | 1 |
| VHM 3250 Production and Infectious Diseases of Food Animals | 0.5 |
| VHM 3260 Bovine Herd Management and Nutrition | 0.5 |
| VHM 3270 Advanced Bovine Mastitis and Quality Milk ProductionVHM 3275 Topics in Evaluation of Lameness | 1<br>0.5 |
| VHM 3280 Current Issues in Bovine Lameness, Welfare and Cow Comfort | 0.5 |
| VHM 3290 Topics in Poultry and Swine | 0.5 |
| VHM 3330 Topics in Small Ruminants | 1 |
| VHM 3340 Health of Aquatic Animals and the Ecosystem | 1 |

| | |
|---|---|
| VHM 3350 Topics in Advanced Bovine Theriogenology | 0.5 |
| VHM 3360 Topics in Advanced Equine Theriogenology | 0.5 |
| VHM 3370 Advanced Equine Theriogenology Techniques | 0.5 |
| VHM 3380 Advanced Bovine Theriogenology Techniques | 0.5 |
| VHM 3390 Topics in Advanced Equine Medicine | 1 |
| VHM 3430 Advanced Equine Medicine Techniques | 0.5 |
| VHM 3440 Equine Preventative Medicine | 0.5 |
| VHM 3450 Food Animal Anaesthesia and Surgery | 0.5 |
| VHM 3460 Techniques in Food Animal Anaesthesia and Surgery | 0.5 |
| VHM 3470 Equine Anaesthesia, Surgery and Lameness | 1.5 |
| VHM 3480 Techniques in Equine Anaesthesia and Surgery | 0.5 |
| VHM 3510 Techniques in the Evaluation of Equine Musculoskeletal Diseases | 0.5 |
| VHM 3520 Principles of Integrative Medicine | 1 |
| VHM 3550 Advanced Equine Imaging | 1 |
| VPM 3612 Practical Techniques in Fish Health | 0.5 |

**THE FOURTH YEAR**

The fourth year of the DVM program consists of at least 42 semester-hours of credit comprising;

-one 2-semester-hour didactic course (VHM 4110)

-23 semester-hours (23 weeks) of core clinical rotations

-at least 16 semester-hours (16 weeks) of elective clinical rotations

**Fourth Year**

**Semester 7 or 8**

| | | Weekly Contact | | |
|---|---|---|---|---|
| **Core Course** | | **Lecture** | **Lab** | **Credit** |
| VHM 4110 | Clinical Conference | 0 | 2 | 2 |

Clinical rotations in Fourth Year must consist of at least 40 semester-hours of credit selected from among approved one-to three-credit-hour core and elective rotations. Fourth-year rotations require a minimum time commitment of 28 hours per week of each student, and emergency and out-of-hours duties may be required. Normally, one week of fourth-year rotation experience equates to one semester-hour of credit.

Fourth-year rotation selections comprising the required 40 semester-hours of credit must meet the following criteria:

All students must take a core consisting of 23 semester-hours (weeks) of internal rotations as follows:

a. Clinics in Radiology (VCA 4400)—3 weeks
b. Clinics in Anaesthesiology (VCA 4000) —3 weeks
c. Clinics in Companion Animal Medicine (VCA 4100)—3 weeks
d. Clinics in Companion Animal Surgery (VCA 4300)—3 weeks
e. Community Practice (VCA 4340)—3 weeks
f. Clinics in Large Animal Medicine and Surgery (VHM 4600)—3 weeks
g. Food Animal Health Management (VHM 4230)—2 weeks
h. Diagnostic Services (VPM 4500)—3 weeks

28 semester-hours of credit must consist of internal rotations offered by the AVC.

12 semester-hours of credit may consist of internal rotations offered by the AVC, and/or external clinical experiences in institutional/specialist practices (VBS 4900, VCA 4900, VHM 4900, VPM 4900), and/or external clinical experiences in general private practice (VCA 4940, VHM 4940).

Students are required to select elective rotations from the following list; however, elective offerings are subject to change in any academic year.

VBS 4389 Lab Animal Theriogenology
VBS 4390 Large Animal Applied Clinical Anatomy
VBS 4400 Exotic and Laboratory Animal Medicine
VBS 4900 External Clinical Experience-Institutional or Specialist Practice
VBS 4950 Special Topics in Biomedical Sciences
VCA 4020 Clinics in Anaesthesiology II
VCA 4200 Clinics in Companion Animal Medicine II
VCA 4220 Clinical Nutrition in Companion Animals
VCA 4320 Clinics in Companion Animal Surgery II
VCA 4325 Clinics in Companion Animal Cardiology II
VCA 4040 Clinics in Companion Animal Oncology
VCA 4050 Community Practice II
VCA 4600 Clinics in Dermatology
VCA 4750 Client Communications
VCA 4800 Clinics in Companion Animal Cardiology
VCA 4810 Zoo, Exotic Animal and Wildlife Medicine
VCA 4820 Clinics in Ophthalmology
VCA 4830 Advanced Zoo, Exotic Animal & Wildlife Medicine
VCA 4900 External Clinical Experience-Institutional or Specialist Practice
VCA 4940 External Clinical Experience-General Private Practice
VCA 4950 Special Topics in Companion Animals
VHM 4020 Applied Epidemiology
VHM 4030 Short Course in Applied Epidemiology
VHM 4040 Aquaculture Health Management I
VHM 4050 Aquaculture Health Management II
VHM 4060 Topics in Regulatory Veterinary Epidemiology
VHM 4070 Production Health of Shrimp-Thailand
VHM 4080 Clinics in Ruminant Medicine & Surgery – University of Montreal
VHM 4130 Fish Health
VHM 4140 Small Animal Theriogenology
VHM 4150 Clinics in Bovine Theriogenology
VHM 4160 Veterinary Acupuncture – Small Animal
VHM 4310 Clinics in Farm Service – Ruminants and Swine I

VHM 4320 Clinics in Farm Service—Dairy
VHM 4340 Ecosystem Health
VHM 4410 Clinics in Farm Service—Ruminants and Swine II
VHM 4430 Clinics in Farm Service—Feedlot Management
VHM 4450 Clinics in Farm Service—Ruminant Nutrition
VHM 4460 Clinics in Farm Service—Ruminant Mastitis
VHM 4470 Clinics in Farm Service—Ruminant Production Record Analysis
VHM 4480 Clinics in Farm Service—Ruminant Reproduction
VHM 4490 Clinics in Farm Service—Cow/Calf Management
VHM 4550 Clinics in Farm Service I
VHM 4560 Clinics in Farm Service II
VHM 4570 Clinics in Equine Sports Medicine I
VHM 4580 Clinics in Equine Sports Medicine II
VHM 4590 Clinics in Equine Ambulatory and Reproductive Services
VHM 4610 Clinics in Large Animal Medicine & Surgery II
VHM 4670 Swine Health Monitoring
VHM 4680 International Livestock Health Management
VHM 4800 Clinics in Regulatory Medicine
VHM 4840 Veterinary Chiropractic Techniques
VHM 4900 External Clinical Experience-Institutional or Specialist Practice
VHM 4920 Advanced Equine Dentistry and Health Care
VHM 4940 External Clinical Experience—General Private Practice
VHM 4950 Special Topics in Health Management
VPM 4100 International Veterinary Medicine
VPM 4120 Diagnostic Veterinary Virology
VPM 4130 Wildlife Health
VPM 4180 Chinook Project
VPM 4210 Foreign Animal Diseases
VPM 4530 Diseases of Poultry
VPM 4600 Morphologic Pathology
VPM 4900 External Clinical Experience—Institutional or Specialist Practice
VPM 4950 Special Topics in Pathology and Microbiology

## Biomedical Sciences

http://upei.ca/biomedical

**Biomedical Faculty**
John Burka, Professor Emeritus
Amreek Singh, Professor Emeritus
Susan D. Dawson, Professor, Chair
Spencer J. Greenwood, Professor
Collins Kamunde, Professor
Michael R. van den Heuvel, Professor
William Whelan, Professor
Glenda M. Wright, Professor

Sunny Hartwig, Associate Professor
Sandra McConkey, Associate Professor
Tammy Muirhead, Associate Professor
Jonathan Spears, Associate Professor
Paul Bernard, Assistant Professor
Fraser Clark, Adjunct Professor
Dounia Daoud, Adjunct Professor
Daphne Gill, Adjunct Professor
Brad Haltli, Adjunct Professor
Okechukwu Igboeli, Adjunct Professor
Don Stevens, Adjunct Professor
Yanwen Wang, Adjunct Professor

**BIOMEDICAL SCIENCES COURSES**

VBS 1010 MACROSCOPIC ANATOMY I
This course provides a foundation in macroscopic (gross) anatomy using the dog as the primary dissection model.
PREREQUISITE: First year standing in the DVM program
Two hours of lecture and five hours of laboratory per week

VBS 1020 MACROSCOPIC ANATOMY II
This course presents comparative macroscopic anatomy of the horse and ruminant through dissection.
PREREQUISITE: First year standing in the DVM program
Two hours of lecture and five hours of laboratory per week

VBS 1040 PRINCIPLES OF VETERINARY RESEARCH
This course presents fundamental principles of research methodology for biomedical and clinical applications in veterinary medicine including hypothesis testing and scientific approach, experimental design, dissemination of scientific results, intellectual property and research ethics.
PREREQUISITE: First year standing in the DVM program
One hour of lecture per week

VBS 1050 PROFESSIONAL FOUNDATIONS I
This course introduces essential concepts that form the foundation of a veterinarian's professional life including development of a professional identity, the roles veterinarians play in society, and development of essential skills. These skills include reflective practice, self-awareness, communication, cultural competence, resilience, and well-being. Current trends in the veterinary profession are also addressed. This course is graded pass/fail.
PREREQUISITE: First year standing in the DVM program
One hour of lecture and two hours of tutorial per week

VBS 1110 MICROSCOPIC ANATOMY I
This course provides an understanding of microscopic organization of basic tissues and various organ systems of domestic animals.
PREREQUISITE: First year standing in the DVM program
One hour of lecture and two hours of laboratory per week

VBS 1120 MICROSCOPIC ANATOMY II
The course provides an understanding of microscopic organization of various organ systems, embryonic development, and congenital anomalies of domestic animals.
PREREQUISITE: First year standing in the DVM program

One hour of lecture and two hours of laboratory in histology every week for the first half of the semester; two or three hours of lecture in embryology every week for the second half of the semester

VBS 1210 PHYSIOLOGY I
This course presents important system, cell and biochemical functions in common domestic species using a systems-based approach.
PREREQUISITE: First year standing in the DVM program
Two hours of lecture per week

VBS 1220 PHYSIOLOGY II
This course continues presentation of important system, cell, and biomedical functions in common domestic species using a systems-based approach.
PREREQUISITE: First year standing in the DVM program
Two hours of lectures per week

VBS 1410 INTEGRATION OF STRUCTURE AND FUNCTION I
This course uses problems from small animal veterinary medicine to integrate concepts from macroscopic and microscopic anatomy and physiology, and develop critical reasoning skills.
PREREQUISITE: First year standing in the DVM program
Five hours of tutorial per week

VBS 1420 INTEGRATION OF STRUCTURE AND FUNCTION II
This course uses problems from large animal veterinary medicine to integrate concepts from macroscopic and microscopic anatomy and physiology, and develop critical reasoning skills.
PREREQUISITE: First year standing in the DVM program
Three hours of tutorial per week

VBS 2120 PATHOPHYSIOLOGY FOR NURSING STUDENTS
This course is an overview of pathophysiological mechanisms of disease states. Concepts and processes of abnormal physiology in various body systems are presented using selected diseases as illustrations. Unique features of child and adult responses are presented.
PREREQUISITE: Biology 1220, Nursing 2030 and Nursing 2130
Three hours of lecture and three hours of laboratory per week

VBS 2130 VETERINARY PHARMACOLOGY I
This course introduces basic principles of veterinary pharmacology. Drugs are presented using a systems-based approach and opportunities are provided to apply knowledge in clinical veterinary contexts.
PREREQUISITE: Second year standing in the DVM program
Three hours of lecture and one hour of tutorial per week

VBS 2140 VETERINARY PHARMACOLOGY II
This course continues the presentation of drugs using a systems-based approach and provides opportunities to apply knowledge in clinical veterinary contexts.
PREREQUISITE: Second year standing in the DVM program
One hour of lecture and one hour of tutorial per week

VBS 2150 VETERINARY TOXICOLOGY
This course introduces basic and clinical principles of toxicology. Toxins are presented using a systems-based approach, and opportunities are provided to apply knowledge in clinical veterinary contexts.
PREREQUISITE: Second year standing in the DVM program
Two hours of lecture and one hour of tutorial per week

VBS 2610 DIRECTED STUDIES

This elective course provides an opportunity for students to participate in intensive research and/or clinical experiential learning opportunities under the supervision of a faculty member. In addition to research and clinical skills, students will also develop leadership and communication skills. This course will be graded Pass/Fail.

PREREQUISITE: Successful completion of year one of the DVM program

Variable 1, 2 or 3 credit hours

VBS 3110 COMPARATIVE MEDICINE

This elective course introduces students to the basic tenets of laboratory animal medicine including ethics of animal use in biomedical research, regulatory requirements (national and international), principles of replacement, reduction, and refinement when designing studies involving animals, animal models of human conditions, animal husbandry, biological safety, and animal welfare. The remainder of the course will be directed towards prevention, diagnosis, and treatment of common clinical disease conditions in traditional and non-traditional laboratory animal species and associated clinical techniques. Comparative aspects of the biology and medicine among species and their relevance to human and veterinary conditions will be addressed. This course will provide the appropriate background for laboratory animal medicine rotations in the clinical year.

Five week module with four hours of lecture per week

VBS 3125 SMALL ANIMAL CLINICAL TOXICOLOGY

This elective modular course builds on principles taught in the core curriculum. A review of fundamental clinical toxicology principles and procedures will be presented before students work through a variety of clinical case scenarios involving toxicities commonly encountered in general practice. While the course is principally focussed on small animals, some cases and topics pertinent to large animals will also be discussed.

PREREQUISITE: Third Year standing in the DVM program

Five week module with three hours of lecture per week

VBS 3610 DIRECTED STUDIES

This elective course provides an opportunity for students to participate in intensive research and/or clinical experiential learning opportunities under the supervision of a faculty member. In addition to research and clinical skills, students will also develop leadership and communication skills. This course will be graded Pass/Fail.

PREREQUISITE: Successful completion of year two of the DVM program.

Variable 1, 2 or 3 credit hours

VBS 4388 ACUTE WILDLIFE MEDICINE AND CARE

This rotation involves acute care of wildlife cases that present to the Wildlife Service. Students will perform emergency care and stabilization, triage, diagnostic work-up, and medical and surgical intervention of injured and acutely ill wild animals. Developing and ensuring hospitalization husbandry requirements appropriate for the species will also be required as will formulating and conducting rehabilitation plans for the patients.

PREREQUISITE: Fourth year standing in the DVM program

One week in duration

VBS 4389 LABORATORY ANIMAL THERIOGENOLOGY

This rotation introduces advanced reproductive techniques commonly performed in laboratory animal medicine. Topics include artificial insemination, embryo transfer and Caesarian-section for rederivation and research manipulations, semen collection and storage, surgical gonadectomy, and hormonal manipulation of the estrous cycle. Reproductive diseases and toxicology of various research animal species will be introduced.

PREREQUISITE: Fourth year standing in the DVM program

One week in duration

VBS 4390 LARGE ANIMAL CLINICAL ANATOMY

This rotation is designed to help reinforce knowledge of anatomy and assist in its application to clinical cases. Students

attend morning rounds in the large animal hospital, participate in small group discussions, perform dissections in the anatomy lab, discuss clinical cases, and review radiographs. Students will complete online quizzes or assignments to prepare for the following day and each student will research and present a topic on the final day of the rotation.
PREREQUISITE: Fourth year standing in the DVM program
One week in duration

VBS 4400 EXOTIC AND LABORATORY ANIMAL MEDICINE
In this course students acquire information about laboratory animal medicine as a career path and discuss the challenges and opportunities facing exotic animal and laboratory animal veterinarians. Students practice animal handling, physical examination, and routine procedures such as blood collection and administration of injections, and become familiar with common diseases of exotic pets and laboratory animals. Regulations and guidelines governing animal research and the role of the veterinarian in ensuring humane methods of experimentation are discussed, as are a variety of issues pertaining to animal facilities management.
PREREQUISITE: Fourth year standing in the DVM program
One week in duration

VBS 4710 DIRECTED STUDIES
This elective course provides an opportunity for students to participate in intensive research and/or clinical experiential learning opportunities under the supervision of a faculty
member. In addition to research and clinical skills, students will also develop leadership and communication skills. This course will be graded Pass/Fail.
PREREQUISITE: Successful completion of year three of the DVM program.
Variable 1, 2 or 3 credit hours

VBS 4900 EXTERNAL CLINICAL EXPERIENCE— INSTITUTIONAL OR SPECIALIST PRACTICE
This course provides for external clinical experiences related to the specialties of the Department of Biomedical Sciences not available at UPEI. Students may propose an elective or undertake one already approved by the Department. External clinical experiences are limited to academic institutions, non- academic institutions, and approved private practices, where evaluation of performance is routinely completed. In order for an institution or practice to qualify, certain criteria, as outlined in the Senior Rotation Handbook, must be met. All expenses are the responsibility of the student.
PREREQUISITES: Fourth year standing in the DVM Program; and approval by the department Chair, or the Chair's designate, and the Associate Dean of Academic Affairs

VBS 4950 SPECIAL TOPICS IN BIOMEDICAL SCIENCES
This course is initiated and offered at the discretion of the Department. Entry to the course, course content, and the conditions under which the course may be offered will be subject to the approval of the Chair of the Department, the AVC Curriculum Committee, and the Dean or designate.
PREREQUISITE: Fourth year standing in the DVM program
One to three hours per week

# Companion Animals

http://upei.ca/companion

**Companion Animals Faculty**

Darcy Shaw, Professor Emeritus
Kate Hoddinott, Assistant Professor, Chair

Etienne Côté, Professor
Leigh Lamont, Professor
Lynne O'Sullivan, Professor
Patrick Burns, Associate Professor
Catherine Creighton, Associate Professor
Peter Foley, Associate Professor
Stephanie Hamilton, Associate Professor
Adam Ogilvie, Associate Professor
Emily Bourassi, Assistant Professor
Lara Cusack, Assistant Professor
James Dundas, Assistant Professor
Peter Moak, Assistant Professor
Charlotte Pye, Assistant Professor
Oriana Raab, Assistant Professor
Darcy Shaw, Adjunct Professor
Anne Marie Carey, Lecturer
Stephanie Landry, Lecturer
Kathy Ling, Lecturer
Jennifer MacLean, Lecturer

**COMPANION ANIMAL COURSES**

VCA 2120 PRINCIPLES OF MEDICINE
This course introduces common disease presentations in domestic species, reviews their pathophysiologic basis, and provides a framework for problem-based clinical reasoning.
PREREQUISITE: Second year standing in the DVM program
Two hours of lecture per week

VCA 2130 CLINICAL SKILLS III
This course is a series of clinically-oriented learning experiences focusing on development of basic medical, surgical and anesthetic skills.
PREREQUISITE: Second year standing in the DVM program
Four hours of laboratory per week

VCA 2140 DIAGNOSTIC IMAGING II
This course builds upon previous instruction in diagnostic imaging with a focus on image analysis and interpretation of diseases processes in common domestic species.
PREREQUISITE: Second year standing in the DVM program
One hour of lecture and one hour of tutorial per week

VCA 2150 SMALL ANIMAL PRIMARY CARE PRACTICE I
This course introduces clinical disciplines central to small animal primary care and wellness, including nutrition, behaviour, and dentistry.
PREREQUISITE: Second year standing in the DVM program
Two hours of lecture per week

VCA 2310 PRINCIPLES OF SURGERY
This course introduces the fundamental principles of surgery and surgical management with broad species applications.
PREREQUISITE: Second year standing in the DVM program

1.5 hours of lecture per week
Credit: 1.5

VCA 2410 PRINCIPLES OF ANESTHESIOLOGY
This course introduces the fundamental principles of anesthesia and anesthetic management with broad species applications. Pain management strategies are also emphasized.
PREREQUISITE: Second year standing in the DVM program
1.5 hours of lecture per week
Credit: 1.5

VCA 2520 DIAGNOSTIC IMAGING I
This course presents fundamental principles of veterinary diagnostic imaging, including radiation physics and safety, with an introduction to image analysis and interpretation.
PREREQUISITE: Second year standing in the DVM program
One hour of lecture and one hour of tutorial per week

VCA 2610 DIRECTED STUDIES
This elective course provides an opportunity for students to participate in intensive research and/or clinical experiential learning opportunities under the supervision of a faculty member. In addition to research and clinical skills, students will also develop leadership and communication skills. This course will be graded Pass/Fail.
PREREQUISITE: Successful completion of year one of the DVM program
Variable 1, 2 or 3 credit hours

VCA 3130 CLINICAL SKILLS V
This two semester course provides opportunities to apply knowledge, practice clinical reasoning, and develop competence in core anesthesia and surgery skills with a small animal focus.
PREREQUISITE: Third year standing in the DVM program
Two to four hours of laboratory or tutorial on alternate weeks

VCA 3140 PROFESSIONAL FOUNDATIONS IV
This course builds on the capacity for reflective practice and on further developing communication and interpersonal skills. Skills related to delivering and receiving feedback will be developed. Opportunities for practice and acquiring competence in client communication skills will be a focus.
PREREQUISITE: Third year standing in the DVM program
Twelve hours of tutorial total for the semester

VCA 3150 SMALL ANIMAL MEDICINE
This course describes the common medical diseases in dogs and cats relevant to the entry level veterinarian engaged in general practice. Disease processes and their diagnosis, treatment and prevention are discussed.
PREREQUISITE: Third year standing in the DVM program
Four hours of lecture per week

VCA 3160 SMALL ANIMAL PRIMARY CARE PRACTICE III
This course introduces students to clinical disciplines central to small animal primary care and wellness, including vaccinology, preventive parasitology, neonatology, gerontology, and elective surgery.
PREREQUISITE: Third year standing in the DVM program
One hour of lecture per week

VCA 3170 SMALL ANIMAL SURGERY
This course describes the common surgical diseases in dogs and cats relevant to the entry level veterinarian engaged in general practice. Disease processes and their diagnosis, treatment and prevention are discussed.

PREREQUISITE: Third year standing in the DVM program
Four hours of lecture per week

VCA 3230 ADVANCED LARGE ANIMAL ANAESTHESIOLOGY
In this elective course, students develop a more detailed knowledge of the principles and techniques used in large animal anesthesia. Students participate in case based discussions centered on the perioperative anesthetic management of large animal patients.
One hour per week (one credit)
Course graded as Pass/Fail
Enrolment is open to third year students.

VCA 3231 ADVANCED FELINE MEDICINE
This elective modular course builds on fundamental concepts covered in the core curriculum but specifically addresses diseases that occur disproportionately more often, or exclusively, in domestic cats. The course will delve more deeply into common feline health issues such as bite wound abscesses, polysystemic infectious diseases, and other disorders introduced in the core curriculum. Successful completion of the course will prepare students for management of feline-specific diseases and result in greater understanding of species-based differences involving diseases that affect both cats and other species of animals.
PREREQUISITE: Third year standing in the DVM program
Five-week module with 3 hours of lecture per week

VCA 3232 ADVANCED SMALL ANIMAL CARDIOLOGY
This elective modular course builds on fundamental concepts of small animal cardiology covered in the core curriculum. Through case studies and interactive group discussions of nuanced or complex (but real-world) situations, students will participate in activities that increase their understanding of cardiac-noncardiac interactions such as cardiorenal comorbidities; congenital heart disease recognition and treatment; anesthesia of cardiovascular patients; cardiac emergencies; etc. Successful completion of the course will prepare students for management of small animal cardiology patients in clinical rotations and on day one of practice as a veterinarian.
PREREQUISITE: Third year standing in the DVM program
Five-week module with 3 hours of lecture per week

VCA 3233 ADVANCED SMALL ANIMAL MEDICINE FOR GENERAL PRACTICE I
This elective modular course builds on fundamental concepts of small animal medicine covered in the core curriculum. The course will delve more deeply into clinical assessment and management of endocrine and urinary diseases of dogs and cats as well as other novel or emerging diseases. Students will develop an increased understanding of the clinical signs, diagnosis and treatment of the diseases presented.
PREREQUISITE: Third year standing in the DVM program
Five-week module with 3 hours of lecture per week

VCA 3234 ADVANCED SMALL ANIMAL MEDICINE FOR GENERAL PRACTICE II
This elective modular course builds on fundamental concepts of small animal medicine covered in the core curriculum. The course will delve more deeply into clinical assessment and management of gastrointestinal, infectious and respiratory diseases of dogs and cats as well as other novel or emerging diseases. Students will develop an increased understanding of the clinical signs, diagnosis and treatment of the diseases presented.
PREREQUISITE: Third year standing in the DVM program
Five-week module with 3 hours of lecture per week

VCA 3235 ADVANCED SMALL ANIMAL SURGERY
This elective modular course builds on fundamental concepts of small animal surgery covered in the core curriculum. The course will address the pathophysiology, diagnosis and management of surgical diseases affecting dogs and cats.

Emphasis is placed on the mechanisms and techniques of more complex conditions as well as those that require specialty surgical care.
PREREQUISITE: Third year standing in the DVM program
Five-week module with 3 hours of lecture per week

VCA 3236 APPLIED CLIENT COMMUNICATION
This elective modular course builds on fundamentals of interpersonal communications delivered in the core curriculum, including VCA 3140, Professional Foundations IV, in which students will be engaged concurrently. Distinguishing features of this course include use of existing written communications as a basis for exploring why certain client communications are more effective than others; analysis of in-person testimonials involving veterinarians and clients; minimal reliance on emulation or modeling and greater emphasis on errors to avoid; and a fundamentally student-driven approach. Successful completion of the course will contribute to an understanding of how good communications can improve the delivery of veterinary care.
PREREQUISITE: Third year standing in the DVM program
Five-week module with 3 hours of lecture per week

VCA 3240 ADVANCED SMALL ANIMAL ANAESTHESIOLOGY
In this elective course, students develop a more detailed knowledge of the principles and techniques used in small animal anesthesia. Students participate in case-based discussions centered on the perioperative anesthetic management of small animal patients with specific disease processes.
One hour per week (one credit)
Course is graded as Pass/Fail
Enrolment is open to third year students.

VCA 3241 MINDFUL WELL-BEING IN VETERINARY MEDICINE
his interactive and experiential elective course is based on the mindfulness based stress reduction (MBSR) program, an evidence-based wellness program for managing stress currently utilized in several medical schools across North America. Modules explore mindfulness techniques including seated meditation,
body scan, yoga and movement, breathing exercises, and reflection (both self and group). The curriculum is focused on the experiential exploration of stress and distress to develop less emotional reactivity, to reduce the physiological effects of stress, pain and illness, to manage change and loss, and to be able to turn towards difficulty with non-judgment. The course is specifically focused on the stressors associated with a career in veterinary medicine and with accessing inner resources to help manage this stress in order to have a more joyful life in veterinary medicine. MBSR has been associated with high levels of satisfaction and positive feedback in preliminary research in both veterinary and human medicine when offered as part of an elective curriculum.
PREREQUISITE: Third year standing in the DVM program.
Five week module with 3 hours of tutorials per week

VCA 3510 INTRODUCTION TO EXOTIC PET MEDICINE
This elective modular course introduces students to husbandry, clinical anatomy and physiology, fundamental principles of diagnosis and management of the most common diseases in exotic pets (exotic mammals including ferrets, rabbits, and rodents; birds, and reptiles).
Five week module with three hours of lecture per week

VCA 3520 INTRODUCTION TO ZOO, WILDLIFE AND AQUATIC ANIMAL MEDICINE
This elective modular course introduces students to husbandry, clinical anatomy and physiology, and fundamental principles of diagnosis and management of non-domestic free-ranging and captive species (including terrestrial and aquatic species).
Five week module with three hours of lecture per week

VCA 3521 ADVANCED SMALL ANIMAL DERMATOLOGY

This elective modular course builds on fundamental concepts of small animal dermatology covered in the core curriculum. The course will cover dermatologic diseases encountered in general practice including immune mediated diseases, nutritional dermatoses and other miscellaneous disorders. Students will develop an increased understanding of the clinical signs, diagnosis, treatment and prognosis for each disease presented.
PREREQUISITE: Third year standing in the DVM Program
Five-week module with 2 hours of lecture per week

VCA 3522 CLINICAL NUTRITION FOR SMALL ANIMAL GENERAL PRACTICE
This elective modular course will build on fundamental concepts covered in the core curriculum and assist students in developing the knowledge, confidence and skills necessary to define and address common nutritional needs of cats and dogs and communicate with clients on nutrition-related topics.
PREREQUISITE: Third year standing in the DVM Program
Five-week module with 3 hours of lecture per week

VCA 3524 DECISION-MAKING IN SMALL ANIMAL GENERAL PRACTICE
This elective modular course builds on concepts covered in the core small animal primary care courses. Through interactive, case-based learning, students will develop an approach to common patient presentations encountered in small animal general practice and discuss strategies for managing preventative care appointments, elective surgical and dental procedures, outpatient and inpatient medical cases, emergency cases and non-elective surgical cases. Factors impacting clinical decision-making such as cost of care and client finances; ethical and legal considerations; resource availability including time, staff, equipment and referral services; and client communication strategies will be presented.
PREREQUISITE: Third year standing in the DVM Program
Five-week module with 2 hours of lecture per week

VCA 3525 CLINICAL APPLICATION OF ANTI-INFECTIVE STEWARDSHIP
This elective course reviews the clinical decision making in the judicious use of anti-infectives (e.g. antimicrobials, antiparasitics, antifungals) to prevent anti-infective resistance development. The course will cover appropriate anti-infective use including selection, dosing, duration of therapy as well as alternative options for management of infectious disease if applicable. Anti-infectives discussed include antibacterial, antiparasitics, antifungals in both small and large animals.
PREREQUISITE: Third year standing in the DVM program
Five week module with 3 hours of lecture per week

VCA 3612 SPECTRUM OF CARE IN SMALL ANIMAL GENERAL PRACTICE
This elective modular course will build on fundamental concepts introduced in core medicine, surgery, professional foundations, and evidence-based veterinary medicine courses. Through a combination of didactic, case-based, and team-based approaches, students will develop the knowledge, skills and confidence necessary to address the pet health needs of an economically diverse clientele. With an emphasis on clinical reasoning and evidence-based principles, students will identify a range of diagnostic and treatment options that span the full spectrum of care for common clinical conditions in dogs and cats, determine the likelihood of success for various options, and design client communication plans that facilitate informed decision-making.
PREREQUISITE: Third year standing in the DVM Program
Five-week module with 3 hours of lecture per week

VCA 3613 ADVANCED ANESTHESIA AND PAIN MANAGEMENT TECHNIQUES
This elective modular laboratory course provides advanced exposure to clinical anesthesia and pain management techniques employed in practice. The focus will be on techniques involving dogs and cats that are relevant to the small animal practitioner; however, there may be additional opportunities to perform techniques involving other species such as exotic pets or wildlife.

PREREQUISITE/CO-REQUISITE: VCA 3240 and VCA 3621
Five-week module with 3 hours of laboratory per week

VCA 3614 ADVANCED SMALL ANIMAL DENTISTRY
This elective modular course builds on fundamental concepts of small animal dentistry covered in the core curriculum. The course will cover oral health, disease, and its treatment in dogs and cats. Students will develop an increased understanding of the clinical signs, diagnosis, treatment and prognosis for each disease presented.
PREREQUISITE: Third year standing in the DVM Program
Five-week module with 2 hours of lecture per week

VCA 3615 ADVANCED SMALL ANIMAL NEUROLOGY
This elective modular course builds on fundamental concepts of neurology covered in the core curriculum. The course will cover neurologic diseases encountered in general practice including the latest pharmacological and surgical treatments. Students will develop an increased understanding of the clinical signs, diagnosis, treatment and prognosis for each disease presented.
PREREQUISITE: Third year standing in the DVM Program
Five-week module with 2 hours of lecture per week

VCA 3617 ADVANCED SMALL ANIMAL ONCOLOGY
This elective modular course builds on fundamental concepts of oncology covered in the core curriculum. The course will use a systemic approach to the cancer patient including recognizing symptoms, interpreting radiographic findings, choosing correct staging procedures and formulating a therapeutic plan including the latest pharmacological and surgical treatments. Students will develop an increased understanding of the clinical signs, diagnosis, treatment and prognosis for each disease presented.
PREREQUISITE: Third year standing in the DVM Program
Five-week module with 2 hours of lecture per week

VCA 3619 ADVANCED SMALL ANIMAL OPHTHALMOLOGY
This elective modular course builds on fundamental concepts of ophthalmology covered in the core curriculum. The course will cover ophthalmic diseases encountered in general practice including the latest pharmacological and surgical treatments. Students will develop an increased understanding of the clinical signs, diagnosis, treatment and prognosis for each disease presented.
PREREQUISITE: Third year standing in the DVM Program
Five-week module with 2 hours of lecture per week

VCA 3621 ADVANCED SMALL ANIMAL PAIN MANAGEMENT
This elective modular course builds on fundamental small animal pain management concepts covered in the core curriculum. Through a combination of didactic, case-based, and team-based approaches, students will delve more deeply into pain pathophysiology, analgesic pharmacology, and management strategies and techniques for both acute and chronic pain.
PREREQUISITE: Third year standing in the DVM Program
Five-week module with 3 hours of lecture per week

VCA 3623 SMALL ANIMAL BEHAVIOURAL MEDICINE I
This elective modular course builds on fundamental concepts of veterinary behaviour covered in the core curriculum. The course will focus on normal and problem behaviours in dogs and cats. Students will develop an increased understanding of behavioural medicine and the behaviours presented.
PREREQUISITE: Third year standing in the DVM Program
Five-week module with 3 hours of lecture per week

VCA 3625 SMALL ANIMAL BEHAVIOURAL MEDICINE II

This elective modular course builds on fundamental concepts of veterinary behaviour covered in the core curriculum and Small Animal Behavioural Medicine I. The course will focus on behavioural disorders in the dog. Students will develop an increased understanding of psychopharmacology as well as non-pharmacological and environmental treatments for the disorders presented.

PREREQUISITE: Third year standing in the DVM Program and successful completion of VCA 3623

Five-week module with 3 hours of lecture per week

VCA 3610 DIRECTED STUDIES

This elective course provides an opportunity for students to participate in intensive research and/or clinical experiential learning opportunities under the supervision of a faculty member. In addition to research and clinical skills, students will also develop leadership and communication skills. This course will be graded Pass/Fail.

PREREQUISITE: Successful completion of year two of the DVM program.

Variable 1, 2 or 3 credit hours

VCA 3725 PRACTICAL INTERPRETATION IN DIAGNOSTIC IMAGING

This elective modular course builds on the principles taught in the core diagnostic imaging curriculum. Students will apply these principles to both small and large animal radiography cases, including thorax, abdomen and musculoskeletal studies.

PREREQUISITE: Third year standing in the DVM Program

Five week module with 3 hours of lecture per week

VCA 3825 SMALL ANIMAL EMERGENCY AND CRITICAL CARE

This elective modular course will introduce a practical approach to diagnosis and management of common emergencies encountered in small animal practice. It will build on fundamental concepts of diseases and conditions introduced in the core curriculum including, but not limited to, management of trauma patients; pediatric emergencies; common intoxicants; hematologic and urologic emergencies and resuscitation of the unstable patient. Students will develop an increased understanding of how to triage emergency patients, prioritize diagnostics to be performed on an emergency basis, and treat conditions discussed.

PREREQUISITE: Third year standing in the DVM Program

Five-week module with 3 hours of lecture per week

VCA 4000 CLINICS IN ANAESTHESIOLOGY

This course is a clinical rotation in the Anaesthesia section of the Veterinary Teaching Hospital. With faculty supervision, students participate in the practice of clinical veterinary anaesthesiology.

PREREQUISITE: Fourth year standing in the DVM Program

Enrolment is limited

Three weeks in duration

VCA 4020 CLINICS IN ANAESTHESIOLOGY II

In this second rotation through the Anaesthesia Service of the Veterinary Teaching hospital, students develop a more detailed knowledge of the principles and techniques used in clinical veterinary anaesthesia.

PREREQUISITE: VCA 4000

Three weeks clinical contact

VCA 4030 CLINICS IN COMPANION ANIMAL NEUROLOGY

This is a clinical rotation in the neurology service of the Veterinary Teaching Hospital. With faculty supervision, students participate in the practice of clinical veterinary neurology.

PREREQUISITE: Fourth year standing in the DVM program

Two weeks in duration

VCA 4040 CLINICS IN COMPANION ANIMAL ONCOLOGY
This is a clinical rotation in the oncology service of the Veterinary Teaching Hospital. With faculty supervision, students participate in the practice of clinical veterinary oncology.
PREREQUISITE: Fourth year standing in the DVM program
Two weeks in duration

VCA 4050 COMMUNITY PRACTICE II
In this second rotation through the small animal Community Practice service of the Veterinary Teaching Hospital, students develop a more detailed knowledge of the principles and techniques involved in primary care veterinary practice.
PREREQUISITE: VCA 4340 and fourth year standing in the DVM program
Three weeks in duration

VCA 4100 CLINICS IN COMPANION ANIMAL MEDICINE I
This course is a clinical rotation in the Small Animal Medicine section of the Veterinary Teaching Hospital. With faculty supervision, students participate in the practice of clinical veterinary medicine.
PREREQUISITE: Fourth year standing in the DVM Program
Enrolment is limited
Three weeks in duration

VCA 4200 CLINICS IN COMPANION ANIMAL MEDICINE II
In this second rotation through the Small Animal Medicine section of the Veterinary Teaching Hospital, students develop a more detailed knowledge of the principles and techniques used in Companion Animal Medicine.
PREREQUISITE: VCA 4100
Enrolment is limited
Three weeks in duration

VCA 4220 CLINICAL NUTRITION IN COMPANION ANIMALS
This rotation provides students with an understanding of the role of nutrients in health and disease and the importance of nutrition in clinical practice. Students perform nutritional assessments, develop nutrition support plans, determine nutritional adequacy of commercial and homemade diets, implement preventive and curative dietary strategies for nutrition-sensitive disorders and monitor progression of therapy, develop client communication strategies regarding nutrition, and assist clients in selecting appropriate diets for their pets.
PREREQUISITE: Fourth year standing in the DVM program
One week in duration

(Formerly VPM 4180) VCA 4225 CHINOOK PROJECT
This rotation is held in a location in Northern Canada with limited access to year-round essential veterinary services. Under the supervision of AVC faculty or qualified designated veterinarians, students participate in surgeries and provide basic medical care for cats, dogs and other animals such as ferrets, birds or rabbits in the local community. Students keep journals of their experiences and, following their return, work with faculty members to transform their work into short creative non-fiction pieces for publication.
PREREQUISITE: Fourth year standing in the DVM program
Two weeks in duration
Credit: 2

VCA 4300 CLINICS IN COMPANION ANIMAL SURGERY I
This course is a clinical rotation in the Small Animal Surgery section of the Veterinary Teaching Hospital. With faculty supervision, students participate in the practice of clinical veterinary surgery.
PREREQUISITE: Fourth year standing in the DVM Program

Enrolment is limited
Three weeks in duration

VCA 4320 CLINICS IN COMPANION ANIMAL SURGERY II
In this second rotation through the Small Animal Surgery Service of the Veterinary Teaching Hospital, students develop a more detailed knowledge of the principles and techniques used in Companion Animal Surgery.
PREREQUISITE: VCA 4300
Enrolment is limited
Three weeks in duration

VCA 4325 CLINICS IN COMPANION ANIMAL CARDIOLOGY II
In this second rotation through the Cardiology Service of the Veterinary Teaching Hospital, students develop a more detailed application of knowledge to practical situations: diagnosis, treatment, and prognosis of cardiovascular diseases of dogs and cats as the clinical caseload provides to the Cardiology Service.
PREREQUISITE: VCA 4800 and fourth year standing in the DVM program.
One week in duration

VCA 4340 COMMUNITY PRACTICE
This course is a clinical rotation involving the community practice aspects of the Veterinary Teaching Hospital. Under faculty and staff supervision, senior veterinary students will be responsible for primary care of non-referral/non-emergency medicine and surgery cases.
CO-REQUISITE: Have to be enrolled in the following rotations: VCA 4100 and VCA 4300

VCA 4400 CLINICS IN RADIOLOGY I
This course is a clinical rotation in the Radiology section of the Veterinary Teaching Hospital. Students perform and interpret various examinations in diagnostic radiology and special procedures. Some experience in alternative imaging (ultrasound, nuclear scintigraphy) may be gained depending on clinical caseload.
PREREQUISITE: Fourth year standing in the DVM Program
Enrolment is limited
Three weeks in duration

VCA 4600 CLINICS IN DERMATOLOGY
This course, given in the Veterinary Teaching Hospital, is a clinical rotation in the specialty of dermatology. Students participate in the diagnosis and therapy of diseases involving the skin of companion animals.
PREREQUISITE: Fourth year standing in the DVM Program
Enrolment is limited
Two weeks in duration

VCA 4620 VETERINARY BEHAVIOURAL MEDICINE
This course is a clinical rotation that builds on fundamental concepts of veterinary behaviour with a focus on dogs and cats. Through didactic lectures, video recordings and direct animal observation, students will become proficient in identification of normal and abnormal behaviours in clinical patients and develop treatment plans for common behavioural disorders involving psychopharmacologic agents as well as non-pharmacologic and environmental interventions.
PREREQUISITE: Fourth year standing in the DVM program
One week in duration

VCA 4710 DIRECTED STUDIES
This elective course provides an opportunity for students to participate in intensive research and/or clinical experiential learning opportunities under the supervision of a faculty

member. In addition to research and clinical skills, students will also develop leadership and communication skills. This course will be graded Pass/Fail.
PREREQUISITE: Successful completion of year three of the DVM program.
Variable 1, 2 or 3 credit hours

VCA 4750 CLIENT COMMUNICATIONS
This one-week clinical rotation will introduce students to communication theory, the impact of feelings, emotions, and values on communication, and to techniques that will aid in building relationships and eliciting information from clients. Through lectures, role plays, and videotaped real client interactions, students will learn about and practise skills to more effectively communicate with clients.
PREREQUISITE: Successful completion of the third year of the DVM program or permission of the instructor
Semester hours credit: 1

VCA 4800 CLINICS IN COMPANION ANIMAL CARDIOLOGY
This course is a clinical rotation in the cardiology service of the Veterinary Teaching Hospital. With faculty supervision, students participate in the practice of clinical veterinary cardiology.
PREREQUISITE: Fourth year standing in the DVM program
CO-REQUISITE: VCA 4100
Enrolment is limited
Two weeks in duration

VCA 4810 ZOO, EXOTIC ANIMAL & WILDLIFE MEDICINE
This course is a clinical rotation in the Zoo, Exotic Animal and Wildlife Service of the Veterinary Teaching Hospital. Students will have the opportunity to learn how to handle, examine, and perform the most common clinical procedures on wildlife and exotic pets. Diagnosis and management of the most common diseases seen in exotic pets will be discussed. Elective surgeries may be performed, depending on case availability. A visit to a regional zoo, exotics, or wildlife facility is usually scheduled once during the rotation. Clinical experiences will vary with the caseload.
PREREQUISITE: 4th year standing in the DVM program.
Enrolment is limited.
Two weeks in duration

VCA 4820 CLINICS IN OPHTHALMOLOGY
This is a clinical rotation in the ophthalmology service of the Veterinary Teaching Hospital. With faculty supervision, students participate in the practice of clinical veterinary ophthalmology.
PREREQUISITE: Fourth year standing in the DVM Program
Enrolment is limited
Two weeks in duration

VCA 4830 ADVANCED ZOO, EXOTIC ANIMAL & WILDLIFE MEDICINE
In this second rotation in the Zoo, Exotic Animal & Wildlife Medicine Service of the Veterinary Teaching Hospital, students will have the opportunity to develop a more detailed knowledge of the principles and techniques of zoo, exotic animal and wildlife medicine.
PREREQUISITE: VCA 4810 and fourth year standing in the DVM program
Clinical rotation.
Enrollment is limited

VCA 4900 EXTERNAL CLINICAL EXPERIENCE—INSTITUTIONAL OR SPECIALIST PRACTICE
This course provides a clinical experience that is not available to an individual student at UPEI. This 1-3 credit-hour experience is limited to academic institutions and approved private practices and non-academic institutions where evaluation of performance is routinely completed. In order to qualify as an approved private practice or non-academic institution, certain criteria as outlined in the senior rotation handbook must be met. All expenses incurred are the

responsibility of the student.
PREREQUISITE: Fourth year standing in the DVM Program and approval of the departmental Chair and Associate Dean of Academic Affairs

VCA 4940 EXTERNAL CLINICAL EXPERIENCE—GENERAL PRIVATE PRACTICE
This course provides an opportunity for clinical experience in general or community practice settings. This one- to three- credit-hour experience is limited to private practices that meet certain criteria as outlined in the senior rotation handbook. All expenses incurred are the responsibility of the student.
PREREQUISITE: Fourth-year standing in the DVM program and approval of the departmental Chair and Associate Dean of Academic Affairs

VCA 4950 SPECIAL TOPICS IN COMPANION ANIMALS
This course is initiated and offered at the discretion of the Department. Entry to the course, course content, and the conditions under which the course may be offered will be subject to the approval of the Chair of the Department, the AVC Curriculum Committee, and the Dean or designate.
PREREQUISITE: Fourth year standing in the DVM program One to three hours per week

# Health Management

http://healthmgt.upei.ca

**Health Management Faculty**

Ian Gardner, Professor Emeritus
Ian Dohoo, Professor Emeritus
Lawrence E. Heider, Professor Emeritus
Timothy Ogilvie, Professor Emeritus
Yvonne Elce, Associate Professor, Interim Chair
John VanLeeuwen, Professor
Michael Cockram, Professor
T. Jeffrey Davidson, Professor
Larry Hammell, Professor
Daniel Hurnik, Professor
Gregory Keefe, Professor
J.T. McClure, Professor
Laurie McDuffee, Professor
Shawn McKenna, Professor
Javier Sanchez, Professor
Henrik E. Stryhn, Professor
Brownyn Crane, Associate Professor
Aimie Doyle, Associate Professor
Kathleen MacMillan, Associate Professor
Karen Overall, Associate Professor
Kathryn Proudfoot, Associate Professor
Jennifer Burns Murphy, Assistant Professor
Luke Heider, Assistant Professor
Emily John, Assistant Professor

Martha Mellish, Assistant Professor
Caroline Ritter, Assistant Professor
Sonja Saksida, Assistant Professor
Ben Stoughton, Assistant Professor
Jason Stull, Assistant Professor
Krishna Thakur, Assistant Professor
Christine Baes, Adjunct Professor
Herman Barkema, Adjunct Professor
Ebo Budu-Amoako, Adjunct Professor
Marguerite Cameron, Adjunct Professor
Alejandro Ceballos, Adjunct Professor
Jette Christensen, Adjunct Professor
Eduardo Cobo, Adjunct Professor
Luc Comeau, Adjunct Professor
Alice Crook, Adjunct Professor
Simon Dufour, Adjunct Professor
Andre Dumas, Adjunct Professor
Ibrahim ElSohaby, Adjunct Professor
Ronald Erskine, Adjunct Professor
George Gitau, Adjunct Professor
John Grant, Adjunct Professor
Amanda Hudson, Adjunct Professor
Stewart Johnson, Adjunct Professor
Thomas Landry, Adjunct Professor
David Leger, Adjunct Professor
Jeanne Lofstedt, Adjunct Professor
Mary McNiven, Adjunct Professor
Cordell Neudorf, Adjunct Professor
Rodolfo Nino-Fong, Adjunct Professor
Art Ortenburger, Adjunct Professor
Peter Pettingill, Adjunct Professor
Jacqueline Quail, Adjunct Professor
Chris Riley, Adjunct Professor
Kapil Tahlan, Adjunct Professor
Victor Tsuma, Adjunct Professor
Paul Verugelers, Adjunct Professor
Jeffrey Wichtel, Adjunct Professor

**HEALTH MANAGEMENT COURSES**

VHM 1030 ANIMAL BEHAVIOUR AND WELFARE

This course introduces fundamental principles of animal behaviour and presents an overview of animal welfare concepts relevant to the practice of veterinary medicine.
PREREQUISITE: First year standing in the DVM program
Two hours of lecture per week

VHM 1110 ANIMAL PRODUCTION SYSTEMS

This course provides an overview of major animal industries and the role played by veterinarians in each of the industries is discussed.
PREREQUISITE: First year standing in the DVM program

Two hours of lecture per week and one to two hours of tutorial on alternate weeks
Credit: 2

VHM 1120 PRINCIPLES OF VETERINARY EPIDEMIOLOGY
This course teaches basic principles and techniques used in veterinary epidemiology with a focus on development of quantitative reasoning skills.
PREREQUISITE: First year standing in the DVM program
Two hours of lecture and one hour of laboratory per week

VHM 1130 CLINICAL SKILLS I
This course is a series of clinically-oriented learning experiences focused on developing competency in basic animal restraint and handling and fundamental clinical skills.
PREREQUISITE: First year standing in the DVM program
Three hours of laboratory per week

VHM 2220 PRINCIPLES OF THERIOGENOLOGY
This course introduces the fundamental principles of theriogenology and reproductive management including a review of reproductive physiology and control of the estrous cycle in common domestic species.
PREREQUISITE: Second year standing in the DVM program
One hour of lecture per week
Credit: 1

VHM 2310 VETERINARY PUBLIC HEALTH
This course discusses the role of the veterinarian, either as a private practitioner or in a regulatory context, as it relates to risk management, zoonoses, food safety, and the interrelationship of animals and the environment.
PREREQUISITE: Second year standing in the DVM program
Two hours of lecture per week

VHM 2410 EVIDENCE-BASED VETERINARY MEDICINE
This course presents a systematic approach to searching, critical reading, and appraisal of scientific literature to enable evidence-based clinical decisions in all areas of veterinary medicine.
PREREQUISITE: Second year standing in the DVM program
One hour of lecture and one hour of tutorial on alternate weeks

VHM 2510 CLINICAL SKILLS II
This course is a series of clinically-oriented learning experiences focusing on development of patient-assessment skills across species.
PREREQUISITE: Second year standing in the DVM program
One hour of lecture and two hours of laboratory per week

VHM 2610 DIRECTED STUDIES
This elective course provides an opportunity for students to participate in intensive research and/or clinical experiential learning opportunities under the supervision of a faculty member. In addition to research and clinical skills, students will also develop leadership and communication skills. This course will be graded Pass/Fail.
PREREQUISITE: Successful completion of year one of the DVM program
Variable 1, 2 or 3 credit hours

VHM 3220 FOOD ANIMAL HEALTH AND DISEASE
This course presents the common medical, surgical, reproductive, and production limiting diseases of food producing animals relevant to the entry level veterinarian engaged in general practice. Disease processes and their diagnosis, treatment and

prevention are discussed.
Five hours of lecture per week

VHM 3230 EQUINE HEALTH AND DISEASE
This course presents the common medical, surgical, and reproductive diseases of horses relevant to the entry level veterinarian engaged in general practice. Disease processes and their diagnosis, treatment and prevention are discussed.
PREREQUISITE: Third year standing in the DVM program
Four hours of lecture per week

VHM 3250 PRODUCTION AND INFECTIOUS DISEASES OF FOOD ANIMALS
This elective course emphasizes current research on production limiting diseases of cattle. Topics covered are dictated primarily by issues that are current and important to the cattle industry.
Five-week module with two hours of lecture per week
Enrolment is open for third year students

VHM 3260 BOVINE HERD MANAGEMENT AND NUTRITION
This elective course reviews bovine nutrition and record analysis as aids for improving dairy herd productivity. It focuses on management of the herd as a whole and on utilization of data management for decision making. Nutritional management and delivery of feeding programs to optimize production are also discussed.
Five-week module with two hours of lecture per week
Enrolment is open for third year students

VHM 3270 ADVANCED BOVINE MASTITIS AND QUALITY MILK PRODUCTION
This elective course reviews bovine mastitis prevention and control and issues related to milk quality. Topics include herd investigation of mastitis and udder health, management of clinical and subclinical mastitis at the herd level, laboratory testing procedures for evaluation of milk quality, evaluation of milk quality records for trouble shooting of herd problems, and implications of milk quality for the dairy industry.
Five-week module with three hours of lecture per week
Enrolment is open for third year students

VHM 3275 TOPICS IN EVALUATION OF LAMENESS
This elective modular course exposes the student to advanced observation and diagnostic skills required for the evaluation of musculoskeletal disease in animals. The focus will be the horse but application across species is recognized. Case based learning is emphasized.
PREREQUISITE: Third year standing in the DVM program
Five week module with three hours of tutorial per week

VHM 3280 CURRENT ISSUES IN BOVINE LAMENESS, WELFARE AND COW COMFORT
This elective course discusses bovine lameness and welfare. It focuses on prevention of lameness and issues affecting cow comfort. Accurate diagnosis of the causes of lameness, and the economic consequences of lameness and other welfare issues, are emphasized.
Five-week module with two hours of lecture per week
Enrolment is open for third year students

VHM 3290 TOPICS IN POULTRY AND SWINE
This elective course reviews diseases of importance to the poultry and swine industries. Recent challenges to these unique production industries are emphasized.
Five-week module with two hours of lecture per week
Enrolment is open for third year students

VHM 3330 TOPICS IN SMALL RUMINANTS, CAMELIDS, AND CERVIDS

This elective course emphasizes diseases and techniques unique to small ruminants including sheep, goats, llamas, alpacas, and farmed cervids. It includes discussion of topics such as diseases commonly encountered in these species, nutrition, parasite control, and reproductive management.

Five-week module with three hours of lecture per week

Enrolment is open for third year students

VHM 3340 HEALTH OF AQUATIC FOOD ANIMALS AND THE ECOSYSTEM

This elective course covers three components: lobster health, finfish health and ecosystem health. The lobster component reviews health issues of lobsters with an emphasis on diseases of impounded lobsters and associated risk factors, and offers a laboratory on sampling procedures for diagnostic purposes. The finfish component addresses production and health related diseases in food fish with an emphasis on farmed salmon and coldwater marine fish. Topics include disease surveillance, disease risk factors, health management methods, and interactions between farmed and wild fish populations. The ecosystem health component introduces the principles of ecohealth using current examples from agriculture, aquaculture and wildlife.

Five-week module with three hours of lecture per week

Enrolment is open for third year students

VHM 3350 TOPICS IN ADVANCED BOVINE THERIOGENOLOGY

This elective course emphasizes approaches essential to the successful reproductive management of beef and dairy herds. Topics include investigation of herd reproductive status and problems, control of the estrous cycle and ovulation, embryo transfer and advanced reproductive technologies, induction of abortion and parturition, breeding soundness evaluation of bulls, and common surgeries involving the bovine reproductive tract.

Five-week module with two hours of lecture per week

Enrolment is open for third year students

VHM 3360 TOPICS IN ADVANCED EQUINE THERIOGENOLOGY

This elective course is intended for students who plan to enter equine practice upon graduation. It provides more advanced information on equine reproduction than is available in the core equine course. Broadly speaking, topics include stud management and reproductive disease diagnosis, treatment and prevention.

Five-week module with two hours of lecture per week

Enrolment is open for third year students

VHM 3370 ADVANCED EQUINE THERIOGENOLOGY TECHNIQUES

This elective laboratory course is intended for students who plan to enter equine practice upon graduation. It provides the opportunity to practice basic and more advanced equine reproductive techniques in the mare and stallion.

CO-REQUISITE: VHM 3360

Five-week module with three hours of laboratory per week

Enrolment is limited for third year students

This course is graded pass-fail

VHM 3380 ADVANCED BOVINE THERIOGENOLOGY TECHNIQUES

This elective laboratory course provides advanced exposure to bovine reproductive techniques including evaluation of herd records, diagnostic reproductive techniques and artificial insemination techniques in cows, and evaluation of bulls for breeding soundness.

CO-REQUISITE: VHM 3350

Five-week module with three hours of laboratory per week

Enrolment is limited for third year students

VHM 3390 TOPICS IN ADVANCED EQUINE MEDICINE

This elective course provides an in-depth discussion of equine internal medicine with an emphasis on neonatology and the respiratory, gastrointestinal and central nervous systems. It also covers topics such as metabolic diseases, emerging infectious diseases, cardiology and dermatology.
Five-week module with three two hours tutorials per week
Enrolment is open to third year students

VHM 3430 ADVANCED EQUINE MEDICINE TECHNIQUES
This elective laboratory course provides students with the opportunity to practice a variety of medical procedures in live animals and on cadaver specimens and models. It includes techniques related to evaluation of the gastrointestinal, respiratory and central nervous systems as well as techniques in dentistry, ophthalmology, intravenous catheterization, and catheterization of the urinary bladder.
CO-REQUISITE: VHM 3390
Five-week module with three hours of laboratory per week
Enrolment is limited for third year students
This course is graded pass-fail

VHM 3440 EQUINE PREVENTATIVE MEDICINE
This elective course provides an in-depth review of preventative medicine in the foal and adult horse. It includes discussion of neonatal foal care, nutrition, dentistry, parasite control, biosecurity practices, and vaccination for disease prevention.
Five-week module with two hours of lecture per week
Enrolment is open for third year students

VHM 3450 FOOD ANIMAL ANESTHESIA AND SURGERY
This elective lecture course provides detailed descriptions of the anatomy, physiology, anesthetic protocols, and surgical techniques for common surgical conditions encountered in food animal practice.
Five-week module with two hours of lecture per week
Enrolment is open for third year students

VHM 3460 TECHNIQUES IN FOOD ANIMAL ANESTHESIA AND SURGERY
This elective laboratory course provides an introduction to the psychomotor skills for basic anesthetic and surgical techniques commonly performed in food animals.
CO-REQUISITE: VHM 3450
Five-week module with three hours of laboratory per week
Enrolment is limited for third year students

VHM 3470 EQUINE ANESTHESIA, SURGERY AND LAMENESS
This elective course provides detailed descriptions of the anatomy, physiology, anesthetic protocols, and surgical techniques for common surgical and lameness conditions encountered in equine practice.
Five-week module with four hours of lecture per week
Enrolment is open for third year students

VHM 3480 TECHNIQUES IN EQUINE ANESTHESIA AND SURGERY
This elective laboratory course provides an introduction to the psychomotor skills for basic anesthetic and surgical techniques commonly performed in horses.
CO-REQUISITE: VHM 3470
Five-week module with three hours of laboratory per week
Enrolment is limited for third year students

VHM 3510 TECHNIQUES IN THE EVALUATION OF EQUINE MUSCULOSKELETAL DISEASES

This elective laboratory course provides students with the opportunity to apply techniques developed in VHM 3275.
COREQUISITE: VHM 3470 and VHM 3275
Five-week module with three hours of laboratory per week
Enrolment is limited for third year students

VHM 3520 PRINCIPLES OF INTEGRATIVE MEDICINE
This elective lecture course provides an introduction to some of the principle methods in integrative medicine, including acupuncture, chiropractic, and other methods.
One hour of lecture per week
Enrolment is open for third year students

VHM 3550, Advanced Equine Imaging
This course focuses on development of knowledge and skills needed to utilize equine imaging in the field setting. Students will gain an in-depth understanding of equine radiology, ultrasonography, airway endoscopy and gastroscopy. Opportunities will be available to gain technical skills in each of these areas through hands-on participation in supervised laboratories.
PREREQUISITE: Third year standing in the DVM program
One semester hour of credit

VHM 3530 TECHNIQUES OF INTEGRATIVE MEDICINE
This elective laboratory course will provide introduction to the psychomotor skills required in the practice of integrative medicine, including acupuncture, chiropractic, and other methods.
PREREQUISITE: VHM 3520
Five-week module with three hours of laboratory per week
Enrolment is limited for third year students

VHM 3540 CLINICAL SKILLS IV
This course provides opportunities to apply knowledge, practice clinical reasoning, and develop competence in core procedural skills related to medicine, surgery, and reproduction in large and small animals.
PREREQUISITE: Third year standing in the DVM program
Three hours of laboratory per week

VHM 3610 DIRECTED STUDIES
This elective course provides an opportunity for students to participate in intensive research and/or clinical experiential learning opportunities under the supervision of a faculty member. In addition to research and clinical skills, students will also develop leadership and communication skills. This course will be graded Pass/Fail.
PREREQUISITE: Successful completion of year two of the DVM program.
Variable 1, 2 or 3 credit hours

VHM 3630 PROFESSIONAL FOUNDATIONS III
This course introduces the fundamentals of business, structure of practice, and personal financial planning for veterinary professionals. Areas relevant to the new veterinary graduate are presented including workplace environment issues, facilities and configurations, foundations of customer service and compliance, human resource and leadership issues, marketing and promotion tactics, and the transition to practice ownership. Practice finances and personal income structures, including commission based salaries and self-employed status, will be discussed. This course is graded pass/fail.
PREREQUISITE: Third year standing in the DVM Program
One hour of lecture per week

VHM 4020 APPLIED EPIDEMIOLOGY
This course provides students with the opportunity to work on a population-based problem of clinical relevance and to

develop the problem solving, data management and information processing skills necessary to address the problem. The projects will utilize, whenever possible, existing data such as hospital records, APHIN health and production databases and other data sources. Students assemble the necessary data, carry out appropriate analyzes, interpret results and prepare a report of their findings.
PREREQUISITE: Fourth year standing in the DVM Program
Enrolment is limited
Three weeks in duration

VHM 4030 SHORT COURSE IN APPLIED EPIDEMIOLOGY
This course provides students with the opportunity to work on population-based problems of clinical relevance, and to develop problem solving, data management and information processing skills necessary to address veterinary medicine related problems. The projects utilize, whenever possible, existing data such as hospital records, APHIN and/or ADLIC health and production databases, research data, and other data sources. Students may elect to analyze data that they have obtained from a research or clinical practice experience. With faculty supervision, students assemble the necessary data, carry out appropriate analyzes, interpret results and prepare a report of their findings. This is an abbreviated form of VHM 402, with reduced expectations of students.
PREREQUISITE: Fourth year standing in the DVM program
One semester hour of credit
40 hours per week and clinical rotation

VHM 4040 AQUACULTURE HEALTH MANAGEMENT I
This course provides students with an opportunity to work on population-based problems of clinical relevance and to develop the problem-solving, data management, and information processing skills necessary to address current health and production problems of fish farms and lobster holding units.
PREREQUISITE: Fourth year standing in the DVM program
One semester hour of credit and clinical rotation

VHM 4050 AQUACULTURE HEALTH MANAGEMENT II
This course provides students with additional opportunity to work independently on population-based problems of clinical relevance and to develop advanced problem-solving, data management, and information processing skills necessary to address current health and production problems of fish farms and lobster holding units.
PREREQUISITE: VHM 4330 or VHM 4040, and permission of the instructor
One semester hour of credit and clinical rotation

VHM 4060 TOPICS IN REGULATORY VETERINARY EPIDEMIOLOGY
This course provides students with the opportunity to work on various topics pertinent to national, regional or local animal disease control programs, including foreign animal disease control and disease monitoring and surveillance. Background information on risk analysis and outbreak investigation is also provided. With faculty supervision, students apply their knowledge of specific animal diseases to scenarios, utilizing the principles discussed.
PREREQUISITE: 4th year standing in the DVM program
One semester hour of credit
40 hours per week and clinical rotation

VHM 4070 PRODUCTION HEALTH OF WARM WATER SHRIMP AND FISH
This rotation is conducted in Thailand under the supervision of an AVC faculty member. Students will develop understanding of the systems for production and health management of shrimp and tropical fish aquaculture in Thailand. Opportunities for application of veterinary skills for disease diagnostics, treatment and prevention strategies will be offered through lectures, laboratory sessions and field trips.
PREREQUISITE: Fourth year standing in the DVM program

Two weeks in duration
Two semester hours of credit

VHM 4080 CLINICS IN RUMINANT MEDICINE AND SURGERY – University of Montreal
In this rotation students work with clinicians in the diagnosis and treatment of conditions in ruminant animals, primarily dairy cattle, presented to the Veterinary Teaching Hospital at the University of Montreal in Saint-Hyacinthe, Quebec. The rotation emphasizes individual animal medicine and surgery. Students provide patient care, actively participate in the diagnostic, treatment, and management decisions concerning their patients, and participate in rounds and discussion topics. Duties include after-hours emergency and treatment crew.
PREREQUISITE: Fourth year standing in the DVM program
Two weeks in duration
Two semester hours of credit

VHM 4090 TOPICS IN VETERINARY ACUPUNCTURE-EQUINE
This rotation provides students with the specific clinical features of acupuncture for effective treatment of selected commonly encountered conditions in horses. Lectures and laboratories are focused on chronic pain syndromes, though other diseases may be briefly discussed.
PREREQUISITE: Fourth year standing in the DVM program
One week in duration
One semester hour of credit

VHM 4100 CLINICS IN LARGE ANIMAL MEDICINE AND THERIOGENOLOGY
Students are involved in the management of clinical cases in the Veterinary Teaching Hospital and, together with faculty members, also participate in routine visits to dairy herds.
PREREQUISITE: Fourth year standing in the DVM Program
Enrolment is limited
Three weeks in duration

VHM 4110 CLINICAL CONFERENCE
This is a clinical seminar course with participation by students, house officers, and other professionals. Each student prepares and presents a seminar based on a case-report format with in-depth discussion of the selected disease condition. A manuscript of the case report is required. This course is graded Pass/Fail.
PREREQUISITE: Fourth year standing in the DVM Program
Two hours per week

VHM 4120 ANIMAL WELFARE ASSESSMENT AND REGULATION
The course provides a basis for students to (a) use ethical and scientific frameworks to conduct comprehensive animal welfare assessments by utilizing multiple indicators of animal welfare, (b) objectively assess the welfare implications of the management of different species of animals and (c) understand animal welfare regulations and veterinary involvement in the recognition, enforcement and prosecution of welfare cases. This course uses animal welfare scenarios of contrasting management systems, and provides information and practice in dealing with cases of cruelty and neglect.
Two weeks in duration
Two semester hours of credit

VHM 4130 FISH HEALTH
Students will gain experience in the application of veterinary skills to finfish and shellfish species found in aquaculture and public fisheries. Practical experience will include health assessments and disease diagnoses, application of treatment techniques, assessment of biosecurity practices, and development of disease prevention strategies. The course will include farm visits and laboratory testing.

PREREQUISITE: Fourth year standing in the DVM program
Enrolment is limited
Three weeks in duration
Three semester hours of credit

VHM 4140 SMALL ANIMAL THERIOGENOLOGY
This rotation focuses on development of knowledge and skills needed to deliver reproductive services in small animal practice. Students will participate in case-based discussions on breeding management, breeding soundness exams, abortion, elective C-section timing, contraception, and advanced reproductive technology. Opportunities will be provided to gain technical skills in ultrasound pregnancy diagnosis, semen collection and freezing, and transcervical insemination.
PREREQUISITE: Fourth year standing in the DVM program
One week in duration
One semester hour of credit

VHM 4150 CLINICS IN BOVINE THERIOGENOLOGY
This rotation focuses on development of knowledge and skills needed to deliver reproductive services in bovine practice. Students will gain an advanced understanding of the bovine estrous cycle and its manipulation, analyze reproductive records, and participate in daily case-based discussions. Opportunities will be provided for students to gain skills in palpation and ultrasonography of the reproductive tract, fetal gender determination, embryo recovery and transfer and bull breeding soundness evaluations.
PREREQUISITE: Fourth year standing in the DVM program
Three weeks in duration
Three semester hours of credit

VHM 4160 TOPICS IN VETERINARY ACUPUNCTURE – SMALL ANIMAL
This rotation provides students with the specific clinical features of acupuncture for effective treatment of selected commonly encountered conditions in small animals. Lectures and laboratories are focused on chronic pain syndromes, though other diseases may be briefly discussed.
PREREQUISITE: Fourth year standing in the DVM program
One week in duration
One semester hour of credit

VHM 4200 CLINICS IN THERIOGENOLOGY—GENERAL
In this course, students gain clinical experience in theriogenology involving farm and companion animals. With faculty supervision, students participate in herd visits and the management of cases that are presented to the Veterinary Teaching Hospital. Emergency and out-of-hours duties are required of students enrolled in this course. Students are required to give seminars at the end of the rotation.
PREREQUISITE: Fourth year standing in the DVM Program
Enrolment is limited
Three weeks in duration

VHM 4220 CLINICS IN THERIOGENOLOGY—EQUINE
In this course, students gain clinical experience in theriogenology with an emphasis on horses. With faculty supervision, students participate in herd visits, the management of a breeding farm, and in cases which are presented to the Veterinary Teaching Hospital. Emergency and out-of-hours duties are required of students enrolled in this course. Students are required to give seminars at the end of the rotation.
PREREQUISITE: Fourth year standing in the DVM Program
Enrolment is limited
Three weeks in duration

VHM 4230 FOOD ANIMAL HEALTH MANAGEMENT
This is a rotation involving Farm Service, epidemiology, and Canadian Food Inspection Agency faculty in the Department of Health Management. Students will explore contemporary issues relating to food animal practice including regulatory components. There will be a focus on development of problem-solving skills as they relate to herd health management, reproductive management, animal welfare, food safety, and one health aspects of food production.
PREREQUISITE: Fourth year standing in the DVM program
Three weeks in duration

VHM 4310 CLINICS IN FARM SERVICE—RUMINANTS AND SWINE I
This course is a clinical rotation in the Farm Service section of the Veterinary Teaching Hospital. This rotation emphasizes procedures and techniques for the prevention and control of diseases of swine, beef and dairy cattle and small ruminants necessary for food animal practice, including diagnostic techniques, administration of medications through various routes, and health management assessment (rectal palpation). Students participate, with faculty supervision, in the practice of clinical veterinary medicine, and are exposed to the principles of health management of herds and flocks.
PREREQUISITE: Fourth year standing in the DVM program
Enrolment is limited
Three weeks in duration

VHM 4320 CLINICS IN FARM SERVICE—DAIRY
This course is a clinical rotation in the Farm Service section of the Veterinary Teaching Hospital. This rotation emphasizes procedures and techniques for the prevention and control of diseases of dairy cattle. Students participate, with faculty supervision, in both the practice of clinical veterinary medicine and in planning and delivering programs to enhance production in dairy cows.
COREQUISITE: VHM 4310 or VHM 4550
Enrolment is limited
Three weeks in duration

VHM 4340 ECOSYSTEM HEALTH
This course demonstrates the complexity of ecosystem decision making and the role of the veterinarian in the assessment, solution and possible management of ecosystem health issues. The field portion of the course involves an in-depth examination of one or several ecosystems and provides an opportunity to apply principles and methods discussed in lectures and reviewed in the literature.
PREREQUISITE: Fourth year standing in the DVM program
Enrolment is limited
Two weeks in duration

VHM 4350 CLINICS IN AMBULATORY SERVICES—EQUINE I
In this course, students work with clinicians in the diagnosis and treatment of conditions of horses in an ambulatory setting. The rotation emphasizes individual equine problems. Students participate in the management of field cases under veterinary supervision.
PREREQUISITE: Fourth year standing in the DVM program
COREQUISITE: One of VHM 4100, VHM 4400, VHM 4500 or VHM 4600
Enrolment is limited
Three weeks in duration

VHM 4360 CLINICS IN FARM SERVICE—SWINE
This course is a clinical rotation in the Farm Service section of the Veterinary Teaching Hospital. This rotation emphasizes procedures and techniques for the prevention and control of diseases of swine. Students participate, with faculty supervision, in both the practice of clinical veterinary medicine and in planning and delivering programs to

enhance swine production.
PREREQUISITE: Fourth year standing in the DVM program
Three weeks in duration

VHM 4370 CLINICS IN AMBULATORY SERVICES—EQUINE II
In this second rotation through the Equine Ambulatory Service of the Veterinary Teaching Hospital, students develop a more detailed knowledge of the principles and techniques used in the practice of equine medicine and surgery in an ambulatory setting.
PREREQUISITE: Fourth year standing in the DVM program, VHM 4350, and permission of the instructor
Three weeks in duration
Three semester hours of credit

VHM 4380 ECOSYSTEM HEALTH
This course presents case studies to demonstrate the complexity of ecosystem decision making, and the assessment and management of ecosystem health issues. This field-based course allows in-depth examination of one or several ecosystems and provides an opportunity to apply principles and methods from a broad range of disciplines.
PREREQUISITE: Permission of the instructor
One week in duration
One semester hour of credit

VHM 4400 CLINICS IN LARGE ANIMAL MEDICINE I
A course in which students work with clinicians in the diagnosis and treatment of diseases of large animals presented to the Veterinary Teaching Hospital. Students participate, with faculty supervision, in case management (including emergency and out-of-hours duties). Emphasis is placed on the principles and practice of large animal veterinary medicine.
PREREQUISITE: Fourth year standing in the DVM Program
Enrolment is limited
Three weeks in duration

VHM 4410 CLINICS IN FARM SERVICE—RUMINANTS AND SWINE II
In this second rotation through the Farm Service section of the Veterinary Hospital, students further develop the knowledge and skills required for the practice of clinical veterinary medicine on farm, and expand their ability to apply the principles of health management of herds and flocks such as encountered in VHM 4310.
PREREQUISITE: VHM 4310
Two semester hours of credit
Three weeks in duration

VHM 4430 CLINICS IN FARM SERVICE—FEEDLOT MANAGEMENT
This course is a clinical rotation in the Farm Service section of the Veterinary Teaching Hospital. Students participate, with faculty supervision, in the practice of clinical veterinary medicine, and in the planning and delivering of programs to optimize production in cattle. This rotation emphasizes procedures and techniques for the management of health and disease on feedlot operations, including processing of calves in the fall. Students are based at Feedlot Health Management Services, Okotoks, Alberta, for the majority of this rotation, to gain experience on feedlots in Western Canada.
COREQUISITE: VHM 4310 or VHM 4550
Enrolment is limited
Two weeks in duration

VHM 4450 CLINICS IN FARM SERVICE—RUMINANT NUTRITION
This course is a clinical rotation in the Farm Service section of the Veterinary Teaching Hospital. Students participate,

with faculty supervision, in the practice of clinical veterinary medicine, and in the planning and delivering of programs to optimize production in dairy cows. This rotation emphasizes procedures and techniques for enhancing nutritional management of dairy cattle.
COREQUISITE: VHM 4310 or VHM 4550
Enrolment is limited
One week in duration

VHM 4460 CLINICS IN FARM SERVICE—RUMINANT MASTITIS
This course is a clinical rotation in the Farm Service section of the Veterinary Teaching Hospital. Students participate, with faculty supervision, in the practice of clinical veterinary medicine, and in the planning and delivering of programs to optimize production in dairy cows. This rotation emphasizes procedures and techniques for the prevention and control of clinical and subclinical mastitis in dairy cattle, including: evaluation of milk quality records available for trouble-shooting herd problems; evaluation of milking systems, milking time, and parlour labour efficiency; development of a milk culture service; and development of mastitis pathogen treatment and prevention strategies.
COREQUISITE: VHM 4310
One semester hour of credit
40 hours per week and clinical rotation

VHM 4470 CLINICS IN FARM SERVICE—RUMINANT PRODUCTION RECORD ANALYSIS
This course is a clinical rotation in the Farm Service section of the Veterinary Teaching Hospital. Students participate, with faculty supervision, in the practice of clinical veterinary medicine, and in the planning and delivering of programs to optimize production in dairy cows. This rotation emphasizes procedures and techniques for ruminant record analysis, including data acquisition, manipulation within a spreadsheet (including basic statistics and graphics), and report writing in a concise, comprehensive and meaningful report to motivate change.
COREQUISITE: VHM 4310 or VHM 4550
Enrolment is limited
One week in duration

VHM 4480 CLINICS IN FARM SERVICE—RUMINANT REPRODUCTION
This course is a clinical rotation in the Farm Service section of the Veterinary Teaching Hospital. Students participate, with faculty supervision, in the practice of clinical veterinary medicine, and in the planning and delivering of programs to optimize production in dairy cows. This rotation emphasizes procedures and techniques for ruminant reproduction, including: pregnancy diagnosis and fetal sexing using ultrasound technology, the analysis of herd level reproductive records, and other advanced techniques.
COREQUISITE: VHM 4310 or VHM 4550
Enrolment is limited
One week in duration

VHM 4490 CLINICS IN FARM SERVICE—COW/CALF MANAGEMENT
This course is a clinical rotation in the Farm Service section of the Veterinary Teaching Hospital. Students participate, with faculty supervision, in the practice of clinical veterinary medicine, and in the planning and delivering of programs to optimize production in beef and dairy cows. This rotation emphasizes procedures and techniques for the management of health and disease on cow-calf operations, including processing of cows and calves in the fall.
COREQUISITE: VHM 4310 or VHM 4550
Enrolment is limited
One week in duration

VHM 4500 CLINICS IN LARGE ANIMAL SURGERY I
This course is a clinical rotation in the Large Animal Surgery Section of the Veterinary Teaching Hospital. Students provide patient care, participate in ward rounds, and learn the routine procedures of clinical case management and

decision making. Supplemental seminars.
Enrolment is limited
Three weeks in duration

VHM 4520 CLINICS IN LARGE ANIMAL SURGERY II
This course provides students with additional clinical experience with surgical diseases of large animals. In addition to case management, students are also provided with seminars and review recent literature in the field.
PREREQUISITE: VHM 4500 or VHM 4600
Enrolment is limited
Three weeks in duration

VHM 4530 CLINICS IN EQUINE AMBULATORY SERVICE I
This course is a clinical rotation in the Equine Ambulatory Service of the Veterinary Teaching Hospital designed to prepare students for general equine practice. Students participate under veterinary supervision in the provision of preventive care as well as in diagnosis and treatment of equine conditions in a field setting.
PREREQUISITE: Fourth year standing in the DVM program
Enrolment is limited
Two weeks in duration

VHM 4540 CLINICS IN EQUINE AMBULATORY SERVICES II
In this second rotation through the Equine Ambulatory Service section of the Veterinary Hospital, students further develop the knowledge and skills required for clinical equine practice and expand their ability to diagnose and treat equine conditions as encountered in VHM 4530.
PREREQUISITE: VHM 4530
Two weeks in duration

VHM 4550 CLINICS IN FARM SERVICE I
This course is a clinical rotation in the Farm Service section of the Veterinary Teaching Hospital. This rotation emphasizes procedures and techniques for the prevention and control of diseases of swine, beef and dairy cattle and small ruminants necessary for food animal practice, including diagnostic techniques, administration of medications through various routes, and health management assessment (rectal palpation). Students participate, with faculty supervision, in the practice of clinical veterinary medicine, and are exposed to the principles of health management of herds and flocks.
PREREQUISITE: Fourth year standing in the DVM program
Enrolment is limited
Two weeks in duration

VHM 4560 CLINICS IN FARM SERVICE II
In this second rotation through the Farm Service section of the Veterinary Hospital, students further develop the knowledge and skills required for the practice of clinical veterinary medicine on farm, and expand their ability to apply the principles of health management of herds and flocks such as encountered in VHM 4550.
PREREQUISITE: VHM 4550
Enrolment is limited
Two weeks in duration

VHM 4570 CLINICS IN EQUINE SPORTS MEDICINE I
This course is a clinical rotation in the Equine Ambulatory Service of the Veterinary Teaching Hospital designed to prepare students for equine practice with an emphasis on sports medicine. Students participate under veterinary supervision in investigation of poor performance in the equine athlete as well as in diagnosis and treatment of non-performance related conditions in a field setting.

PREREQUISITE: Fourth year standing in the DVM program
Enrolment is limited
Three weeks in duration

VHM 4580 CLINICS IN EQUINE SPORTS MEDICINE II
In this second rotation through the Equine Ambulatory Service section of the Veterinary Teaching Hospital, students further develop the knowledge and skills required for equine practice and sports medicine and expand their ability to investigate and treat poor performance in the equine athlete as encountered in VHM 4570.
PREREQUISITE: VHM 4570
Enrolment is limited
Three weeks in duration

VHM 4590 CLINICS IN EQUINE AMBULATORY AND REPRODUCTIVE SERVICES
This course is a clinical rotation in the Equine Ambulatory Service of the Veterinary Teaching Hospital designed to prepare students for equine practice with an emphasis on reproductive services. Students participate under veterinary supervision in herd visits and breeding farm management as well as in diagnosis and treatment of equine conditions in a field setting.
PREREQUISITE: Fourth year standing in the DVM program
Enrolment is limited
Three weeks in duration

VHM 4592 CLINICS IN EQUINE AMBULATORY AND REPRODUCTIVE SERVICES II
In this second rotation through the Equine Ambulatory Service of the Veterinary Teaching Hospital, students further develop their equine technical and problem-solving skills beyond those attained in VHM 4590 with an emphasis on theriogenology
PREREQUISITE: Fourth year standing in the DVM program and VHM 4590
Enrollment is limited
Three weeks in duration

VHM 4600 CLINICS IN LARGE ANIMAL MEDICINE AND SURGERY I
This course is a clinical rotation in the Large Animal Surgery and Medicine sections of the Veterinary Teaching Hospital, in which students see a variety of large animal cases. Students provide patient care, participate in rounds, share emergency duty, and out-of-hours service, and learn some of the routine procedures of case management and decision making in large animal practice.
PREREQUISITE: Fourth year standing in the DVM program
Enrolment is limited
Thirty-five hours in clinics per week

VHM 4610 CLINICS IN LARGE ANIMAL MEDICINE AND SURGERY II
This course provides students with advanced clinical experience with surgical and medical diseases of large animals. Students provide patient care, participate in rounds, share emergency duty, and out-of-hours service, and learn some of the routine procedures of case management and decision making in large animal practice.
PREREQUISITE: 4th year standing in the DVM program and VHM 4600
Enrolment is limited
Thirty-five hours in clinics per week
Three weeks in duration

VHM 4640 CLINICS IN LARGE ANIMAL MEDICINE II-1
In this one credit-hour course, which is an extension of Clinics in Large Animal Medicine I, students work with clinicians in the diagnosis and treatment of diseases of large animals presented to the Veterinary Teaching Hospital. The student is given more responsibility and expected to perform more actively in decisions involving case management. Duties

include emergency and out-of-hours services.
PREREQUISITE: VHM 4400, 4600, 4620, or 4100
One semester hour of credit
Clinical rotation

VHM 4650 CLINICS IN LARGE ANIMAL MEDICINE II-2
In this 2 credit-hour course, which is an extension of Clinics in Large Animal Medicine I, students work with clinicians in the diagnosis and treatment of diseases of large animals presented to the Veterinary Teaching Hospital. The student is given more responsibility and expected to perform more actively in decisions involving case management. Duties include emergency and out-of-hours services.
PREREQUISITE: VHM 4400, 4600, 4620, or 4100
Two semester hours of credit
Clinical rotation

VHM 4660 CLINICS IN LARGE ANIMAL MEDICINE II-3
In this 3 credit-hour course, which is an extension of Clinics in Large Animal Medicine I, students work with clinicians in the diagnosis and treatment of diseases of large animals presented to the Veterinary Teaching Hospital. The student is given more responsibility and expected to perform more actively in decisions involving case management. Duties include emergency and out-of-hours services.
PREREQUISITE: VHM 4100, 4200, 4400, 4600, 4620
Enrolment is limited
Three weeks in duration

VHM 4670 SWINE HEALTH MONITORING
This course is a clinical rotation in the Farm Service section of the Department of Health Management. The rotation emphasizes the procedures and techniques for providing health monitoring services for minimal disease swine farms. The student will participate, with faculty supervision, in the practice of clinical veterinary medicine, the evaluation of the health status of the farms, and consultation regarding production and health management, and disease prevention.
PREREQUISITE: Fourth year standing in DVM program
One semester hour of credit
40 hours per week and clinical rotation

VHM 4680 INTERNATIONAL LIVESTOCK HEALTH MANAGEMENT
This course provides 3 weeks of practical experience, in the context of an international development project, for veterinary students from AVC on management of livestock farming in Africa, and on the diagnosis, treatment and prevention of common diseases and health management problems in livestock encountered in East Africa.
PREREQUISITE: 4th year standing in the DVM Program
Enrolment is limited with a selection process
Three weeks in duration

VHM 4710 DIRECTED STUDIES
This elective course provides an opportunity for students to participate in intensive research and/or clinical experiential learning opportunities under the supervision of a faculty
member. In addition to research and clinical skills, students will also develop leadership and communication skills. This course will be graded Pass/Fail.
PREREQUISITE: Successful completion of year three of the DVM program.
Variable 1, 2 or 3 credit hours

VHM 4800 CLINICS IN REGULATORY MEDICINE
This course prepares students to assume the role of an Accredited Veterinarian. An Accredited Veterinarian is a

veterinarian who is authorized under the Health of Animals Act to perform certain duties and functions in support of the National Animal Health Program (e.g. certifying livestock for export, Coggins testing horses). Topics covered include an orientation to the national food inspection system and the federal laboratory system. This course is a prerequisite for Accreditation with the Canadian Food Inspection Agency, and hence will be of interest to students considering work in the food animal, equine or regulatory sector.
PREREQUISITE: Fourth year standing in the DVM Program
Enrolment is limited
One week in duration

VHM 4810 CLINICS IN RUMINANT MEDICINE AND SURGERY ROTATION AT THE UNIVERSITY OF MONTREAL – FACULTY OF VETERINARY MEDICINE (English Rotation)
Students work with clinicians in the diagnosis and treatment of conditions in ruminant animals, primarily dairy cattle, presented to the Veterinary Teaching Hospital at the University of Montréal in Saint-Hyacinthe, Québec. The rotation emphasizes individual animal medicine and surgery. Students are expected to provide patient care, actively participate in the diagnostic, treatment, and management decisions concerning their patients, and participate in rounds and discussion topics. Duties include after hour emergency and treatment crew. This course is offered as a 3-week rotation. Instruction will be given in English. Partial student support for expenses is sought through industry sponsors.

VHM 4820 VETERINARY ACUPUNCTURE
In this course, students learn the fundamentals of veterinary acupuncture, and apply its principles to the management of patients with special problems. Lectures and laboratories in the science of acupuncture are supplemented with clinical cases admitted to the teaching hospital for treatment. Students are introduced to the basic skills, instrumentation, and examination methods required for successful treatment of animal patients by acupuncture.
PREREQUISITE: Fourth year standing in the DVM program
Two weeks in duration

VHM 4840 VETERINARY CHIROPRACTIC
In this course, students learn the fundamentals of veterinary chiropractic medicine and apply its principles to the management of patients with problems of gait, posture, and movement. Lectures and laboratories in the biomechanics and neurophysiology of manipulative therapeutics are supplemented with clinical cases admitted to the Veterinary Teaching Hospital. Students are introduced to the basic skills, instrumentation, and examination methods required for successful treatment of animal patients by using chiropractic medicine.
PREREQUISITE: Fourth year standing in the DVM program
Two weeks in duration

VHM 4860 VETERINARY ACUPUNCTURE (COOPERATIVE SECTION)
In this course, students learn the fundamentals of veterinary acupuncture and apply its principles to the management of patients with special problems. Lectures and laboratories in the science of acupuncture are supplemented with clinical cases admitted to the teaching hospital for treatment. This course includes students from other veterinary colleges and encourages cooperative learning of a specialty discipline not available at other veterinary institutions.
PREREQUISITE: Fourth year standing in the DVM program
Enrolment is limited
Three weeks in duration

VHM 4900 EXTERNAL CLINICAL EXPERIENCE—INSTITUTIONAL OR SPECIALIST PRACTICE
This course provides a clinical experience that is not available to an individual student at UPEI. This 1-3 credit-hour experience is limited to CVMA or AVMA accredited faculties of veterinary medicine, other institutions and institutional practices, and approved private practices where evaluation of performance is routinely completed. In order to qualify for credit, the clinical experience taken outside an accredited faculty of veterinary medicine must meet certain criteria as outlined in the Senior Rotation Handbook. All expenses incurred are the responsibility of the student.

PREREQUISITE: Fourth year standing in the DVM program and approval of the departmental Chair and Associate Dean of Academic Affairs

VHM 4920 ADVANCED EQUINE DENTISTRY AND HEALTH CARE
In this course students learn the theory and practice of disease prevention in horses, including vaccination and parasite control programs. Students practice, with faculty supervision, dental care on horses at Island facilities and in the AVC teaching barn. In-depth discussions and reviews of pertinent and timely information take place.
PREREQUISITE: Any ONE of the following courses: VHM 4100, 4200, 4220, 4350, 4400, 4500 or 4600 and permission of the course coordinator
One-week elective rotation in winter semester

VHM 4940 EXTERNAL CLINICAL EXPERIENCE—GENERAL PRIVATE PRACTICE
This course provides an opportunity for clinical experience in general or community practice settings. This 1-3 credit-hour experience is limited to private practices that meet certain criteria as outlined in the senior rotation handbook. All expenses incurred are the responsibility of the student.
PREREQUISITE: Fourth year standing in the DVM program and approval of the departmental Chair and Associate Dean of Academic Affairs

VHM 4950 SPECIAL TOPICS IN HEALTH MANAGEMENT
This course is initiated and offered at the discretion of the Department. Entry to the course, course content, and the conditions under which the course may be offered will be subject to the approval of the Chair of the Department, the AVC Curriculum Committee, and the Dean or designate.
PREREQUISITE: 4th year standing in the DVM program
One to three hours per week

# Pathology and Microbiology

http://upei.ca/pathmicro

**Pathology and Microbiology Faculty**

Gary Conboy, Professor Emeritus
Pierre-Yves Daoust, Professor Emeritus
Gerald Johnson, Professor Emeritus
Alfonso Lòpez, Professor Emeritus
Mark Fast, Professor, Chair
Shelley A. Burton, Professor
Frederick S.B. Kibenge, Professor
Juan Carlos Rodriquez-Lecompte, Professor
David J. Speare, Professor
Cornelia V. Gilroy, Associate Professor
Chelsea Martin, Associate Professor
Shannon Martinson, Associate Professor
Sandra McConkey, Associate Professor
Melanie Buote, Assistant Professor
Noel Clancey, Assistant Professor
Russell Fraser, Assistant Professor
Megan Jones, Assistant Professor
Andrea Bourque, Adjunct Professor

Laura Bourque, Adjunct Professor
Mark Braceland, Adjunct Professor
Wenlong Cai, Adjunct Professor
Gary Conboy, Adjunct Professor
Pierre-Yves Daoust, Adjunct Professor
Catherine Graham, Adjunct Professor
David B. Groman, Adjunct Professor
Paul Hanna, Adjunct Professor
Tiago Hori, Adjunct Professor
Molly Kibenge, Adjunct Professor
Alfonso López, Adjunct Professor
Scott McBurney, Adjunct Professor
David McRuer, Adjunct Professor
R.J. Frederick Markham, Adjunct Professor
Anne Muckle, Adjunct Professor
Matthew Rise, Adjunct Professor
Angela Riveroll, Adjunct Professor
Gailene Tobin vandenHeuvel, Adjunct Professor
Yingwei Wang, Adjunct Professor
Shona Whyte, Adjunct Professor
Huimin Xu, Adjunct Professor
Carmencita V. Yason, Adjunct Professor
Jonathan Zuccolo, Adjunct Professor

**PATHOLOGY AND MICROBIOLOGY COURSES**

VPM 1110 VETERINARY IMMUNOLOGY
This course describes events occurring during an immune response at the cellular, molecular, and clinical levels, and the role of the response in the prevention and control of infectious disease. Clinical applications relevant to veterinary medicine are discussed.
PREREQUISITE: First year standing in the DVM program
Two hours of lecture and one hour of tutorial per week

VPM 1220 PARASITOLOGY
The course presents principles of the developmental cycles, pathogenesis of infections, immunological responses and epidemiology of animal parasites, including arthropods, protozoa and helminths. Examples from domestic animals, companion animals, wildlife, fish and human hosts will be presented.
Two hours of lecture and two hours of laboratory per week

VPM 1520 GENERAL PATHOLOGY
This course presents the pathologic basis of disease processes in organs and tissues of animals at the subcellular, cellular, and tissue levels.
PREREQUISITE: First year standing in the DVM program
Two hours of lecture and two hours of laboratory per week

VPM 2010 BACTERIOLOGY AND MYCOLOGY
This course presents important bacterial and fungal pathogens of animals and the diseases they cause. Principles of biosafety and biosecurity are introduced and opportunities are provided to apply these principles in the laboratory.
PREREQUISITE: Second year standing in the DVM program

Three hours of lecture and two hours of laboratory per week
Credit: 4

VPM 2020 PROFESSIONAL FOUNDATIONS II
This course builds on Professional Foundations I to engage students in topics that help them understand and develop their professional identity. Core aspects include reflective practice, ethics and moral reasoning, professional values, and leadership. Students will develop communication skills required for effective medical interviews, difficult interactions, and challenging conversations with clients. This course is graded pass/fail.
PREREQUISITE: Second year standing in the DVM program
One hour of lecture and two hours of tutorial per week

VPM 2110 VIROLOGY
This course presents important viral pathogens of animals and offers a theoretical and practical basis for understanding the diseases they cause.
PREREQUISITE: Second year standing in the DVM program
Two hours of lecture and two hours of tutorial per week

VPM 2210 SYSTEMIC PATHOLOGY I
This course presents the pathologic basis of animal diseases at the cellular, tissue, and organ levels using a systems-based approach.
PREREQUISITE: Second year standing in the DVM program
Two hours of lecture and two hours of laboratory per week

VPM 2220 SYSTEMIC PATHOLOGY II
This course continues to present the pathologic basis of animal diseases at the cellular, tissue, and organ levels using a systems-based approach.
PREREQUISITE: Second year standing in the DVM program
Two hours of lecture and two hours of laboratory per week

VPM 2420 CLINICAL PATHOLOGY
This course presents the principles of veterinary hematology, clinical chemistry, urinalysis, and cytology, and provides opportunities to develop diagnostic reasoning and technical skills relating to clinical pathology.
PREREQUISITE: Second year standing in the DVM program
Two hours of lecture and two hours of laboratory per week

VPM 2610 DIRECTED STUDIES
This elective course provides an opportunity for students to participate in intensive research and/or clinical experiential learning opportunities under the supervision of a faculty member. In addition to research and clinical skills, students will also develop leadership and communication skills. This course will be graded Pass/Fail.
PREREQUISITE: Successful completion of year one of the DVM program
Variable 1, 2 or 3 credit hours

VPM 2620 AQUACULTURE AND FISH HEALTH
This course introduces students to all aspects of aquatic veterinary medicine, including aquaculture and pet fish, with a focus on disease prevention, diagnosis and treatment.
PREREQUISITE: Second year standing in the DVM program
One hour of lecture per week
Credit: 1

VPM 3610 DIRECTED STUDIES
This elective course provides an opportunity for students to participate in intensive research and/or clinical

experiential learning opportunities under the supervision of a faculty member. In addition to research and clinical skills, students will also develop leadership and communication skills. This course will be graded Pass/Fail.
PREREQUISITE: Successful completion of year two of the DVM program.
Variable 1, 2 or 3 credit hours

VPM 3612 PRACTICAL TECHNIQUES IN FISH HEALTH
This elective laboratory course provides opportunities for students to learn practical fish health assessment, diagnostic and intervention techniques commonly used by veterinarians in fish health practice. Techniques include water chemistry testing, anaesthesia and non-lethal sample collection, post mortem techniques and diagnostic sample collection, microscopy, preparation and use of water bath treatments, and preparation and use of medicated feeds.
PREREQUISITE: Third year standing in the DVM program
Five-week module with three hours of laboratory per week

VPM 4100 INTERNATIONAL VETERINARY MEDICINE
This 2-3 credit hour course introduces students to the practice of veterinary medicine in other countries. Students study and experience foreign animal diseases and animal health and management practices in other countries, and learn to appreciate socioeconomic and cultural differences.
PREREQUISITE: Fourth year standing in the DVM program and approval of course Co-ordinator
Three weeks in duration

VPM 4120 DIAGNOSTIC VETERINARY VIROLOGY
This course presents current concepts in virology, including proper procedures for collection, handling and submission of appropriate laboratory specimens, interpretation of laboratory test results, and advanced knowledge of animal viral diseases.
PREREQUISITE: Fourth year standing in the DVM program
One week in duration
Credit: 1

VPM 4130 WILDLIFE HEALTH
This rotation is focused on free-living terrestrial and marine mammals and birds. Students will gain an understanding of infectious and parasitic diseases affecting wildlife populations, practice necropsy procedures, and learn the basic principles and tools of wildlife immobilization. Visits to wildlife rehabilitation centres provide an opportunity for hands-on experience.
PREREQUISITE: Fourth year standing in the DVM program
Two weeks in duration
Credit: 2

VPM 4210 FOREIGN ANIMAL DISEASES
In this course students participate in seminars, tutorials and laboratory exercises on the etiology, epidemiology, pathogenesis, diagnosis, treatment and control of major infectious diseases of animals in the tropics and/or countries foreign to North America. Slides and videotapes are used and students are expected to acquire up-to-date information on recent or current epidemics and on emerging diseases. Regulatory measures to prevent introduction of such diseases and to control possible outbreaks in non-endemic areas are emphasized.
PREREQUISITE: Fourth year standing in the DVM program
Two weeks in duration
Two semester hours of credit

VPM 4500 DIAGNOSTIC SERVICES
This course is a rotation in the laboratories of Diagnostic Services. Students gain practical experience in clinical diagnostics with respect to the application of techniques and the interpretation of results in the areas of pathology,

clinical pathology, virology, bacteriology and parasitology.
PREREQUISITE: Fourth year standing in the DVM program (Enrolment is limited)
Three weeks in duration

VPM 4600 MORPHOLOGIC PATHOLOGY
In this course, small groups of students interact directly with pathologists on post-mortem duty. Students gain practical experience in performing necropsies, evaluating histologic slides and establishing a final diagnosis. Emphasis is placed on gross morphologic diagnosis.
PREREQUISITE: Fourth year standing in the DVM program (Enrolment is limited)
Three weeks in duration

VPM 4710 DIRECTED STUDIES
This elective course provides an opportunity for students to participate in intensive research and/or clinical experiential learning opportunities under the supervision of a faculty member. In addition to research and clinical skills, students will also develop leadership and communication skills. This course will be graded Pass/Fail.
PREREQUISITE: Successful completion of year three of the DVM program.
Variable 1, 2 or 3 credit hours

VPM 4900 EXTERNAL CLINICAL EXPERIENCE—INSTITUTIONAL OR SPECIALIST PRACTICE
This course provides a clinical experience that is not available to an individual student at UPEI. This 1-3 credit-hour experience is limited to academic institutions and non- academic institutions where evaluation of performance is routinely completed. In order to qualify as an approved non-academic institution, certain criteria as outlined in the Senior Rotation handbook must be met. All expenses incurred are the responsibility of the student.
PREREQUISITE: Fourth year standing in the DVM Program and approval of the departmental Chair and the Associate Dean of Academic Affairs

VPM 4950 SPECIAL TOPICS IN PATHOLOGY AND MICROBIOLOGY
This course is initiated and offered at the discretion of the Department. Entry to the course, course content, and the conditions under which the course may be offered will be subject to the approval of the Chair of the Department, the AVC Curriculum Committee, and the Dean or designate.
PREREQUISITE: Fourth year standing in the DVM program
One to three hours per week

PART V

# STUDENT FINANCIAL INFORMATION

# 95. Tuition and Fees

**General Tuition and Fee Regulations**

Tuition and Fees outlined below are as approved by the University of Prince Edward Island Board of Governors for the 2025/2026 Academic Year and are subject to change without notice.

The University reserves the right to add, to alter, or amend these regulations at any time during the academic year.

The International student fee is administered to international undergraduate and graduate students in additional to regular tuition fees in accordance with the International Student Fee Policy.

Tuition and fees are listed in Canadian dollars, unless otherwise indicated.

**Payment and Due Date Guidelines**

Tuition & Fees for the 2025/26 Academic Year are due as follows:

- Fall Term 2025 – September 16th at 4:00pm
- Winter Term 2026 –January 27 at 4:00pm
- Summer Sessions 2026 – See Timetable (same as 100% refund date for each course)

All payments towards academic and residence fees may be made by credit card, 24/7 online/ telephone banking, cash, Interac, cheque, money order, Convera Global Pay student portal or Student Loan.

Tuition credit card payments must be made online through the myUPEI student portal and will be subject to a non-refundable convenience fee of 2.5% with a minimum $3.00 charged to the card by PayPath.

Students who pay their fees by cheque and subsequently have their cheque returned to the University will have the face value of the cheque plus any bank charges charged back to their account. In addition to this, a $20.00 administration charge will be levied against the student, and the student will be subject to late fees.

**Student Loan Considerations**

Proceeds from Student Loan and Bursary sources must first be applied against educational debts incurred at the University of Prince Edward Island. Any residual funds will be available to the student after these debts have been paid.

Students financing part or all of their education with funds from a Canada Student Loan and/or a Provincial Student Loan are required to complete the necessary arrangements according to the provincial guidelines to ensure timely processing. Failure to follow this procedure may subject the student to late fees.

Students who intend to finance their education with student loan funds but have not received their Certificate of Eligibility must arrange the necessary temporary financing. Failure to do this will subject the student to a late fee.

Students whose educational costs are paid by an external organization which requires direct billing by the Student Financial Services Office must present proof of such arrangements by the posted deadlines.

**Late Payment Regulations**

If a student registers and subsequently decides not to attend this institution, it is their responsibility to cancel all registrations prior to the payment deadline to avoid any charges.

Payment of fees constitutes part of the registration procedures. Fees not paid in full by the payment deadline (during regular business hours) are subject to late fees and interest. Interest is charged at a rate of 0.75% per month. This rate may change from time to time as market conditions fluctuate.

Students unable to make payment by the payment deadline are asked to complete a Permission to Pay Later form and have it approved by the Student Financial Services Office. An approved Permission to Pay Later does not waive applicable late fees or interest but will ensure a student remains enrolled in their courses in the current term. Permission to Pay Later forms will not be approved for students owing a balance in a previous term.

If a student is registered and has not made payment or payment arrangements by the payment deadline, they may be de-registered from their courses and restricted from further registration until payment has been received.

Discretionary powers in exceptional circumstances will remain with the Comptroller in all cases relating to the payment of fees.

When a student is financially indebted to the University, no transcript, official letters, or parchment will be issued.

**Refund Regulations**

Students who withdraw from the University or from individual courses, voluntarily or otherwise before October 31st (or last business day in October) in the first term or February 27 (or the last business day in February) in the second term may be permitted a refund on part of their tuition paid, provided the student has followed proper procedure for dropping or discontinuing their course registrations.

After the final day to add/drop courses within the applicable term, students are required to complete a Discontinuation Form in order to discontinue a course and be eligible for any applicable refunds on tuition paid. The date of withdrawal shall be the day the form is received.

Please note that fees other than tuition are not refundable after the payment deadline, and all refunds will be processed through the same payment method and to the same individual from which the original payment was made.

Refunds are based on discontinuation dates as follows:

- **Fall Term:**
    - September 12th, 2025 100% Refund
    - October 31st, 2025 50% Refund
- **Winter Term:**
    - January 23rd, 2026 100% Refund
    - February 27th, 2026 50% Refund

**International student refund rules and procedures**

Some programs, such as graduate studies, will require a non-refundable tuition deposit. This will be outlined in the letter of offer for the program. Payment of non-refundable tuition deposits are not refunded for students who subsequently do not attend/complete the program. Payments to UPEI in excess of non-refundable tuition deposits are calculated under the following rules and procedures for international students:

Study permit denied

NOTE: Applicants who decide not to apply for a study permit will have their refund request processed as a withdrawal from UPEI without a visa refusal letter. See the International Student Withdrawal from UPEI section below if that is the case.

- Students who are not successful in obtaining a study permit prior to arrival in Canada and wish to withdraw their offer of admission to UPEI, must make a formal request to do so.
- Students must complete a notification form before the start date of the academic semester of the calendar year.
- It is the student's responsibility to check the UPEI calendar dates to ensure that they submit their request for withdrawal on time.
- Students must remove themselves from any courses in which they are registered before requesting a refund.
- For requests received before the start of the academic semester students will be refunded the amount paid to UPEI less a $500 administrative fee.
- Refunds will be returned to the original sender in the manner in which they were received.
- All requests for refunds must be accompanied by the student's visa rejection letter, where the visa rejection letter must be for the most recent semester the applicant had been accepted.
- UPEI reserves the right to verify the authenticity of all visa rejection letters.
- Refunds will only be processed after verification is obtained from Immigration, Refugees, and Citizenship Canada

(IRCC) and all of the required banking documentation has been provided to UPEI Financial Services when necessary.

- Refund requests accompanied by a visa rejection letter from an application originating from a prior semester OR a visa rejection letter determined to be invalid will be treated as a withdrawal from UPEI (see section below).
- Students should be aware that this process may take up to eight (8) weeks.

International Student Withdrawal from UPEI

Applicants who decide not to apply for a study permit will have their refund request processed as a withdrawal from UPEI without a visa refusal letter.

Students who decide not to attend UPEI after being granted a study permit to UPEI must complete a notification form and will be charged a non-refundable administrative fee of $3,000 to be automatically deducted from any applicable refund.

Refunds will be returned to the original sender in the manner in which they were received, and when all of the required banking documentation has been provided to UPEI Financial Services when necessary.

Please be aware that it may take up to eight (8) weeks to process a request for a refund.

Incoming International students requesting a refund can start the refund process by filling out the UPEI International Student Withdrawal Request form.

**Undergraduate Programs**

**Application Fee**

All undergraduate applicants, whether for full-time or part-time studies are required to pay a non-refundable $50.00 application fee, for each application submitted.

**Deposit**

First year domestic students are required to pay a $250.00 deposit before they will be eligible to register into classes. International students are required to pay a $3,000.00 deposit. The deposit is non-refundable and will be applied against future charges on the student account.

**Tuition**

1. Per three-credit-hour course – $763.00
2. Per six-credit-hour course – $1,526.00
3. Per three-credit-hour audit course – $485.00
4. Per six-credit-hour audit course– $970.00
5. International students fee per annum– $9,040.00
6. International students fee per course (part-time) – $904.00

**Other Fees** (charged when applicable)

1. Laboratory Fee (per applicable course) – $100.00
2. Music Instruction Fee (per applicable course) – $550.00
3. Co-op Acceptance Fee – $778.00
4. Education Professional Fee – $1000.00
5. Engineering Professional Fee – $1250.00
6. Nursing (4 year program) Professional Fee – $600.00
7. Nursing (Accelerated program) Professional Fee – $1200.00
8. Canadian Nursing Student Association Fee – $11.00
9. Challenge Examination – $381.00
10. Evaluation of Special Credits (per request) – $381.00
11. Business Student Service Fee – $200.00

**Full Time Student Fees**

Fees will be charged to all students who meet the requirements to be classified as a full-time student.

***UPEI Fees***

1. Fitness and Administration Fee – $276.00
2. Technology Fee – $100.00
3. Library Resource Fee – $90.00

***Student Union Fees***

1. Student Union Dues – $193.00
2. CASA – $6.00
3. CFS – $12.00
4. WUSC – $10.00
5. Student Centre Fund – $44.00
6. Transit Pass – $70.00
7. Student Wellness Program – $6.00
8. Single Extended Health Insurance – $315.00
9. Single Dental Insurance – $180.00
10. Family Extended Health Insurance – $315.00 (in addition to Single Extended Health charge)
11. Family Dental Insurance – $303.00 (in addition to Single Dental charge)
12. International Single Medical Insurance – $672.00 (in addition to Single Extended Health charge)
13. International Family Medical Insurance – $1,500.00 (in addition to Single Extended Health and International Single Medical charges)

The UPEI Student Union-administered student medical plan is a supplement to the Canadian Provincial Medicare plans and covers the student (Canadian and International) for certain benefits not provided by Medicare. The term of coverage is from September 1 to August 31 of each registered year for students registering in the fall. All students must pay the specified premium at the time of registration. Those not requiring medical coverage and wishing refunds on the premium paid must present proof of similar coverage to the Student Union Office prior to September 30th of each registered year or during a specific period of time which will be advertised on campus bulletin boards.

Full-time students requiring family health and dental insurance can apply for this coverage through the Student Union office.

**Part Time Student Fees**

Fees will be charged to all students who meet the requirements to be classified as a part time student.

***UPEI Fees***

1. Administration Fee (per course) – $10.00
2. Technology Fee (per course) – $16.00
3. Library Resource Fee (per course) – $15.00

**Graduate Programs**

**Application Fee**

All graduate applicants, whether for full-time or part-time studies are required to pay a non-refundable $50.00 application fee, for each application submitted.

**Deposit**

First year domestic students for all Graduate programs, excluding MBA, EMBA, DVM and MEd, are required to pay a $250.00 deposit. The deposit is non-refundable and will be applied against future charges on the student account.

First year international students for all course based Graduate programs are required to pay a $3,000.00 deposit. The deposit is non-refundable and will be applied against future charges on the student account.

First year international students for all thesis based Graduate programs are required to pay a $1,000.00 deposit. The deposit is non-refundable and will be applied against future charges on the student account

First year MBA, EMBA, DVM and MEd students are required to pay a $1,000.00 deposit. The deposit is non-refundable and will be applied against future charges on the student account.

Non-payment of the deposit, within the prescribed timelines, will result in a withdrawal of the offer of acceptance.

**Tuition by Program**

***Master of Engineering, Nursing, Science and Veterinary Science***

Approved program fee is charged over 6 installments.

1. Fee per installment – $1,718.30
2. International Fee per installment – $3,013.00
3. Maintenance of Status Fee per term – $500.00

***Master of Arts in Island Studies***

1. Per three semester hour credit course – $1,442.00
2. Thesis – $5,768 (divided over 3 thesis registrations)
3. International Fee per course – $904.00
4. Maintenance of Status Fee per term – $500.00

***Master of Applied Health Services Research***

Thesis Stream – Approved program fee is charged over 6 installments.

1. Fee per installment – $2,672.70
2. International Fee per installment – $3,013.30
3. Maintenance of Status Fee per term – $500.00

Professional Course Based Stream

1. Per three semester hour credit course – $1,603.00
2. Practicum – $3,206.00
3. International Fee per course – $904.00
4. Maintenance of Status Fee per term – $500.00

***Master of Education***

1. Per three semester hour credit course – $1,165.00
2. Thesis – $4,660 (fee divided over 3 thesis registrations)
3. International Fee per course – $904.00
4. Maintenance of Status Fee per term – $500.00

***Master of Cleantech***

1. Per three semester hour credit course – $1,746.00
2. International Fee per course – $904.00

***Master of Business***

1. Per three semester hour credit course – $1,746.00
2. International Fee per course – $904.00
3. Maintenance of Status Fee per term – $500.00

***Executive Master of Business***

1. Per three semester hour credit course – $3,208.00
2. Capstone Course – $6,419.00
3. International Fee per course – $904.00
4. Maintenance of Status Fee per term – $500.00

***PhD Science, Veterinary Science, Education and Engineering***

Approved program fee is charged over 9 installments.

1. Fee per installment – $1,716.50
2. International Fee per installment – $3013.30
3. Maintenance of Status Fee per term – $500.00

***Doctoral Clinical Psychology***

Approved program fee is charged over 12 installments.

1. Fee per installment – $3,340.20
2. International Fee per installment – $3013.00
3. Maintenance of Status Fee per term – $500.00

**Other Fees** (charged when applicable)

1. Challenge Examination – $381.00
2. Evaluation of Special Credits (per request) – $381.00
3. Business Student Service Fee – $200.00
4. Nursing Professional Fee – $250
5. Master of Science, Master of Education, or Doctor of Philosophy Program Thesis publication fee (as determined by Library and Archives Canada) Thesis binding (2 copies) – $30.00

**Full Time Student Fees**

Fees will be charged to all students who meet the requirements to be classified as a full time student. All graduate programs at the University of Prince Edward Island are defined as full-time studies, unless otherwise designated.

***UPEI Fees***

1. Fitness and Administration Fee – $276.00
2. Technology Fee – $100.00
3. Library Resource Fee – $90.00

***Student Union Fees***

1. Student Union Dues – $193.00
2. CASA – $6.00
3. CFS – $12.00
4. WUSC – $10.00

5. Student Centre Fund – $44.00
6. Transit Pass – $70.00
7. Student Wellness Program – $6.00
8. Single Extended Health Insurance – $315.00
9. Single Dental Insurance – $180.00
10. Family Extended Health Insurance – $315.00 (in addition to Single Extended Health charge)
11. Family Dental Insurance – $303.00 (in addition to Single Dental charge)
12. International Single Medical Insurance – $672.00 (in addition to Single Extended Health charge)
13. International Family Medical Insurance – $1,500.00 (in addition to Single Extended Health and International Single Medical charges)

The UPEI Student Union-administered student medical plan is a supplement to the Canadian Provincial Medicare plans and covers the student (Canadian and International) for certain benefit not provided by Medicare. The term of coverage is from September 1st to August 31st of each registered year for students registering in the fall. All students must pay the specified premium at the time of registration. Those not requiring medical coverage and wishing refunds on the premium paid must present proof of similar coverage to the Student Union Office prior to September 30th of each registered year or during a specific period of time which will be advertised on campus bulletin boards.

Full-time students requiring family health and dental insurance can apply for this coverage through the Student Union office.

**General Graduate Program Fee Regulations**

Graduate and post graduate students who enroll in courses not designated as part of their graduate/postgraduate program by their supervisory committee will be subject to the regular course tuition fees in addition to their program fees.

Students who are permitted to enroll in individual graduate courses (excluding those associated with the Master of Business, Executive Master of Business and Master of Education programs) are subject to tuition of $1,028.00 per course. The amount of the tuition fee may be deducted from the graduate program fee if the student enrolls in the program within 12 months of registering for the single course. This option will be subject to approval by the appropriate Dean.

Students auditing a graduate course can do so with permission of the instructor at a cost of $694.00 per course.

Installments in a particular academic year are based on the approved program fee in affect for that year. Program fees are subject to change upon approval of the Board of Governors.

Graduate students continuing with their program after all program tuition has been charged are required to register and pay a Maintenance of Status Fee. Registration and payment of maintenance of status fee is required each term until all program requirements have been completed.

**Veterinary Medicine Programs**

**Application Fee**

All applicants are required to pay a non-refundable $75.00 application fee, for each application submitted.

**Deposit**

First year students are required to pay a $1,000.00 deposit before they will be eligible to register into classes. The deposit is non-refundable and will be applied against future charges on the student account.

**Tuition**

1. Canadian Student Annual Tuition – $16,602.00 (divided among first and second term)
2. International Student Annual Tuition – $84,435.00 (divided among first and second term)

**Full Time Student Fees**

Fees will be charged to all students who meet the requirements to be classified as a full time student.

***Other DVM Fees (charged in the Fall Term)***

1. DVM Professional Fee – $300.00 (1st year students only)
2. SAVS Laundry Fee – $50.00
3. SAVMA Fee – $30.00
4. SCVMA – $5.00

***UPEI Fees***

1. Fitness and Administration Fee – $276.00
2. Technology Fee – $100.00
3. Library Resource Fee – $90.00

***Student Union Fees***

1. Student Union Dues – $193.00
2. CASA – $6.00
3. CFS – $12.00
4. WUSC – $10.00
5. Student Centre Fund – $44.00
6. Transit Pass – $70.00
7. Student Wellness Program – $6.00
8. Single Extended Health Insurance – $315.00
9. Single Dental Insurance – $180.00
10. Family Extended Health Insurance – $315.00 (in addition to Single Extended Health charge)
11. Family Dental Insurance – $303.00 (in addition to Single Dental charge)
12. International Single Medical Insurance – $672.00 (in addition to Single Extended Health charge)
13. International Family Medical Insurance – $1,500.00 (in addition to Single Extended Health and International Single Medical charges)

The UPEI Student Union-administered student medical plan is a supplement to the Canadian Provincial Medicare plans and covers the student (Canadian and International) for certain benefit not provided by Medicare. The term of coverage is from September 1 to August 31 of each registered year for students registering in the fall. All students must pay the specified premium at the time of registration. Those not requiring medical coverage and wishing refunds on the premium paid must present proof of similar coverage to the Student Union Office prior to September 30 of each registered year or during a specific period of time which will be advertised on campus bulletin boards.

Full-time students requiring family health and dental insurance can apply for this coverage through the Student Union office.

**Additional DVM Guidelines**

Veterinary Medicine students are required to purchase protective clothing and textbooks for personal use. A description of requirements is contained in the Atlantic Veterinary College registration packet.

Students in the Veterinary Medicine program must pay the International tuition unless they are Atlantic Canadian citizens or landed immigrants of Atlantic Canada of at least 12 consecutive months' duration during which time they have resided in Atlantic Canada and have not attended a university or college full-time. Those who qualify for this status after first admission by standing down for a year will be considered for readmission subject to the availability of seats in the year and in the province where they now qualify. (See Undergraduate and Professional Programs – Application and Admission Requirements – Professional Degree Programs a) Doctor of Veterinary Medicine (DVM) for residency guidelines.)

**Administrative Fees**

All administrative fees are payable when incurred.

- Fall and Winter Term Late Payment Fees:
  - Full time – $60.00
  - Part time – $30.00
- Summer Term Late Payment Fee – $25.00
- NSF Returned Cheque Administrative Fee – $20.00
- Wire Transfer Fee – $40.00
- Reinstatement Fee:
  - Full time – $50.00
  - Part time – $25.00
- Transcripts request fees:
  - Same day processing rush fee – $15.00
  - Courier Fee within Atlantic Canada – $10.00
  - Courier Fee (other Canadian destinations) – $20.00
  - Courier Fee (United States) – $30.00
- International Refund Administrative Fees
  - Study permit denied (request prior to start of term) – $500.00
  - Withdrawal from UPEI before PAL issued – $3,000.00

- Master of Science, Master of Education, or Doctor of Philosophy Program Thesis publication fee (as determined by Library and Archives Canada) Thesis binding (2 copies) – $30.00

**Residence Accommodation Fees**

The 2025-2026 residence and meal service fees are outlined below.

All students living in Bernardine or Bill and Denise Andrew Hall are required to have a meal plan. The choices of meal plans are 7-day meal plan (unlimited) or 5-day meal plan (unlimited).

| **Accommodation** | **1st Semester** | **2nd Semester** | **Total** |
|---|---|---|---|
| ***Bernardine Hall*** | | | |
| Single Room | $3,802.50 | $3,802.50 | $7,605.00 |
| Shared (double) Room | $2,975.50 | $2,975.50 | $5,951.00 |
| ***Andrew Hall*** | | | |
| One-Bedroom Suite | $4,286.50 | $4,286.50 | $8,573.00 |
| Two-Bedroom Suite | $4,286.50 | $4,286.50 | $8,573.00 |
| Three-Bedroom Suite | $4,286.50 | $4,286.50 | $8,573.00 |
| ***Blanchard Hall*** | | | |
| Semi-Private | $4,170.00 | $4,170.00 | $7,965.00 |

| **Accommodation** | **1st Semester** | **2nd Semester** | **Total** |
|---|---|---|---|
| ***Performing Arts Centre and Residence*** | | | |
| Single Apartment W/Kitchenette | $4,648.00 | $4,648.00 | $9,296.00 |
| Two-Bedroom Suite W/Full Kitchen | $4,648.00 | $4,648.00 | $9,296.00 |
| Three Bedroom Apartment W/Full Kitchen | $4,648.00 | $4,648.00 | $9,296.00 |
| Double Apartment W/Full Kitchen | $3,967.50 | $3,967.50 | $7,935.00 |
| ***Meal Service*** | | | |
| 5-Day Meal Plan | $3,061.50 | $3,061.50 | $6,123.00 |

| | | | |
|---|---|---|---|
| 7-Day Meal Plan | $3,123.50 | $3,123.50 | $6,247.00 |

Residence accommodation fees include heat/hot water, use of laundry equipment, mail and package receiving, high-speed wireless internet service, and security services. Additional information regarding residence facilities and services can be found by visiting http://upei.ca/residence.

**Residence Regulations Governing Payments and Refunds**

- Fees for residence accommodation are payable during registration for first and second semester as specified under Calendar Dates 2025-2026. Regulations governing payments and refunds for academic fees also apply to payment of fees for residence accommodations and meal services.
- All residence students are required to submit a completed Residence Life Agreement and a $500.00 Residence Non-Refundable Deposit by the date indicated in your letter of acceptance to the residence program.
- The cost per semester, according to the current fee schedule, is payable in advance to the University Student Financial Services Office prior to the date of move-in (for the first semester) and prior to the first day of classes in January (for the second semester).
- Students living in residence during the first semester who have paid the residence security deposit are not required to pay this when paying for second semester residence accommodation.

- If you are a student who has applied to residence with a start date in the winter semester, you will be required to submit a completed Residence Life Agreement and a $500 Residence Deposit by the date indicated in your letter of acceptance to the residence program. The paid deposit will not be refunded (*unless your application to UPEI is denied or UPEI does not allow you to continue because of your academic performance*) as it is expected that you will enter residence.
- The $500 Residence Deposit will be applied against your residence room fee during the fall semester of the academic year. Students offered and accepted to the Residence Program with a start date in the winter semester will have the $500 Residence Deposit applied toward their winter semester residence fee.
- You are making a commitment to the Residence Life Program for the entire academic year. This commitment includes all financial obligations (including your $500.00 Residence Deposit), whether or not you remain in residence for the entirety of that time period.

***Fall Semester (September–December):***

- If you choose to leave residence at any point from the date you check-in and on or before September 30, you will be charged 50% of the fall semester residence fees and meal plan fees. Any necessary costs for repairs and/or required cleaning identified by Residence Services personnel upon a room inspection, and deemed above normal wear and tear to your assigned room, will be charged accordingly to your UPEI student account.
- If you are evicted from residence at any point from the date you check-in and on or before September 30, you will not be eligible for any refund of the fall semester residence fees and meal plan fees. Any necessary costs for repairs and/or required cleaning identified by Residence Services personnel upon a room inspection, and deemed above normal wear and tear to your assigned room, will be charged accordingly to your UPEI student account.
- If you choose to leave residence or are evicted at any point on or after October 1, during the fall semester (includes the December Holiday Break), you will not be eligible for any refund of the fall semester fees. This includes your residence fee and meal plan fee (if applicable). You will also be charged for 50% of the residence and meal plan fees for the second semester. Any necessary costs for repairs and/or required cleaning identified by Residence Services personnel upon a room inspection, and deemed above normal wear and tear to your assigned room, will be charged accordingly to your UPEI student account.

***Winter Semester (January–April):***

- If you choose to leave or are evicted from residence at any point in the winter semester, you will not be eligible for any refund. This includes your residence fee and meal plan fee (if applicable). Any necessary costs for repairs and/or required cleaning identified by Residence Services personnel upon a room inspection, and deemed above normal wear and tear to your assigned room, will be charged accordingly to your UPEI student account.

***Additional Information***

- All fees are payable in full at the beginning of each semester. Students accepted to residence who have not paid their residence security deposit cannot be guaranteed residence accommodation. For further information, please contact the Residence Office at 902-566-0330 or e-mail residence@upei.ca.
- If you accept residence in Bill and Denise Andrew Hall or Bernardine Hall, you are making a commitment to the University of Prince Edward Island to purchase one of the available residence meal plans (5-*Day Meal Plan or* 7-*Day Meal Plan*) for the duration of your stay in residence. If you wish to change to a different residence meal plan for the second semester, you must inform the Residence Office in writing during the first semester, prior to December 1.
- If you accept a room assignment in Blanchard Hall, you are not required, but do have the option, to purchase one of the available residence meal plans 5-*Day Meal Plan or* 7-*Day Meal Plan*) or a commuter dining plan. Commuter dining plans are not refundable.

**Campus Parking Fees**

The University provides pay parking for students, faculty, staff, and visitors to the campus. Permits are required during the parking enforcement hours of 7:00 a.m. to 7:00 p.m., Monday to Friday (excluding statutory holidays).

Students may obtain parking permits by completing an application and making the required payment. Please see the website for more information: http://upei.ca/facilities/security/parking

**Student Parking Fees (subject to change without notice):**
Full-Time Student (per household)
1st Vehicle – $124.00
Additional Vehicle – $62.00
Part-Time Student (per household)
1st Vehicle – $77.00
Additional Vehicle – $39.00

Visitor metered parking during the enforcement hours at an hourly rate of $2.00 (four hour maximum) is located at the Visitor Parking Lot at the University Avenue entrance to the campus.

A brochure outlining UPEI's traffic and parking regulations is available from the Security Services Office or through the Security website. Questions related to permits, fees, and enforcement matters should be addressed to Security Services by emailing security@upei.ca. The payment of parking ticket fines can be made at the Security Office located in the Central Utility Building.

# 96. Scholarships and Awards

UPEI supports their students and their educational goals. We offer competitive tuition rates and administer millions of dollars in scholarships and awards to our undergraduate and graduate students every year. Students can be automatically considered for academic or departmental funding, as well as apply separately for hundreds of annual awards based on coursework, work or volunteerism, and need.

**Celebrating Student Achievement Awards**

The program—including Guaranteed Entrance Scholarships for domestic direct from high school students and Academic Excellence Awards for current UPEI students completing their first undergraduate degree— rewards students' academic excellence automatically upon entrance to, as well as throughout their studies at UPEI. Students must maintain full-time registration status, full-time defined as a minimum of 9 (nine) semester hours of credit in each of the fall and winter semesters (September and January) to be eligible for consideration and receipt of the scholarship funding.

**Guaranteed Entrance Scholarship and Academic Excellence Award**

| Admissions Average for Guaranteed Entrance Or Weighted Average for Academic Excellence | Guaranteed Scholarship Funding |
|---|---|

| | |
|---|---|
| 95 – 100 % | $ 3,000 |
| 90 – 94.99 % | $ 2,000 |
| 85 – 89.99 % | $ 1,000 |
| 80 – 84.99 % | $ 500 |

**Guaranteed Entrance Scholarship for IB Diploma Graduates (Domestic)**

| Guaranteed Entrance For IB Diploma Domestic Students (Final IB Diploma Score) | Guaranteed Entranc |
|---|---|
| 36-45 | $ 3,000 |
| 32-35 | $ 2,000 |
| 29-31 | $ 1,000 |
| 27-28 | $ 500 |

## International Entrance Awards

International students are automatically considered for undergraduate entrance scholarships based on their admission to UPEI; any offer would be outlined on their admission letter, for first year of studies. If it is their first undergraduate degree, international students are also eligible in upper years of study for the Celebrating Student Achievement awards based on academic success while at UPEI.

## Applying For Scholarships

Scholarships that require separate application have a deadline as outlined on the application form. Additional material including personal statements, financial need forms, or references may also be required. Application packages must be postmarked on or before the deadline; if the date falls on a weekend or statutory holiday, the scholarship deadline moves to the next business day.

All current students at the university are welcome to apply for any of the awards they may qualify for during each semester: there is the First Semester Award Cycle which has an annual deadline of October 1 and our Second Semester Award Cycle which has an annual deadline of February 1. Depending on faculty, program or year of study, students are also able to search the List of Scholarships for available awards. Further information and application forms are available by clicking on the scholarship name.

Our Scholarships and Awards website also details different funding opportunities that are available both internally from UPEI, external resources, as well as government financial aid programs.

# 97. Seniors' Bursaries

To recognize the contribution of seniors to the classroom, Seniors' Bursaries are available to residents of Prince Edward Island aged 60 and over by the beginning of the semester. One Seniors' Bursary per year is available to all PEI seniors for the tuition costs of one undergraduate course. Additional Seniors' bursaries will be available based on financial need.

PART VI

# GRADUATE STUDIES

# 98. Graduate Faculty

(The faculty listed below are members of the graduate faculty and may participate in graduate programs).

Greg Keefe—Interim President

**FACULTY OF ARTS**

**Department of Applied Communication, Leadership and Culture**

L. Chilton, J. MacFadyen

**Department of Diversity and Social Justice Studies**

A. Braithwaite

**Department of Economics**

G. Jia, J. Johnson Kakeu Kengne, P. Nagarajan, W. Rankaduwa

**Department of History**

L. Chilton, R. Kurial, E. MacDonald

**Department of Island Studies**

G. Baldacchino, L. Brinklow, R. Dodds*, R. Gibson*, A. Grydehoj*, A. Jennings*, H. Kristmanson*, G. Prinsen*, J. Randall

**Department of Modern Languages**

D. Coll, C. Lavoie

**Department of Sociology & Anthropology**

U. Krautwurst

**Department of Psychology**

M. Artken, T. Doucette , C. MacQuarrie

**Department of Religious Studies**

R. Dennis

**FACULTY OF BUSINESS**

A. Carrothers, X. Chen, Q. Deng, S. Graham, J. Krause, T. Mady, T. Saksida, D. Wagner, H. Woodley*

**FACULTY OF EDUCATION**

A. DiSanto*, T. Goddard*, L. Guo-Brennan, R. MacDonald, S. MacKinnon, A. McAuley, T. Miller, L. Moffat, J. Preston*, R. Quantick*, C. Rowan*, J. Shulha*, K. Snow, J. Taylor, K. Tilleczek*, E. Townsend*, C. VanLeeuwen*, L. Weeks*, S. Wiebe

**FACULTY OF GRADUATE STUDIES**

D.Coll, J. Collins*, S. Murphy*

**FACULTY OF INDIGENOUS KNOWLEDGE, EDUCATION, RESEARCH AND APPLIED STUDIES**

Gary Evans

**FACULTY OF NURSING**

B. Bell*, J. Bryanton, B. Campbell, C. Cassidy*, P. Charlton*, M. Corman*, K. Critchley*, P. Drake, L. Garland Baird*, R. Herbert*, G. Jiwani, T. Kean, G. Macartney, J. MacDonald, J. MacIntyre, J. MacLellan-Peters, S. Marchant-Short*, C. McClure*, G. McInnis-Perry, C. Murray

**FACULTY OF SCIENCE**

**Department of Applied Human Sciences**

J.P. Chaput*, K. Gottschall-Pass, S. Hewko, A. Johnston, D. MacDonald, D. MacLellan, M. MacLellan , W. Montelpare, C. Nelson*, R. Reed-Jones, M. Rossiter, T. Saunders, C. VanLeeuwen*, M. Zhang

**Department of Biology**

S. Courtenay *, B. Fofana *, A. Foster *, L. Hale, , R. Hurta, C. Lacroix , S. Li, J. McCallum*, A. McKenzie-Gopsill *, J.P. Murphy , H. Nguyen *, C. Noronha *, R. Peters *, J. Pittman *, P. Quijon, J. Ross, K. Samis*, M. Silva-Opps, S. Springer, A. St-Hilaire *, M. Sweeney-Nixon, K. Teather

**Department of Chemistry**

M. Ahmed, F. Berrue*, R. Bethell*, R. Bissessur, N. Etkin, R. Kerr, C. Kirby*, S. MacQuarrie*, D. Marchbank*, J. Pearson, J. Riley *, M. Rodgers*, B. Wagner

**Department of Environmental Studies**

N. Antadze , M. Davies *, T. Doucette, C. Peach-Brown

**Department of Physics**

D. Dahn , D. Lawther , M. Patterson *, J. Polson , W. Whelan

**School of Climate Change and Adaptation**

A. Fenech, Y. Rashchupkina, X. Wang

**School of Mathematical and Computational Sciences**

A. Bolufe-Rohler, M. Burke, S. Islam, K. Liu, M. McIsaac, C. Power, N. Saad, Y. Wang, , Q. Ye*

**Faculty of Sustainable Design Engineering**

B. Acharya, A. Ahmadi, S. Babaii, J. Bloemink*, A. Bodaghkhani*, N. Bressan, D. Burton*, A. Demeo, T. Dung Ngo, R. Elshafei*, T. Esau*, A. Farooque, C. Fortin*, M. Hall, A. Hsiao, N. Krouglicof, G. McSorley, E. Osgood, W. Peters, T. Rahman*, G. Saha*, A. Schumann*, A. Swingler, S. White*, D. Wynn*, Q. Zaman*

**VETERINARY MEDICINE**

**Department of Biomedical Sciences**

M. Arsenault*, P. Bernard, F. Clark*, D. Daoud*, S. Dawson, D. Gill*, R. Gilmour, S. Greenwood, B. Haltli* S. Hartwig, O. Igboeli*, C. Kamunde, R. Kerr, T. Muirhead, S. McConkey, , D. Stevens*, A. Tasker, M. van den Heuvel, J. VanKampen*, G. Wright, Y. Wang*

**Department of Companion Animals**

S. Arai, E. Bourassi, E. Côté, J. Dundas*, M. Evason, P. Foley, S. Hamilton, K. Hoddinott, L. Lamont, A. Ogilvie, L, O'Sullivan, C. Pye, O. Raab, C. Savidge*, D. Shaw*

**Department of Health Management**

C. Baes*, E. Budu-Amoako*, J. Burns*, P. Burns, J. Christensen*, L. Comeau*, B. Crane, J. Davidson, A. Doyle, S. Dufour*, A. Dumas*, I. Elsonhaby*, R. Erskine*, I. Gardiner*, G. Gitau*, J. Grant*, L. Hammell, A. Hudson*, D. Hurnik, S. Johnson*, D. Leger*, J. Lofstedt*, K. MacMillan, M. Martinez*, L. McDuffee, M. McNiven, C. Neudorf*, R. Nino Fong*, K. Overall*, K. Proudfoot, J. Quail*, C. Revie, N. Rheault, C. Riley*, M. Saab*, S. Saksida*, J. Sanchez, S. Sharif*, S. St-Hilaire, B. Stoughton, H. Stryhn, J. Stull*, K. Tahlan*, K. Thakur, V. Tsuma*, R. Vanderstichel*, J. VanLeeuwen, S. Weese, J. Wichtel*

**Department of Pathology and Microbiology**

E. Aburto, A. Bourque, L. Bourque, M. Braceland, M. Buote, S. Burton, G.

Conboy, P. Daoust, M. Fast, R. Fraser, C. Gilroy, C, Graham, D. Groman, P. Hanna, T. Hori, B. Horney, M. Jones, F. Kibenge, M. Kibenge*, J. Lewis, A. Lòpez*, F. Markham*, C. Martin, S. Martinson, S. McBurney*, D. McRuer*, L. Miller*, A. Muckle, M. Rise*, A. Riveroll*, J. Rudriquez-Leco, D. Speare, G. Tobin vandenHeuvel*, Y. Wang, S. Whyte*, S. Workenhe* H. Xu*, C. Yason*, J. Zuccolo*

***Adjunct Faculty**

# 99. Graduate Program Admissions

## English Language Proficiency Requirements

Admission requirements for All Graduate Programs and for Graduate Student Status:

The language of instruction at the University of Prince Edward Island is English. All academically admissible applicants, regardless of their country of origin or citizenship status, are required to demonstrate proficiency in the English language prior to undertaking studies at the University of Prince Edward Island. Proficiency is demonstrated by:

- possession of a degree or its academic equivalent from an institution recognized by the University of Prince Edward Island and where the language of instruction is English. Proof that the instruction for the degree was in English may be required and will be confirmed by the UPEI Registrar's Office;
- or a satisfactory score on one of the following approved English language examinations.

| TEST | REGULAR OFFER (ALL PROGRAMS EXCEPT THOSE NOTED IN NEXT COLUMN) | REGULAR OFFER (NURSING, EDUCATION, DOCTOR OF PHILOSOPHY, DOCTOR OF APPLIED HEALTH) | *CONDITIONAL OFFER |
|---|---|---|---|
| IELTS (Academic) | 7 in Writing and no band lower than 6.5 | 7 in Writing and Speaking; 6.5 in Reading and Listening | 6 |
| TOEFL (Paper-based test) | 600 TWE 6 | 600 with minimum TWE 6 | 500 TWE -4 |
| TOEFL (Internet-based test) | 100 with a minimum of 25 in Speaking and Writing; 22 in Reading and Listening | 100 with no band lower than 25 | 61 |
| CAEL (including CAEL Online) | 70 | 70 | 50 |
| PTE | 66 | 66 | 50 |
| Cambridge B2 First, C1 Advanced or C2 Proficiency | 185 in Writing and no skill lower than 176 | 185 in Writing and Speaking; 176 in Reading and Listening | 154 |
| GTECCBT | >1250 | >1250 | 1100 |
| CELBAN for Nursing only | Listening 7.5, Reading 6.5, Writing 7; Speaking 7 | | |
| Duolingo | Overall score: 120<br>Minimum subscores:<br>Literacy: 115<br>Comprehension: 115<br>Conversation: 115<br>Production: 115 | Overall score: 120<br>Minimum subscores:<br>Literacy & Comprehension: 115<br>Conversation & Production: 120 | Overall score: 115<br>No subscore below 110 |
| Oxford Digital ELLT | Overall 8 with no individual component below 7 | Overall 8 with 8 in Writing and Speaking, 7 in Reading & Listening | Overall 6 |

Any exam should have been written within the last two years. If not written in the last two years, students should make arrangements to take the test at least three months before the semester opening date.

*Conditional: Applicants meeting this requirement may be offered a conditional admission offer, which requires the prospective student to provide updated English language test results satisfying the minimum Unconditional English

Language Proficiency requirements before being permitted to enrol in Graduate level courses or participate in Graduate program activity.

Prospective students with a conditional offer of admission for English language proficiency conditions must submit their updated test results by the following deadlines:

- Admitted to a Summer Semester Start – April 1
- Admitted to a Fall Semester Start – August 1
- Admitted to a Winter Semester Start – December 1

## Master of Science (MSc), Master of Veterinary Science (MVSc), and Doctor of Philosophy (PhD)

In the following it must be understood that the standard of reference is the typical Canadian university curriculum and university system.

Admission to a graduate degree program as a regular student is granted, on recommendation of the Department concerned, to:

i. the holder of a Doctor of Veterinary Medicine (DVM) degree, or a four-year honours or majors baccalaureate or its equivalent, as set out below; or

ii. a student who has satisfied the requirements for transfer from provisional student category as described below.

The minimum requirement for admission to graduate studies in the Faculties of Science and Veterinary Medicine is a Doctor of Veterinary Medicine (DVM) degree, or equivalent; or a Bachelor of Science (BSc) degree, or Bachelor of Engineering (BEng) degree, or equivalent, normally of four years' duration, in an honours or majors program or equivalent from a recognized university or college, the applicant having achieved an average of at least second-class ("B," i.e., 70% to 79.9%) standing in the work of the last four semesters or the last two undergraduate years.

Admission to the doctoral program normally requires at least second-class standing as well as a recognized Master's degree. Admission to the MVSc program is normally limited to holders of a Doctor of Veterinary Medicine degree, or equivalent.

Admission to a graduate course is normally based upon the same requirements as for admission to a graduate program, with exceptions needing the approval both of the Program Administrator and of the Chair of the Department within which the student is registered. Admission, whether as a regular, a provisional, or a special student, is in all cases based upon the recommendation of the Department concerned and is subject to the approval of the Program Administrator.

Admission to advanced courses of instruction or to the privileges of research does not imply admission to candidacy for a higher degree.

**APPLICATION FOR ADMISSION**

All documents pertaining to application for admission are to be sent to the Office of the Registrar.

**APPLICATION FEE**

Applications to graduate programs must include fees for the first and any subsequent applications.

**APPLICATION FORM**

Application forms for admission can be completed on line for the Office of the Registrar at http://www.upei.ca/discovermore/apply with the appropriate fee and supporting documentation.

**TRANSCRIPTS**

Official transcripts or certified copies in duplicate of the applicant's complete undergraduate and graduate (if any) record to date are to be sent to the Office of the Registrar. Applicants from outside North America are strongly urged to attach official statements of the grades obtained and the subject matter included.

**CONFIRMED SUPERVISOR (MSc and PhD)**

Prospective applicants must have a confirmed graduate supervisor before completing an application for admission.

**REFERENCE LETTERS**

Letters of reference from two professors, under at least one of whom the applicant has taken a significant proportion of work, are to be sent by the professor directly to the Office of the Registrar. An acceptable alternative to one such letter is a letter from the Department Chair on behalf of the Department in which the applicant has studied, or from the employer where the applicant has recently been employed.

**ENGLISH PROFICIENCY**

Students are expected to be proficient in the use of English, both written and oral, when they begin their studies at the University of Prince Edward Island. The University requires that certification of such proficiency be presented by applicants whose mother tongue is not English or whose normal language of instruction throughout their education (as recognized by UPEI) was not English. Tests of proficiency acceptable to the University, and the minimum scores that must be obtained, are listed under the Admission requirements for All Graduate Programs and for Graduate Student Status section of the Calendar. Such students should make arrangements to take the test at least three months before the semester opening date.

**GRADUATE RECORD EXAMINATIONS**

In some departments, the Graduate Record Examination (GRE) scores may be used as a basis of determining acceptability of an applicant. Applicants should be careful to note the times and places where the GRE and the tests named above may be taken. Ample time should be allowed for the results to reach the University of Prince Edward Island.

**REFUSAL OF ADMISSION**

Limitations of funds, space, facilities, or personnel may make it necessary for the University, at its discretion, to refuse admission to an otherwise acceptable applicant.

**ADMISSION OF FACULTY MEMBERS**

Faculty members of the rank of Associate Professor or Professor are not eligible for admission to graduate studies. Faculty members who are eligible to undertake graduate studies must obtain permission of the President.

**TENTATIVE ADMISSION**

Tentative Admission may be granted to an applicant whose record to date is acceptable but whose application is incomplete. If the documents are satisfactory when received, the student's admission is confirmed. If unsatisfactory, admission is denied.

# Master of Applied Health Services Research (MAHSR)

Candidates for admission to the Masters of Applied Health Services Research programs (MAHSR-Thesis and MAHSR-Professional) must have demonstrated high academic standing.

**MAHSR-Thesis (MAHSR-T) program:**

This program is best suited for those with potential for self-directed, sustained research. Normally, the basic requirements are:

i. a Bachelor's degree of four years or a Bachelor's with honours, or equivalent professional degree, from an approved university, with a minimum GPA of 3.0 or an average of 75% or higher in the last 20 courses;

ii. two references;

iii. a statement of interest, including research interests.

**APPLICATION FOR ADMISSION**

All documents pertaining to application for admission are to be submitted through the application process.

**APPLICATION FORM**

Application forms for admission to the MAHSR-T program can be completed on line.

**TRANSCRIPTS**

Official transcripts of the applicant's complete undergraduate and graduate (if any) record to date are to be sent to the Office of the Registrar.

**CONFIRMED SUPERVISOR**

A confirmed supervisor must be established before completing an application to the MAHSR-T program stream.

International Applicants to the MAHSR-T program stream are eligible for study permits but must complete their thesis research in person at UPEI.

**REFERENCE LETTERS**

Letters of reference from two professors familiar with the applicant's work are to be sent by the professors directly to the Office of the Registrar and can be uploaded to the applicant's file. An acceptable alternative to one such letter is a letter from a Chair or Dean on behalf of the Department or Faculty in which the applicant has studied, or from the employer where the applicant has recently been employed.

**ENGLISH PROFICIENCY**

Students are expected to be proficient in the use of English, both written and oral, when they begin their studies at the University of Prince Edward Island. The University requires that certification of such proficiency be presented by applicants whose first language is not English or whose normal language of instruction throughout their education (as recognized by UPEI) was not English. Tests of proficiency acceptable to the University, and the minimum scores that must be obtained, are listed under the Admission requirements for All Graduate Programs. Such students should make arrangements to take the test in time to have the results available for the application deadline.

**REFUSAL OF ADMISSION**

Limitations of funds, space, facilities, or personnel may make it necessary for the University, at its discretion, to refuse admission to an otherwise acceptable applicant.

**ADMISSION AND FINANCIAL ASSISTANCE**

For MAHSR-T, only those students who have a confirmed research supervisor who can provide the student with funding over the course of the degree (two years) will be admitted to the program.

**MAHSR- Professional Program (MAHSR-P):**

This program prepares graduates for employment in a health-related setting and provides an avenue for current employees to strengthen their skills.

Normally, the basic requirements are:

i. a Bachelor's degree of four years or a Bachelor's with honours, or equivalent professional degree, from an approved university, with a minimum GPA of 3.0 or an average of 75% or higher in the last 20 courses;

ii. two references;

iii. a statement of interest.

All documents pertaining to application for admission are to be submitted through the application process.

International Applicants: If a student plans to come to Canada on a study permit, the MAHSR-P program does not meet IRCC regulations for long-term study permits. There is therefore no option to get a study permit to take an online program in Canada under IRCC regulations.

**APPLICATION FORM**

Application forms for admission to the MAHSR-P program stream can be completed on line.

**TRANSCRIPTS**

Official transcripts of the applicant's complete undergraduate and graduate (if any) record to date are to be sent to the Office of the Registrar. Applicants from outside North America are strongly urged to attach official statements of the grades obtained and the subject matter included.

**REFERENCE LETTERS**

Letters of reference from two professors familiar with the applicant's work are to be submitted directly by the professors. An acceptable alternative to one such letter is a letter from a Chair or Dean on behalf of the Department or Faculty in which the applicant has studied, or from the employer where the applicant has recently been employed.

**ENGLISH PROFICIENCY**

Students are expected to be proficient in the use of English, both written and oral, when they begin their studies at the University of Prince Edward Island. The University requires that certification of such proficiency be presented by applicants whose first language is not English or whose normal language of instruction throughout their education (as recognized by UPEI) was not English. Tests of proficiency acceptable to the University, and the minimum scores that must be obtained, are listed under the Admission requirements for All Graduate Program. Such students should make arrangements to take the test in time to have the results available for the application deadline.

**REFUSAL OF ADMISSION**

Limitations of funds, space, facilities, or personnel may make it necessary for the University, at its discretion, to refuse admission to an otherwise acceptable applicant.

# Master of Business Administration (MBA)

The Faculty of Business offers two Master of Business Administration (MBA) programs: an Executive Master of Business Administration, and a Master of Business Administration in Global Leadership.

Admission requirements are stipulated below, first for the Executive Master of Business Administration, and then for the Master of Business Administration in Global Leadership.

**Executive Master of Business Administration (Executive MBA)**

Applicants for admission to the Executive MBA program must have demonstrated the potential to learn within a

demanding integrated program, typically through high academic standing in previous university studies. There are two streams available within the Executive MBA: Innovative Management and Biotechnology Management. The basic requirements and qualifications are:

i. for the Innovative Management Stream, an undergraduate degree in any discipline is required. For the Biotechnology Management and Entrepreneurship Stream, an undergraduate degree in the sciences or a degree in any discipline plus considerable work experience in a science field is required.

For both streams, the required degree must be from a recognized university and the applicant should have achieved a minimum average of B (70% or higher) in the last four semesters or last two years of undergraduate study.

ii. acceptable professional designations such as CPA, CFA, or PEng plus work experience will also be considered. Under exceptional circumstances, a person who lacks a formal degree or professional designation but who has other outstanding management qualifications, such as a well-established and documented business career, may be admitted to the Executive MBA program. In these circumstances, applicants will normally be expected to have a minimum of ten years full-time work experience, including significant experience in upper management or entrepreneurial positions. The MBA Committee must be satisfied that the applicant has demonstrated a level of academic competence at least equivalent to an undergraduate degree.

iii. a minimum of three years of full-time work experience is preferred, with a required minimum of one year full-time, relevant work experience. The relevant work experience may include managerial and supervisory responsibilities, new venture ownership, and professional or project development experiences. A variety of work experiences and backgrounds enhance the calibre of class interaction so students learn from both the professor and each other.

**APPLICATION FOR ADMISSION**

All documents pertaining to application for admission must be submitted to the Office of the Registrar with the appropriate fee.

**APPLICATION CHECKLIST**

- Graduate Studies Application Form
- All Official Transcripts
- Current, detailed resume
- Two Reference Letters (references must be dated within 6 months of program application)
- GMAT Score (if requested)
- Personal Statement
- English Language Proficiency Scores (for applicants whose first language is not English)
- Application Fee

Applications and all documentation must be received by **July 1** for a Fall Semester start date. Early applications are highly recommended as there are a limited number of seats in the program and these fill up as completed applications are adjudicated throughout the year. All applications are assessed on a case-by-case basis and adjudicated only once.

**TRANSCRIPTS**

Official transcripts or certified copies of the applicant's complete undergraduate and graduate (if any) record to date are to be sent to the Office of the Registrar. Applicants from outside North America are strongly urged to attach official statements of the grades obtained and the subject matter included. If original documentation is not in English, you must also provide a notarized English translation. This does not apply to French language universities in Canada.

**RESUMÉ, REFERENCE LETTERS, AND PERSONAL STATEMENT**

A current resume must be submitted to the Office of the Registrar along with two reference letters, and a personal statement. The resume must detail work experiences, responsibilities, and contributions. Two reference letters are to

be submitted through UPEI's online application portal. A personal statement, of no more than 400 words, must explain the reasons why you wish to enrol in UPEI's Executive MBA program. It should include details of your relevant past experience, your long and short term goals, and explain how the Executive MBA program will meet your needs and assist you in reaching your educational and career goals.

NOTE: Applicants without a formal degree or professional designation will be expected to provide convincing evidence of their capabilities in communications, analysis, and knowledge transfer, as well as their professional contributions and accomplishments within their personal statement. For these applicants only, the personal statement must be no more than 800 words.

**GRADUATE MANAGEMENT ADMISSION TEST (GMAT)**

A Graduate Management Admission Test (GMAT) score may be requested. If GMAT results are requested, applicants must achieve a minimum score of 550, with preference given to scores of 600 and over. This will be considered as an indicator and a tool for evaluating applicants for quantitative and verbal skills. These scores should be less than five years old.

**INTERVIEW**

Once all application materials are received, the MBA Committee may conduct an interview for admission. The committee will be seeking well-rounded and knowledgeable people with managerial and leadership potential. Innovative management and entrepreneurial thinking requires teamwork and relationship building so applicants will be chosen based on their ability to enhance this type of diverse and dynamic learning environment.

**ENGLISH PROFICIENCY**

Students are expected to be proficient in the use of English, both written and oral, when they begin their studies at the University of Prince Edward Island. The University requires that certification of such proficiency be presented by applicants whose mother tongue is not English or whose normal language of instruction throughout their education (as recognized by UPEI) was not English. Tests of proficiency acceptable to the University, and the minimum scores that must be obtained, are listed under the Admission requirements for All Graduate Programs and for Graduate Student Status section of the Calendar. Such students should make arrangements to take the test at least three months before the semester opening date.

The program may extend a conditional offer of admission to an MBA applicant who meets all admission requirements other than the English language proficiency requirement. Please refer to the Academic Calendar's English language proficiency requirements for conditional offers. Conditional offers allow prospective MBA students to obtain a study permit (if needed) and begin their UPEI Graduate English Academic Preparation (GEAP) program. Upon successfully completing the prescribed terms of study in the GEAP program the student can proceed directly into the MBA program.

**REFUSAL OF ADMISSION**

Admission to the Executive MBA Program is a competitive process. Limitations of funds, space, facilities, or personnel may make it necessary for the University, at its discretion, to refuse admission to an otherwise acceptable applicant. Meeting minimum requirements does not guarantee admission to the program. To avoid disappointment, applicants are encouraged to submit their documents well before the deadline of **July 1**.

# Master of Business Administration (MBA) in Global Leadership

Applicants for admission to the MBA in Global Leadership program must have demonstrated the potential to learn and succeed within a demanding integrated program. The basic requirements and qualifications are as follows:

1. University Degree: Applicants must possess an undergraduate degree from an institution recognized by UPEI.
2. Academic capability for graduate level studies, as evidenced by a strong academic record and, if the admission committee requests it, a competitive GMAT/GRE test score.
3. Satisfactory performance in an online interview assessment.
4. English Language Proficiency Requirement.

**APPLICATION FOR ADMISSION**

All documents pertaining to application for admission must be submitted to the Office of the Registrar with the appropriate fee.

**APPLICATION CHECKLIST**

- Graduate Studies Application Form
- All Official Transcripts
- Current, detailed resume
- Personal Statement
- English Language Proficiency Score (for applicants whose first language is not English)
- Application Fee

Applications and all documentation must be received by **April 1** for international applicants or by **June 1** for Canadian citizens or permanent residents for a Fall Semester start date. Admission to our MBA program is competitive, so early applications are highly recommended; there is a limited number of seats in the program and applications are reviewed on a rolling basis. All applications are assessed on a case-by-case basis and adjudicated only once.

**TRANSCRIPTS**

Official transcripts or certified copies of the applicant's complete undergraduate and graduate (if any) record to date are to be sent to the Office of the Registrar. Applicants from outside North America are strongly urged to attach official statements of the grades obtained and the subject matter included. If original documentation is not in English, you must also provide a notarized English translation. This does not apply to French language universities in Canada.

**RESUMÉ, PERSONAL STATEMENT, AND REFERENCE LETTERS**

A current resume and a personal statement must be submitted to the Office of the Registrar. The resume must detail work experiences, responsibilities, and contributions. A personal statement of no more than 400 words must explain the reasons why you wish to enroll in UPEI's MBA in Global Leadership program. It should also include details of your relevant past experience, and your long- and short-term goals, and explain how the MBA program will meet your needs and assist you in reaching your educational and career goals. Reference letters are not required as part of your initial application but may be requested by the MBA in Global Leadership admissions committee.

**EVIDENCE OF ACADEMIC CAPABILITY AND PROGRAM FIT**

The admission committee assesses applicants' academic readiness for the MBA program based on appropriate evidence. Upon receipt of an application, the committee schedules the candidate to complete an online interview assessment; once this assessment is completed, the committee reviews the application package and the record online interview to make its decision. In cases where the committee needs additional evidence, it may request a GMAT or GRE score and/or reference letters.

**Grades**: Normally, a minimum average of 75% or a grade point average of 3.0 (B) in the last 20 courses is required. A first-class academic record (an average of at least 80% or a grade point average of at least 3.7) will usually provide the committee with adequate evidence of academic capability, with no need for a GMAT or GRE score.

**Graduate Management Admission Test (GMAT) or Graduate Record Exam (GRE)**

In some cases, the admissions committee may request a score from the Graduate Management Admission Test (GMAT) or Graduate Record Examination (GRE) General Test. A GMAT score of 570 or a combined GRE score (verbal reasoning plus quantitative reasoning) of at least 310 would typically be competitive. The score should be less than five years old.

**ENGLISH PROFICIENCY**

Students are expected to be proficient in the use of English, both written and oral, when they begin their studies at the University of Prince Edward Island. The University requires that certification of such proficiency be presented by applicants whose mother tongue is not English or whose normal language of instruction throughout their education (as recognized by UPEI) was not English. Tests of proficiency acceptable to the University, and the minimum scores that must be obtained, are listed under the Admission requirements for all Graduate Programs and for Graduate Student Status section of the Calendar.

The program may extend a conditional offer of admission to an MBA applicant who meets all admission requirements other than the English language proficiency requirement. Please refer to the Academic Calendar's English language proficiency requirements for conditional offers. Conditional offers allow prospective MBA students to obtain a study permit (if needed) and begin their UPEI Graduate English Academic Preparation (GEAP) program. Upon successfully completing the prescribed terms of study in the GEAP program the student can proceed directly into the MBA program.

**REFUSAL OF ADMISSION**

Admission to the MBA in Global Leadership Program is a competitive process. Limitations of funds, space, facilities, or personnel may make it necessary for the University, at its discretion, to refuse admission to an otherwise acceptable applicant. Meeting minimum requirements does not guarantee admission to the program. To avoid disappointment, applicants are encouraged to submit their documents well before the deadline of **April 1** for international applicants or **June 1** for Canadian citizens and permanent residents.

## Master of Nursing (MN)

Candidates for admission to the MN program must have demonstrated high academic standing and potential for self-directed, sustained research. Normally, the basic requirements are:

i. A baccalaureate degree in nursing from an approved or accredited university is required. A minimum average of 75% or a grade point average (GPA) of 3.0 (B) in the last twenty courses of a baccalaureate nursing program is required.

ii. Prior completion of a Research Methods course, an Introductory Statistics course, and a course in Nursing Theory, or equivalent.

iii. Individuals applying for the Nurse Practitioner Stream must have a minimum of two years of experience in clinical nursing practice.

iv. Proof of active practicing nurse registration in Canada is necessary (e.g. proof of registration card). Once enrolled in the program, all students must maintain active practicing nurse registration with the College of Registered Nurses of Prince Edward Island.

v. Upon acceptance into the Master of Nursing program, students must submit a completed up-to-date immunization

record, a certified criminal record check, vulnerable sector check, and confirmation of current CPR Certification at the Health Care Provider level.

vi. Payment of International fees will be required of all students from outside Canada.

**APPLICATION FOR ADMISSION**

All documents pertaining to application for admission are to be sent to the Office of the Registrar. All application materials must be received no later than February 15. Please indicate if you are applying to the Thesis Stream or the Nurse Practitioner Steam.

**PLEASE NOTE:** Admission to the Nurse Practitioner stream occurs every second year.

- Graduate Programs Application Form
- Application Checklist
- Reference Letters (Academic) (Professional)

**Application Fee**

Applications to graduate programs must include fees for the first and any subsequent applications.

**Transcripts**

Official transcript(s) (statements of course work and grades obtained) of all academic courses taken at all degree-granting institutions must be submitted.

**References**

Three (3) references (at least one from an academic, and at least one from a recent employer), indicating the applicant's academic and/or professional qualifications and potential for success in a graduate education program, are required. (See forms: http://www.upei.ca/programsandcourses/graduate-admissions/master-nursing)

**Note:** For the Nurse Practitioner stream, a reference from the recent employment supervisor must confirm a minimum of two years in clinical nursing practice.

**English Proficiency**

Students are expected to be proficient in the use of English, both written and oral, when they begin their studies at the University of Prince Edward Island. The University requires that certification of such proficiency be presented by applicants whose mother tongue is not English or whose normal language of instruction throughout their education (as recognized by UPEI) was not English. Tests of proficiency acceptable to the University, and the minimum scores that must be obtained, are listed under the Admission requirements for All Graduate Programs and for Graduate Student Status section of the Calendar. Such students should make arrangements to take the test at least three months before the semester opening date. Students whose first language is French may complete the PhD dissertation in Educational Studies in French provided a qualified supervisory Committee can be established at UPEI.

**Resume**

A resume/curriculum vitae that includes the following must be submitted:

- Past educational preparation
- Employment experience, including level of responsibility
- Awards and honours
- Previous involvement with research projects, other projects, publications and/or presentations

- Continuing education and professional development (e.g., courses, workshops, conferences)
- Committee work
- Any other supporting information

**Personal Statement**

All applicants are asked to identify and elaborate on their educational and career goals.

All applicants are asked to explain reasons for applying to the program and the strengths that you will bring as a graduate student.

Thesis students are required to submit a two-page summary describing the research project you are interested in completing as part of the thesis component of the MN. This will assist in confirming supervisory availability.

An interview may be required. Completed applications for admission to the program must be received by February 15 for fall admission. Late applications may be considered if space is available.

Preference will be given to qualified residents of PEI applying to the program.

**REFUSAL OF ADMISSION**

Admission to the MN program is a competitive process. Limitations of funds, space, facilities, or personnel may make it necessary for the University, at its discretion, to refuse admission to an otherwise acceptable applicant. Meeting minimum requirements does not guarantee admission to the program.

## Master of Cleantech Leadership and Transformation (MCLT)

The Master of Cleantech Leadership and Transformation (MCLT) is a transdisciplinary program that aims to produce leaders and innovators who will assist in the adoption and creation of sustainable solutions that transform the planet towards net zero. Applicants for admission to the MCLT program should have demonstrated, or have the potential to be enthusiastic, collaborative, action-oriented advocates who can bring a global perspective to a more sustainable future through an evaluation of policy and innovation with an environmental justice lens. The basic requirements and qualifications are as follows:

**1**. Any Bachelor's degree of four years or a Bachelor's with honours, or equivalent professional degree, from an approved university, with a minimum GPA of 3.0 or an average of 75% or higher in the in the work of the last four semesters or the last two undergraduate years.

**2**. English Language Proficiency Requirement consistent with the minimum admission requirements for All Graduate Programs and for Graduate Student Status at UPEI.

**3.** No prior work experience is required. However, UPEI's goal is to attract candidates with an established commitment to sustainable solutions as well as personal and professional development. Students with related work experience and the knowledge and competencies required to contribute to long-term environmentally sustainable transformations will be considered an asset.

**APPLICATION FOR ADMISSION**

All documents pertaining to application for admission are to be submitted through the UPEI graduate application process.

**APPLICATION CHECKLIST**

- Graduate Studies Application Form
- All Official Transcripts

• English Language Proficiency Score (for applicants whose first language is not English)
• Short video outlining why you are an ideal candidate (see website for further details)
• Application Fee

Complete applications with all documentation will start to be reviewed during the prior Winter semester for a Fall Semester start date. There is a limited number of seats in each cohort and so admission to the program is competitive. Early applications are highly recommended and will be reviewed on a rolling basis. All applications are assessed on a case-by-case basis and adjudicated only once.

**TRANSCRIPTS**

Official transcripts or certified copies of the applicant's complete undergraduate and graduate (if any) record to date are to be sent to the Office of the Registrar. Applicants from outside North America are strongly urged to attach official statements of the grades obtained and the subject matter included. If original documentation is not in English, you must also provide a notarized English translation. This does not apply to French language universities in Canada.

**ENGLISH PROFICIENCY**

Students are expected to be proficient in the use of English, both written and oral, when they begin their studies at the University of Prince Edward Island. The University requires that certification of such proficiency be presented by applicants whose first language is not English or whose normal language of instruction throughout their education (as recognized by UPEI) was not English. Tests of proficiency acceptable to the University, and the minimum scores that must be obtained, are listed under the Admission requirements for all Graduate Programs and for Graduate Student Status section of the Calendar.

The program may extend a conditional offer of admission to an applicant who meets all admission requirements other than the English language proficiency requirement.

**REFUSAL OF ADMISSION**

Admission to the Master in Cleantech Leadership Program is a competitive process. Limitations of funds, space, facilities, or personnel may make it necessary for the University, at its discretion, to refuse admission to an otherwise acceptable applicant. Meeting minimum requirements does not guarantee admission to the program. To avoid disappointment, applicants are encouraged to submit their documents early.

## Master of Arts (MA)

In the following it must be understood that the standard of reference is the typical Canadian university curriculum and university system.

Admission to a graduate degree program as a regular student is granted, on recommendation of the Department concerned, to:

i. the holder of an Honours or majors baccalaureate or its equivalent.
ii. a student who has satisfied the requirements for transfer from provisional student category as described below.

The minimum requirement for admission to graduate studies in the Faculty of Arts is a Bachelor's degree, or equivalent, in an honours or majors program or equivalent from a recognized university or college. The applicant will ordinarily be expected to have achieved an average of at least second-class ("B," i.e., 70% to 79.9%) standing in the work of the last four semesters or the last two undergraduate years.

Applicants must also provide, and will be assessed for admission, on:

* A statement of research interests
* A sample of written research work from prior university or professional experience
* Two (2) letters of recommendation from professors or those familiar with the applicant's professional work
* A resume or curriculum vitae

* An application form (available from the Registrar's Office or online)

Admission to a graduate course is normally based upon the same requirements as for admission to a graduate program, with exceptions needing the approval both of the Program Administrator and of the Chair of the Department within which the student is registered.

Admission, whether as a regular, a provisional, or a special student, is in all cases based upon the recommendation of the Department concerned and is subject to the approval of the Graduate Studies Committee.

Admission to advanced courses of instruction or to the privileges of research does not imply admission to candidacy for a higher degree.

**APPLICATION FOR ADMISSION**

All documents pertaining to application for admission are to be sent to the Office of the Registrar.

**APPLICATION FORM**

Application forms for admission can be completed on line for the Office of the Registrar at http://www.upei.ca/discovermore/apply with the appropriate fee and supporting documentation.

**ENGLISH PROFICIENCY**

Students are expected to be proficient in the use of English, both written and oral, when they begin their studies at the University of Prince Edward Island. The University requires that certification of such proficiency be presented by applicants whose mother tongue is not English or whose normal language of instruction throughout their education (as recognized by UPEI) was not English. Tests of proficiency acceptable to the University, and the minimum scores that must be obtained, are listed under the Admission requirements for All Graduate Programs and for Graduate Student Status section of the Calendar. Such students should make arrangements to take the test at least three months before the semester opening date.

# Master of Education (MEd)

Candidates for admission to the MEd program must have demonstrated high academic standing and potential for self-directed, sustained research. Normally, the basic requirement is:

i. An undergraduate or graduate degree from an approved university with an average of 70% or higher in the last 20 courses (60 credit hours). An applicant lacking a degree, or an applicant possessing a degree with an academic average under 70%, may be considered for admission under exceptional circumstances. In such cases the Graduate Studies Committee must be satisfied that the student has the capacity to complete graduate work. This capacity could be demonstrated through extensive and relevant professional experiences, leadership, research and publications;

ii. at least two years of education-related experience.

**APPLICATION FOR ADMISSION**

All documents pertaining to application for admission are to be sent to the Office of the Registrar. Applications will be accepted up to two weeks prior to the beginning of the program or until the program has reached the full complement of students. Please make sure to check the start date of the particular Master of Education cohort in which you are interested.

- Application Checklist

- Graduate Application Form
- Personal Statement Form

**TRANSCRIPTS**

Official transcripts of the applicant's complete undergraduate and graduate (if any) record to date are to be sent to the Office of the Registrar. Applicants from outside North America are strongly urged to attach official statements of the grades obtained and the subject matter included. When such transcripts or statements are in a language other than English, a notarized translation of the document must be submitted, in addition to the original document.

**ENGLISH PROFICIENCY**

Students are expected to be proficient in the use of English, both written and oral, when they begin their studies at the University of Prince Edward Island. The University requires that certification of such proficiency be presented by applicants whose mother tongue is not English or whose normal language of instruction throughout their education (as recognized by UPEI) was not English. Tests of proficiency acceptable to the University, and the minimum scores that must be obtained, are listed under the Admission requirements for All Graduate Programs and for Graduate Student Status section of the Calendar. Such students should make arrangements to take the test at least three months before the semester opening date.

**REFUSAL OF ADMISSION**

Limitations of funds, space, facilities, or personnel may make it necessary for the University, at its discretion, to refuse admission to an otherwise acceptable applicant.

**TENTATIVE ADMISSION**

Tentative Admission may be granted an applicant whose record to date is acceptable but whose application is incomplete. If the documents are satisfactory when received, the student's admission is confirmed. If unsatisfactory, admission is denied.

## Doctor of Philosophy in Educational Studies (PhD)

Candidates for admission to the PhD in Educational Studies must have demonstrated high academic standing and evidence of ability to conduct original, independent and sustained research. Normally, the basic requirements are:

(i) First class standing (e.g., a minimum academic average of 80%, or A-, or a GPA of 3.7) or equivalent, in a Masters program conferred by an accredited university (students with Pass grades must request that former professors complete a narrative assessment form to confirm first class standing equivalence and potential for admission to a PhD program).

(ii) A Masters thesis. An equivalent research report such as a Masters project, or a substantial research-focused technical report, authored solely by the applicant, may also be considered.

(iii) Evidence of a minimum of 5 years professional experience in field deemed relevant to the field of educational studies.

**APPLICATION FOR ADMISSION**

All documents pertaining to application for admission are to be sent to the Office of the Registrar. All application materials must be received no later than January 15 of the year for which admission is sought. Late applications are reviewed only if seats are still available after all those meeting the deadline have been considered.

Applicants to the UPEI PhD program in Educational Studies would submit the following documents for consideration by the Graduate Studies Committee:

- A current Curriculum Vitae and statement of intent (please see Faculty of Education website for details relating to the statement of intent).
- 3 references (at least two letters should come from professors familiar with the applicant's work at the Masters level; one would normally come from the applicant's thesis advisor.
- The third reference could be provided by another professor familiar with the applicant's work or by a relevant employer who is in a position to assess the candidate's suitability for a doctoral program).
- A portfolio including supporting materials the applicant considers relevant. These materials could include scholarly articles, professional publications, evidence of research-driven professional activities, professional/ artistic presentations, performances or exhibits.

Applicants may also be invited to an interview (face-to-face or virtual) to discuss the application with the Graduate Studies Committee. All applications to the PhD program are assessed on a competitive basis. Satisfaction of the minimum requirements does not guarantee admission to the program. Due to the nature of the program, deferral of admission will normally not be possible. The Faculty of Education endeavours to provide some financial support for all candidates admitted to the program.

**TRANSCRIPTS**

Official transcripts of the applicant's complete undergraduate and graduate record to date are to be sent to the Office of the Registrar. Applicants from outside North America are strongly urged to attach official statements of the grades obtained and the subject matter included. When such transcripts or statements are in a language other than English, a notarized translation of the document must be submitted, in addition to the original document.

**ENGLISH PROFICIENCY**

Students are expected to be proficient in the use of English, both written and oral, when they begin their studies at the University of Prince Edward Island. The University requires that certification of such proficiency be presented by applicants whose mother tongue is not English or whose normal language of instruction throughout their education (as recognized by UPEI) was not English. Tests of proficiency acceptable to the University, and the minimum scores that must be obtained, are listed under the Admission requirements for All Graduate Programs and for Graduate Student Status section of the Calendar. Such students should make arrangements to take the test at least three months before the semester opening date. Students whose first language is French may complete the PhD dissertation in Educational Studies in French provided a qualified supervisory Committee can be established at UPEI.

**REFUSAL OF ADMISSION**

Limitations of funds, space, facilities or suitable faculty supervisor may make it necessary for the University, at its discretion, to refuse admission to an otherwise acceptable applicant.

**TENTATIVE ADMISSION**

Tentative Admission may be granted an applicant whose record to date is acceptable but whose application is incomplete. If the documents are satisfactory when received, the student's admission is confirmed. If unsatisfactory, admission is denied.

# Doctor of Psychology (PsyD)

**ADMISSION**

Applicants to the UPEI Doctor of Psychology (PsyD) program are required to have an Honours Bachelor's degree in Psychology including an honours thesis, or an equivalent. Applicants are encouraged to present a record of undergraduate course selection reflecting breadth of study across the core areas of psychology. Given the preponderance of quantitative methods in the current clinical psychology research literature, completion of an advanced statistics course prior to admission is required. In addition, given the methodological pluralism and critical historical and social perspective adopted by the program, previous course work in qualitative research methods and situating psychology in a critical historical perspective is highly recommended. PsyD students at UPEI will be engaged in a critical and reflective dialogue about research methods and the modern positions adopted by clinical psychology.

A minimum GPA of 3.5 on a 4-point scale is normally required, with more recent performance given greater weight.

Applicants whose undergraduate degree is in a language other than English must complete an English proficiency test as an Additional Language assessment. Applicants with a Master's Degree in clinical psychology are also welcomed to apply; advanced standing in the program will be considered but is not guaranteed.

The program seeks well-rounded applicants who recognize the importance of understanding the mental health needs of individuals from cultural, social and community contexts. Review of applications is based on various elements including specific academic requirements, such as academic transcript, but cultural and individual dimensions of applicants reflected in the personal statement of interest, essays, letters of reference, volunteer and work experience in a human services related field will be highly valued. As a candidate's application will be considered in its totality, we encourage high-quality applicants of all backgrounds to apply.

Short-listed candidates will be invited for an interview. In an effort to support a diverse program international applicants and applicants from a diversity of cultural and individual backgrounds are encouraged to apply. Indigenous applicants are especially encouraged to apply.

**APPLICATION PROCESS**

Applicants must submit the following to the University via the application portal at www.upei.ca/apply:

- a Graduate Application Form;
- an Academic Summary Form;
- a Supplemental Application Form which includes a personal statement outlining background preparation and explaining why this particular program is a match for the applicant;
- responses to essays prompts provided within the application;
- a curriculum vitae;
- $50.00 Application Fee.

Applicants must ensure that the following items are forwarded directly to the university:

- three letters of reference, at least two academic; the third may be academic or may reflect volunteer or professional experience;
- official Transcripts (undergraduate and graduate) from all post-secondary institutions at which courses have been taken.

All application materials, including official transcripts and letters of reference, must be received by **December 1st** of the

previous calendar year the student wishes to enter the program. (If December 1 falls on a weekend, the deadline is the following Monday.)

## Doctor of Applied Health (DrAH)

The Doctor of Applied Health is a professional doctoral degree that promotes applied health knowledge for the application of strategies, interventions, programs, and methodologies that can improve the quality of life for individuals and communities. The Doctor of Applied Health is not a Medical Degree, nor does it provide credentials that lead to licensure for medical practice.

UPEI's goal is to attract the highest quality of candidates with established commitment to health-related professions, as well as personal and professional development; and program graduates with the knowledge and competencies required to contribute to long-term health care transformation.

Admission requirements to the Doctor of Applied Health program are as follows:

1. A student may be considered eligible for admission to the DrAH program if they have completed, at a minimum a 4 year bachelor's degree in a health-related field from an accredited university (note: a bachelor's degree with an Honours thesis or equivalent will be an asset).
2. Applicants to the Doctor of Applied Health program would normally have graduated with a minimum average of 75% or a Grade Point Average (GPA) of 3.0 (B) in the last 20 courses of a bachelor's program.
3. Two or more years of work experience in an area of health specialization such as healthcare, health service delivery, health promotion, health education, health studies or health science.
4. It is strongly recommended that applicants have completed course work in qualitative and/or quantitative research methods.
5. Completion of a health-related graduate degree in an applied health related field (such as a Master of Applied Health; Master of Public Health; Master of Applied Health Services Research; Master of Nursing; Master of Global Affairs; Master of Health Science; or Master of Science with a specialty in Health, Health Studies, Health Promotion, Health Education, or Health Sciences), or equivalent experience in a health-related field will be considered an asset.

**APPLICATION PROCESS**

Applicants must submit the following to the University via the application portal at www.upei.ca/apply:

- a Graduate Application Form;
- a personal statement outlining background preparation and explaining why this particular program is a match for the applicant;
- a curriculum vitae;
- $50.00 Application Fee.

Applicants must ensure that the following items are forwarded directly to the university:

- three letters of reference, at least two academic; the third may be academic or may reflect volunteer or professional experience;
- official transcripts (undergraduate and graduate) from all post-secondary institutions at which courses have been taken.

All application materials must be received by March 1st of the calendar year the student wishes to enter the program.

# Doctor of Philosophy in Sustainable Design Engineering

**PhD-SDE Program Admissions**

Applicants must

- hold a Bachelor of Science (BSc) or Bachelor of Engineering (BEng) degree,
- hold a thesis-based Master of Science (MSc) or thesis-based Engineering (MEng) or its equivalent from a recognized university, and have achieved at least a second class standing (70-80%) for this degree.
- provide proof of English language proficiency for those applicants whose first language is not English as outlined in the Academic Calendar.

APPLICATION FOR ADMISSION

All documents pertaining to application for admission are to be sent to the Office of the Registrar.

APPLICATION FEE

Applications to graduate programs must include fees for the first and any subsequent applications.

APPLICATION FORM

The online application form can be accessed from UPEI's website.

TRANSCRIPTS

Official transcripts or certified copies in duplicate of the applicant's complete undergraduate and graduate (if any) record to date are to be sent to the Office of the Registrar. Applicants from outside North America are strongly urged to attach official statements of the grades obtained and the subject matter included.

CONFIRMED SUPERVISOR

Prospective applicants must have a confirmed graduate supervisor before completing an application for admission.

REFERENCE LETTERS

Letters of reference from two professors, under at least one of whom the applicant has taken a significant proportion of work, are to be sent by the professor directly to the Office of the Registrar. An acceptable alternative to one such letter is a letter from the Department Chair on behalf of the Department in which the applicant has studied, or from the employer where the applicant has recently been employed.

ENGLISH PROFICIENCY

Students are expected to be proficient in the use of English, both written and oral, when they begin their studies at the University of Prince Edward Island. The University requires that certification of such proficiency be presented by applicants whose mother tongue is not English or whose normal language of instruction throughout their education (as recognized by UPEI) was not English. Tests of proficiency acceptable to the University, and the minimum scores that must be obtained, are listed under the Admission requirements for All Graduate Programs and for Graduate Student Status section of the Calendar. Such students should make arrangements to take the test at least three months before the semester opening date.

ADDITIONAL DOCUMENTS

A 2-page statement of research interest, and curriculum vitae (CV) must also be submitted.

REFUSAL OF ADMISSION

Limitations of funds, space, facilities, or personnel may make it necessary for the University, at its discretion, to refuse admission to an otherwise acceptable applicant.

ADMISSION OF FACULTY MEMBERS

Faculty members of the rank of Associate Professor or Professor are not eligible for admission to graduate studies. Faculty members who are eligible to undertake graduate studies must obtain permission of the President.

TENTATIVE ADMISSION

Tentative Admission may be granted to an applicant whose record to date is acceptable but whose application is

incomplete. If the documents are satisfactory when received, the student's admission is confirmed. If unsatisfactory, admission is denied.

# 100. Graduate Academic Regulations

## 1. APPLICATION FOR DEGREES

Candidates for degrees, diplomas, and certificates must make formal application to graduate by the published deadline date for each eligible semester. It is students' responsibility to monitor their program standing by reviewing their degree requirements and academic progress throughout their studies, and well in advance of submitting an application to graduate.

## 2. TRANSCRIPT ABBREVIATIONS

The following abbreviations are used on transcripts:

- DISC: discontinued with permission
- NC: non-credit INC: incomplete F: failed
- P: passed
- AUD: audit
- DE: deferred examination
- IP: in progress

## 3. MINIMUM GRADE REQUIREMENT

A graduate student who receives a grade of less than 60% in any course (graduate, undergraduate, prescribed additional) is deemed to have failed the course (with the exception of programs in the Faculty of Education, in which a graduate student who receives a grade of less than 70% is deemed to have failed the course).

## 4. LETTERS OF PERMISSION

a. Courses: Graduate students enrolled at UPEI and wishing to take courses at other institutions for credit towards their UPEI degree are advised that a letter of permission, approved by the student's Supervisor, Dean or Program Coordinator, and Registrar must be obtained in advance. Letters of Permission are issued to the host institution by the Office of the Registrar, along with a copy of the student's UPEI transcript, and are a student's guarantee that credits earned elsewhere will be transferable to his/her academic program at UPEI subject to program requirements.

b. Research: Students visiting another university to undertake research activities must have the written permission of both UPEI and the host university.

# 5. INCOMPLETE COURSES

a. Students who fail to complete all the components of a course, such as assignments, examinations, and laboratories, due to circumstances beyond their control (such as illness), may, with the permission of the Professor, Chair, and Dean, be granted an amount of time deemed reasonable for the completion of said components. Students should contact the course instructor in order to obtain such permission. A doctor's certificate may be required for explanations of sickness.

b. If a student does not complete all the components of a course by the agreed-upon date, normally a grade of

"F" shall replace "INC" on the transcript. The Registrar will advise the Department Chair that the grade of "F" requires a percentage grade for posting on the student transcript. Nevertheless, in cases where the component left incomplete was not a requirement for passing the course and where the student already had earned a passing grade without completing the component, the passing grade shall be submitted and shall replace INC on the transcript.

# 6. ACADEMIC INTEGRITY

As a community of scholars, the University of Prince Edward Island is committed to the principle of academic integrity among all its participants. Each student is responsible for their conduct which affects the University Community and is expected to conduct themselves in an ethical manner in their academic work. Academic dishonesty as defined in this Regulation will not be tolerated and, within the constraints of this Regulation and Academic Regulation 9, the University supports instructors in their efforts to deal effectively with cases as they may arise from time to time.

a. Actions which constitute academic dishonesty are considered an offence within the University and include but are not limited to the following:

(i) plagiarism, which occurs when a student submits or presents work (including but not limited to written, recorded, coded or created) of another person in such a manner as to lead the reader to believe that it is the student's original work; self-plagiarism is the submission of work previously submitted for academic credit without prior approval of the instructor. Some examples of plagiarism include:

a) quoting, paraphrasing, or summarizing text without proper citation;

b) paraphrasing too closely (changing few words or simple rearrangement of text);

c) downloading and/ or purchasing articles, essays, etc. and presenting it as your own work.

d) utilizing generative AI (artificial intelligence) software to create content and presenting it as your own work.

(ii) e-cheating can be defined as attempting to secure a grade for yourself or others by unethical means. Some examples of cheating include:

a) giving false reasons for absence;

b) impersonating someone during a test or exam;

c) copying or sharing information or unauthorized materials (e.g. notes, books, calculators, etc.) during a test or exam;

d) unauthorized use of technology ( cellphones, tablets, laptops, generative AI, etc.) during a test or exam;

e) obtaining, copying, and / or sharing a copy of a test or exam before it is administered;

f) altering a test or exam after it has been graded and returned by the instructor;

g) unauthorized collaboration between students when individual work is required.

(iii) falsifying records or submitting false documents. Some examples of falsification include:

a) falsifying any research results, whether in experiments, field trip exercises, or other assignments;

b) falsifying academic records, transcripts, or other University documents, or misrepresenting one's credentials;

c) requesting the extension of a deadline citing reasons known to be false, including submitting false documentation supporting that request.

(iv) Tampering with University resources in any way which would deprive others of their use. Some examples include:

a) hiding, damaging or destroying library materials or laboratory resources;

b) altering or destroying university computer programs or files without authorization;
c) accessing and altering official records without authorization.

(iv) other academic misconduct, such as the unauthorized use of recording devices or the unauthorized acquisition of computer software or other copyright material.

b. When there is reasonable evidence to support an allegation of academic dishonesty, the matter shall be discussed with the student at the earliest opportunity. A written record of the incident and the response of the University will be sent to the student and to the appropriate Chairperson and Dean, and will be placed by the Dean on the student's file in the Office of the Registrar.

c. One or more of the following sanctions may be imposed, depending on the seriousness of the offence:

1. the instructor, within his/her authority for assignment of course grades, may impose:
   i. a reprimand;
   ii. assignment of a mark of zero or a failure for the piece(s) of work under review;
   iii. assignment of a failing grade in the course in which the offence was committed. The instructor will provide the Registrar with a percentage grade for posting on the student transcript;
   iv. suspension of privileges in cases where the offences have involved misuse and/or abuse of the library, computer, or other University resources;
   2. the Dean of the student's home faculty, in consultation with the Department where appropriate, may recommend to the President suspension or expulsion from the University;
   3. the President may impose suspension or expulsion from the University; or
   4. the Senate may withhold or revoke a degree.

d. The student has the right to appeal through the provisions of Academic Regulation 9.

## 7. RE-READING OF EXAMINATIONS

a. Application to have any paper re-read must be made to the Registrar within one month after recording of results.
b. Such an application must be supported by a substantial reason in writing. Forms are provided.
c. Students who intend to appeal a course grade are cautioned that failing grades have been checked very carefully and, barring a clerical error, appeals seldom result in higher grades.

## 8. APPLICATION OF REGULATIONS

In the application of these academic regulations, students shall have access to a fair and just hearing subject to appeal.

## 9. APPEALS

a. Notice of appeal on any matter must be made in writing within one week of the date on which the decision is handed down, unless the decision-making body has internal regulations allowing later appeals. In every case, it is the appellant's responsibility to ascertain the time allowed for filing notice of appeal.

b. Any appeal on an academic matter shall normally be made to the Department Chair concerned who should consult within the Department before arriving at a decision.

c. The Department Chair's decision may be further appealed, in writing, within two weeks of the decision being rendered, to the Dean of the Faculty who shall name a committee to consider the appeal.

d. Decisions on final course grades may be further appealed, in writing, within one month of being rendered, through the Registrar to the Senate Academic and Student Discipline Appeals Committee. Appeals of decisions on academic matters other than grades are to be directed to this Committee through the Registrar. All decisions of this Committee shall be final unless appeal is made to the Board of Governors in keeping with the terms of the University Act.

## 10. AMENDMENTS TO REGULATIONS

The University reserves the right to add to, alter, or amend these regulations at any time.

## 11. EVALUATION OF TRANSCRIPTS

The evaluation of transcripts shall be the responsibility of the Registrar's Office in consultation with the appropriate Department and Dean.

## 12. DOUBLE-SCHEDULING

Students are not permitted to schedule themselves into two courses that are offered during the same time period, or that overlap.

## 13. SPECIAL STUDENT

A student who is not enrolled in a graduate degree program at the university but wishes to enrol in graduate level course-work may apply for Special Student status. Normally Special Students may register for one graduate course in a semester with the permission of the Coordinator of Graduate Studies of the specific Faculty delivering the desired course. Graduate courses completed under Special Student status may subsequently be considered for credit towards a graduate degree upon recommendation of the academic unit in which the student is registered and with the approval of the (Faculty specific) Coordinator of Graduate Studies. Normally, approval must be obtained within 12 months of the completion of the course. A student who wishes to register as a Special Student should contact the (Faculty specific) Coordinator of Graduate Studies before applying for Special Student status.

## 14. CROSS-LEVEL LISTING

Cross-level listing is the offering of two courses, one graduate and one undergraduate, in the same time and place, with the same instructor. Students may only complete a graduate level course if they previously completed the cross-level listed undergraduate course with approval of the Dean of Graduate Studies. While the course content for both undergraduate and graduate students may be similar, the graduate course is expected to have separate and distinct content that is more advanced than the undergraduate.

Expectations:

– Graduate expectations must be commensurate with the level of the graduate course listed.

– Expectations may be differentiated through assessment measures (exams, assignments, etc.)
– Graduate expectations may include more advanced learning through additional, more sophisticated reading, research, experiential activities
– Different learning objectives for each level
– If learning objectives change, assessment should change in accordance (as well as instructional strategies)
Cross-level listing rules:
– Only Upper-level undergraduate courses (4000) may be cross-level listed with graduate courses (6000, 7000, or 8000)
– Course titles must be related (but not necessarily identical)
– Use of different course codes (numbers) for each level
– Separate course proposals for each level
– Separate syllabi for each level

# 15. LEAVE OF ABSENCE

A student may make application to the Registrar and obtain approval from the program Coordinator and the Dean of the Faculty of Graduate Studies for a Leave of Absence from the program in which the student is enrolled. (For Doctor of Psychology students, a Leave of Absence from the program must be approved by the Clinical Program Committee).

1. A graduate student who finds it necessary for family, health, personal, compassionate, professional or academic reasons, to interrupt their studies may apply for a Leave of Absence. Requests for leave must be accompanied by appropriate supporting documentation. (Note: Immigration Eligible Leave of Absence will have specific eligibility criteria)
2. Responsibility for approving a Leave of Absence rests with the Dean of the Faculty of Graduate Studies and the Registrar.
3. A Leave of Absence will normally begin on the first day of September, January, or May and must be requested and approved before the first day of the semester.
4. A Leave of Absence will be granted for periods of one semester, two semesters or three semesters. (Note: Immigration Eligible Leave of Absence may have a strict maximum duration)
5. The total duration of all Leaves of Absence granted in a graduate program is normally limited to three semesters.
6. While on a Leave of Absence, graduate students are expected to not undertake any formal academic or research work related to the program for which they have taken a Leave of Absence. Access to the University's facilities and resources, including faculty supervision, while on a Leave of Absence may be limited.
7. Graduate students must inform the Registrar and the program Coordinator of their intent to return from a Leave of Absence prior to recommencing their studies.
8. Time spent on Leave of Absence is not counted as part of the allowed time to complete a degree.
9. Awards and funding may be interrupted during a Leave of Absence. Some external funding agencies may have provisions for some types of leave. Students should consult with the Faculty of Graduate Studies for details.
10. While students do not pay tuition or fees during an approved Leave of Absence, they are not exempt from other financial obligations (i.e. interest charges on outstanding balance, standard collections processes, etc.).

For International students, there will be an additional level of review using eligibility criteria published by Immigration, Refugees and Citizenship Canada (IRCC) to confirm eligibility and any leave conditions. An IRCC recognized Leave of Absence will be recorded differently (with the notation of *Immigration Eligible).

# 16. THE THESIS

**Submission of Thesis or Project Report**

When the thesis or project report, in its final form, has been prepared after the final oral examination, the candidate will deliver the number of unbound copies, as determined by the Department/School/Faculty, to the Office of the Graduate Studies Coordinator no later than three weeks prior to Convocation. Each copy must be submitted in a separate folder with the pages numbered and arranged in the appropriate order. The thesis or project report must be free from typographical and other errors and must include a brief abstract. All print copies of the thesis must include the Certification of Thesis Work signed by the Examination Committee and a copy of the Thesis/Dissertation Non-Exclusive License signed by the student. All print copies of the project report must contain a signed copy of the Permission to Use Graduate Project Report. The student will also provide the Program Coordinator with an acceptably formatted PDF of the final copy of the thesis or project report.

When accepted by the Graduate Studies Coordinator for the home Faculty, one print copy of the thesis or project report will be forwarded to the University Library for deposit. The accepted thesis or project report in PDF format will also be forwarded to the University Library for deposit in the University's online institutional repository.

Generation and ownership of any other printed copies are the responsibility of the Department/School/Faculty.

**Circulation & Copying of Thesis or Project Report**

The author, in consultation with the Supervisor and the home Faculty Dean, shall have the right to request that circulation and/or copying and/or availability in the institutional repository of the thesis or project report in any form be withheld for up to one year.

**For Thesis**

In normal circumstances, as a condition of engaging in graduate study in the University, the author of a thesis grants a non-exclusive royalty-free licence in respect of the circulation and copying of the thesis through the Thesis/Dissertation Non-Exclusive License to the following institutions:

1. to the University permission to circulate the thesis as part of the Library collection and to add the thesis to the institutional repository;
2. to Library and Archives Canada a licence to harvest the thesis PDF from the University's institutional repository and add the thesis to Theses Canada under carefully specified conditions.

**For Project Report**

In normal circumstances, as a condition of engaging in graduate study in the University, the author of a project report grants a non-exclusive royalty-free licence in respect of the circulation and copying of the project report through the Permission to Use Graduate Project Report:

1. to the University – permission to circulate the project report as part of the Library collection and to add the project report to the institutional repository.

**Copyright**

Copies of the thesis or project report shall have on the title page the words "In partial fulfilment of requirements for the degree of [name of degree]" The notice specified in the Universal Copyright Convention, which consists of three elements in the same line

(a) the letter "C" enclosed in a circle,
(b) the name of the copyright owner (the student),
and (c) the year – should appear as a bottom line on the title page of the thesis or project report.

The candidate, in consultation with the Supervisor and the Department Chair, may also elect to add a Creative Commons license statement, appearing directly below the Universal Copyright Convention notice just described. If a

Creative Commons license is chosen, the University recommends the “Attribution Non- Commercial” option (CC-BY-NC).

# 101. Program Regulations - Graduate Studies

## Master of Science, Master of Veterinary Science, Master of Arts, and Doctor of Philosophy

PhD in Educational Studies and Master of Education (Leadership in Learning)
Master of Applied Health Services Research
Master of Business Administration
Master of Nursing
Doctor of Psychology
Doctor of Applied Health
Doctor of Philosophy in Sustainable Design Engineering

## Master of Science, Master of Veterinary Science, Master of Arts, and Doctor of Philosophy

**1. GLOSSARY OF TERMS**

a. Faculties: Faculty of Veterinary Medicine, Faculty of Arts, and Faculty of Science.

b. Master of Arts (MA): degree granted for successful completion of the requirements for the Master of Arts degree as listed in the regulations.

c. Master of Science (MSc): degree granted for successful completion of the requirements for the Master of Science degree as listed in the regulations.

d. Master of Veterinary Science (MVSc): degree granted for successful completion of the requirements for the Master of Veterinary Science degree as listed in the regulations.

e. Doctor of Philosophy (PhD): degree granted for successful completion of the requirements for the Doctor of Philosophy degree as listed in the regulations.

f. Graduate Studies Committee: standing committees of the Faculties appointed by the respective Deans to oversee and review the graduate programs. In the Faculty of Veterinary Medicine, this role is filled by the Graduate Studies and Research Committee.

Mandate with respect to Graduate Studies includes:

i. to establish and periodically to review the goals and objectives of the graduate studies programs within each Faculty;

ii. to review all applications from prospective graduate students and recommend acceptance or rejection;

iii. to make recommendations concerning creation, deletion or modification of graduate programs and courses;

iv. to develop and review program and thesis guidelines for graduate programs;

v. to review academic records of graduate students and recommend to the Dean the awarding of degrees or courses of action for substandard performance;

vi. to recommend changes to the Graduate Studies Academic Calendar; and

vii. to review all recommendations from department chairs for the appointment of graduate faculty and recommend acceptance or rejection.

g. Graduate faculty: members of the Faculties who participate in the graduate programs are described herein as graduate faculty. Such members are assigned their duties by the Dean of the Faculty on the recommendation of a Department Chair and the Graduate Studies Committee. From time to time, faculty members are drawn from other Faculties, and Adjunct Professors may be recommended as graduate faculty and may serve on graduate student Supervisory Committees as a result of particular expertise related to a particular project.

Normally, graduate faculty in the Faculty of Veterinary Medicine will have a Bachelor's degree or a Doctor of Veterinary Medicine degree, as well as a Master's degree or a Doctor of Philosophy degree or Board Certification. Graduate faculty in Arts and Science will normally have a Doctor of Philosophy degree.

h. Program Administrator: the individual within each of the Faculties who has administrative responsibility for the co-ordination of graduate programs and who chairs the respective Graduate Studies Committee. In the Faculty of Veterinary Medicine, this person is the Associate Dean, Graduate Studies and Research. In the Faculties of Arts and Science respectively, it is the Coordinator of Graduate Studies.

i. For the purpose of these regulations, the term "semester" includes, in addition to first and second semester as defined in the Calendar, the period from May to August in each year as a third semester.

**2. DESCRIPTION OF GRADUATE STUDENTS**

Graduate students are systemically described by category and classification.

**Category**

**Regular Student:** An applicant who has met the admission requirements set out above or who has been recommended for transfer from provisional student category described below is recorded as a regular student.

**MAIS Regular Student:** An applicant who has met the admission requirements set out for this program and for UPEI. Students are enrolled in the MAIS on a program basis and are considered to be full time graduate students.

**Provisional Student:** An applicant whose qualifications are not completely clear may be admitted as a full-time provisional student. If at the end of one semester the department is satisfied with the student's progress, it will recommend to the Program Administrator transfer to regular student status. Upon such transfer, the student will receive credit for courses completed, and residence credit for the semester. If transfer to regular student status is not achieved at the end of one semester, the student may be permitted to continue for a second semester as a provisional student, at the end of which time the record will be reviewed as before. If transfer to regular student status is not recommended, the student will be transferred to special student category, or will be required to withdraw.

**Conditional Student**: Students who have met all other program admission requirements but have only met the Conditional Student English Language Proficiency requirements, and have been recommended for admission by the appropriate admission committee. Conditional Students must participate in the Graduate English Preparation program and satisfy the minimum Unconditional English Language Proficiency requirement before being permitted to enrol in Graduate level courses or participate in Graduate program activity.

**Classification**

In the foregoing categories a student is classified as full-time or part-time.

**Full-time Student:** A full-time student is one who (i) is designated by the University as a full-time graduate student; (ii) is geographically available and is on the campus regularly*; (iii) save in exceptional circumstances, is not regularly employed at the University, for more than an average of a set number of hours per week**. Residency requirements for advanced degrees are cited as for full-time students.

**NOTES:**

*It is understood that a graduate student may be absent from the University while still under supervision (e.g. visiting libraries, attending a graduate course at another institution, doing field work). If such periods of absence exceed four weeks in any semester written evidence must be available in the Office of the Program Administrator to the effect that the absence has the approval of the Department Chair and of the Program Administrator. Irrespective of this provision, a student conducting experimental work in an external laboratory will not normally be considered as a full-time student, except as outlined under "Student Mobility" in Academic Regulations—Graduate Programs.

**If the student is employed as a Graduate Service Assistant or a Graduate Teaching Assistant, the number of set hours per week should represent the total time spent on preparative work, reading set assignments, marking examinations, and the like.

The number of set hours per week: Faculty of Veterinary Medicine: 10 hours Faculty of Science: 12 hours

Faculty of Arts: determined in consultation with the Graduate Coordinator

**Part-time Student:** All graduate students other than full-time graduate students are part-time graduate students. A part-time student may register for no more than two courses per semester. Normally, a part-time student will register in consecutive semesters and complete the MSc degree in approximately three years or the PhD degree in approximately six years. This would include summer periods as semester equivalents for research work, although normally no graduate courses would be offered. To transfer from "part-time" to "full- time" status, the student must consult with the Supervisory Committee/Graduate Coordinator and have the approval of the Department and the Program Administrator. The Program Administrator shall notify the Registrar's Office.

**3. ENROLMENT AND REGISTRATION**

**Regular and Provisional Students**

Each regular or provisional student will enrol in a program of study in the jurisdiction of a single academic department of the Faculties. The student will be identified with a single department, in which he or she is deemed to be registered. The Department so identified will normally be the Department of which the Supervisor is a member. In the case of the MA in Island Studies, the student will be deemed to be registered in an interdisciplinary Master of Arts program with the Dean of Arts taking the place of the Department Chair.

**Registration Procedure**

Before the beginning of the semester, the student shall file in the Office of the Registrar an Academic Registration setting out the program of studies for that semester. The form must be approved in the Department concerned before it is submitted. New students are expected to follow the same procedures, but where this is not possible their registration may be delayed until the Last Date for Registration as announced in the Calendar.

Student identification cards, which are used for identification and for library purposes, are obtained upon initial registration, and are validated at the Sports Centre at the beginning of each subsequent semester. Loss or theft of an identification card must be reported. The registration procedure must be completed within the dates set in the Calendar. Students taking undergraduate courses must have completed their registration by the date of registration for undergraduate students.

**Registration Changes**

Changes of registration (deletion or addition of courses) must be made only on the recommendation of the student's Supervisory Committee. A proposal to add a course must bear the signature of the instructor concerned. Except where credits are granted for courses taken at other universities, credits will be given only for courses listed in the registration form or authorized through an official change of registration.

Continuity of Registration Graduate students must be registered in each semester in which they are actively engaged in

course work or in the research program; that is, whenever they are making use of University facilities or personnel, in connection with their work.

Graduate students, upon being admitted to the program, are required to register in every semester thereafter until their work is completed. Failure to register will be regarded as withdrawal from graduate studies at this university.

Students who wish to resume their studies must apply for readmission; if readmitted, they will be required to conform to current regulations. Notwithstanding the foregoing, a regular student may make prior arrangements, with the approval of the Department and of the Program Administrator, and after consultation with the Registrar's Office, to pursue full-time studies at another approved university for a period of time.

A student who has not completed all the requirements for the degree by the due date for thesis submission in a particular semester must reregister. Candidates must be registered in the semester in which they qualify for the degree.

In the case of conjoint or collaborative graduate programs within UPEI or with other universities, arrangements will be made to ensure that the students involved are not placed at a disadvantage in respect of continuity of registration.

**Cancellation of Registration**

A student who wishes to withdraw from the University is expected to consult with the Department Chair prior to submitting the "withdrawal form" to the Registrar's Office, the Accounting Office, and the Office of the Program Administrator.

In the event that a student fails to obtain satisfactory standings or to make satisfactory progress either in course work or in research, the Dean on the advice of the Graduate Studies Committee may require the student to withdraw. Registration will be cancelled as of a date set by the Committee, and an appropriate refund of fees made.

A student who withdraws from the University must return all outstanding loans from the Library prior to withdrawal, regardless of the due date. Any items not returned will be declared "lost," and will be charged to the student's account. This procedure is required practice even though in his or her new capacity as an outside borrower, the ex-student may wish to borrow the same or other books.

**4. SUPERVISION**

**Departmental Supervision**

The student's program is established and progress kept under review by the appropriate department or in the case of the interdisciplinary MA in Island Studies, by the Dean of Arts and Program Administrator. The Department will establish a Supervisory Committee consisting of a minimum of three (Faculty of Science) or four (Faculty of Veterinary Medicine) graduate faculty to assist with the supervision of the program. At the discretion of that academic unit, the day-to-day responsibility for overseeing the student's program will rest with the Supervisor; two Co-Supervisors or jointly with the Supervisory Committee. In the case of co- supervision, one of the co-supervisors must be a member of the Department in which the student is enrolled and is hereafter referred to as the "Supervisor." The Supervisor will normally have, at minimum, a degree equivalent to that for which the student is registered, and be from the Department in which the student is enrolled.

In the Faculty of Veterinary Medicine, the Chair of the Supervisory Committee is the Department Chair (or designate), and in no case shall the Committee be chaired by the graduate student's Supervisor. In addition, at least one member of the Supervisory Committee must be from a department other than that in which the student is registered.

In the Faculty of Science, the Supervisory Committee is composed of the Supervisor, and at least two other graduate faculty members, at least one of whom must be from the Department in which the student is registered. All members of the Supervisory Committee must be able to participate actively during the program.

In the Faculty of Arts, the Supervisory Committee is composed of the Supervisor, and at least two other graduate faculty members familiar with the academic discipline(s) of study. All members of the supervisory committee must be able to participate actively during the program.

**Supervisory Committee**

In all cases, the program of a graduate student is established and supervised by the Supervisory Committee, all of whom must be graduate faculty. Once the Supervisory Committee has been approved, no changes may be made in its membership without the written approval of the Graduate Studies Committee.

**Establishment of Program**

After examining the student's academic record, due account being taken of all relevant courses passed at any recognized university or college, and in the light of a Placement Examination if so desired, the Supervisory Committee will arrange a program appropriate for the degree. The program will include prescribed studies on the basis of which the candidate's final standing will be determined; and it may include additional courses either chosen by the student or specified by the Supervisory Committee. The program established by the Supervisory Committee must be submitted to the Program Administrator within 60 days of the student's first registration date for approval by the Graduate Studies Committee.

**Changes in Program**

Once the program of courses is established, changes may be made subject to the approval of the Supervisory Committee and the Graduate Studies Committee.

**Transfer of Academic Credit**

On the recommendation of the Supervisor and with the approval of the Department Chair and the Program Administrator, a graduate student may take, and receive credit for, courses at another university. The arrangements for these courses must be made through the Registrar's Office. The maximum number of credits that may be taken at other universities will be 50% of the total program requirements.

**Review of Progress**

The Department in which the student is enrolled is responsible for reviewing the academic record and progress of each student at least twice a year and reporting on that progress to the Program Administrator. If problems are identified which necessitate changes to the student's approved program, these may only be made with the approval of the Graduate Studies Committee.

**Masters Examination**

The Departmental Chair selects the examination committee at the request of the Supervisor/Graduate Coordinator and is responsible for notifying the Program administrator of its composition.

**5. GRADES SCHEDULE**

A graduate student who receives a grade of less than 60% in any graduate level course is deemed to have failed the course. The candidate must maintain a cumulative average grade of at least 75% in the substantive courses outlined below in order to maintain registration in the program.

INC: students who fail to complete all components of a course, such as assignments, examinations, and laboratories, due to circumstances beyond their control (such as illness) may, with the permission of the Professor, Chair, and Dean, be granted an amount of time deemed reasonable for the completion of said components.

If a student does not complete all the components of a course by the agreed-upon date, normally a grade of 0 shall replace INC on the transcript. Nevertheless in cases where the component left incomplete was not a requirement for passing the course and where the student already has earned a passing grade without completing the component, the passing grade shall be submitted and shall replace INC on the transcript.

AUD: Audit (additional courses only)

DISC: discontinued with permission

Some seminar courses are graded as Pass/Fail. In the thesis, percentage grades as above are not required; instead the work is reported as either satisfactory or unsatisfactory.

**6. THE THESIS**

Thesis and Dissertation requirements are outlined in Graduate Regulation #16.

**Retention/Maintenance of Records**

In the interests of good scholarly practice and in order to substantiate claims to intellectual property, graduate students should keep complete, dated records of their research. These records may be in the form of bound notebooks, log books, laboratory records, or other documentation, as appropriate to the discipline. Students should also retain copies of significant drafts and notes, and of all material submitted for evaluation, presentation, publication or by way of informal contribution to collaborative research projects. They must also realize that raw data and other research results should remain accessible at all times to all other members of any collaborative research activity.

**Unacceptable Thesis or Project Report**

If a candidate is unable to prepare an acceptable thesis or project report, the Supervisory Committee will so report to the graduate faculty of the Department (sending to the candidate a copy of the report). The Department Chair will notify the Program Administrator.

**Transcripts of Records**

Certified official transcripts of the student's academic record are available through the Registrar's Office. Only individually signed copies are official. Transcripts will be sent to other universities, to prospective employers, or to others outside the University only upon formal request by the student.

**Department Regulations**

Individual departments may have specified regulations additional to those set out herein. The student is responsible for consulting the department concerning any such regulations.

# PhD in Educational Studies and Master of Education (Leadership in Learning)

**1. GLOSSARY OF TERMS**

a. Doctor of Philosophy in Educational Studies (PhD): degree granted for successful completion of the requirements for the Doctor of Philosophy degree in Educational Studies, as listed in the regulations.

b. Master of Education (MEd): degree granted for successful completion of the requirements for the Master of Education degree as listed in the regulations.

c. Graduate Studies Committee: a standing committee of the Faculty of Education appointed by the Dean and whose mandate is the following:

i. to establish and periodically to review the goals and objectives of the graduate studies and research programs of the Faculty of Education;

ii. to review all applications from prospective graduate students and recommend acceptance or rejection;

iii. to make recommendations to the Dean concerning creation, deletion, or modification of graduate programs and courses;

iv. to direct the coordination of graduate courses and research in the Faculty of Education;

v. to review academic records of graduate students and recommend to the Dean the awarding of a degree, or courses of action in the event of substandard performance;

vi. to prepare the Graduate Studies Academic Calendar for approval by Senate; and

vii. to evaluate, and recommend to the Dean, the faculty to serve as members of the graduate faculty.

d. Graduate faculty: members of the Faculty of Education who teach, supervise and serve on supervisory committees in the graduate program are described herein as graduate faculty. Such members are assigned their duties by the Dean of Education on the recommendation of the Coordinator of Graduate Studies and the Graduate Studies Committee, based on criteria established by the Graduate Studies Committee.

From time to time faculty members, with relevant expertise and appropriate qualifications, drawn from other Faculties may be recommended as graduate faculty. Similarly, Adjunct Professors, who are active researchers with relevant expertise and appropriate qualifications, may be appointed as graduate faculty to co-supervise a graduate student or serve on graduate student Supervisory Committees as a result of particular expertise related to a particular project. Normally, graduate faculty will hold a Doctorate in Education.

e. Coordinator of Graduate Studies: has administrative responsibility for the coordination of graduate programs in the Faculty of Education and is Chair of the Graduate Studies Committee.

f. Supervisory Committee: a committee of the Faculty of Education responsible for the supervision of a student's research. Normally, the committee for a PhD dissertation consists of three members with Graduate Faculty appointment in the Faculty of Education, one of whom serves as the student's supervisor. Supervisory Committees for a Masters thesis normally consists of two members with Graduate Faculty appointment in the Faculty of Education, one of whom serves as the student's supervisor. Two Graduate Faculty members may co-supervise student dissertations and theses. Adjunct Faculty who are also members of the Graduate Faculty may serve as co-supervisor for a Masters thesis or PhD dissertation. If a member of the Supervisory Committee is requested who has an appointment in another UPEI Faculty or at another university, this member must be recommended as Graduate Faculty by the Education Graduate Studies Committee and approved by the Dean of Education.

g. For the purpose of these regulations, the term "semester" includes, in addition to first and second semester as defined in the calendar, the period from May to August in each year as a third semester.

h. Description of Graduate Students

**Regular Student:** All Masters students will be enrolled as full-time students until all degree requirements are completed. The Master's program is based on a ten-course model. Students may request to move to a thesis-based MEd with permissions from the Graduate Studies Coordinator. Thesis based students who have made all of the required tuition payments but have not yet completed their thesis, must continue to register in the thesis-course as full-time students and will also be required to pay the Maintenance of Status fees each semester, until program completion.

All PhD students will be enrolled as full-time students for three years (9 semesters). A program fee will be paid over this three-year period in nine instalments. If PhD students have not completed all degree requirements at the end of three years, they will continue as full-time students and pay maintenance fees as full-time students until all degree requirements are completed.

**2. ENROLMENT AND REGISTRATION**

**Procedures**

Applicants must receive formal notification from the Office of the Registrar that they have been accepted into the program before registering as graduate students. Once accepted to the program, students will submit a tuition deposit for the current academic year to gain access to the online registration system. Students may then register for courses via their MyUPEI (UPEI ID number and PIN required; both are included in official letter of acceptance to program).

Student identification cards (campus cards), which are used for library purposes, may be obtained at the Office of the Registrar, and are validated at the Robertson Library at the beginning of each subsequent semester. Loss or theft of an identification card must be reported.

**Registration Changes**

Changes in registration (deletion or addition of courses) must be approved by the Coordinator of Graduate Studies.

Except where credits are granted for courses taken at other universities, credits will be given only for courses listed in the registration form or authorized through an official change of registration.

**Continuity of Registration**

Graduate students must be registered in each semester in which they are actively engaged in course work or in the research program; that is, whenever they are making use of University facilities or personnel, in connection with their work.

Once admitted to the program, normally each student is required to register for, and complete, at least one course in each semester as defined in Regulation 1g above. Registration could include ongoing work on a Master thesis or PhD dissertation. In exceptional circumstances this requirement may be waived by the Dean. A student who fails to register as required will be considered to have withdrawn from the MEd program and will be required to apply formally for readmission.

Notwithstanding the foregoing, a regular student may make prior arrangements, with the approval of the Faculty and of the Coordinator of Graduate Studies, and after consultation with the Registrar's Office, to pursue full-time studies at another approved university for a period of time.

Candidates must be registered in the semester in which they complete the requirements for the degree. Normally, students must complete the:

- Master degree within four years of first registering in the program;
- PhD degree within seven years of first registering in the program

**Cancellation of Registration**

A student who wishes to withdraw from the program is expected to consult with the Coordinator of Graduate Studies prior to completing the "withdrawal form" at the Office of the Registrar.

**3. SUPERVISION**

**Faculty Supervision**

The student's program is established and progress kept under review by the Graduate Studies Committee. The day-to-day responsibility for overseeing the student's program will rest with the Coordinator of Graduate Studies in consultation with the Graduate Studies Committee.

**Establishment of Program**

After examining the student's academic record, due account being taken of all relevant courses passed at any recognized university or college, the Coordinator of Graduate Studies in consultation with the Graduate Studies Committee will

establish a program appropriate for the degree. The program will include prescribed studies on the basis of which the candidate's final standing will be determined, and it may include additional courses either chosen by the student or specified by the Coordinator of Graduate Studies in consultation with the Graduate Studies Committee.

**Program**

Once the program of courses is established, changes may be made subject to the approval of the Coordinator of Graduate Studies in consultation with the Graduate Studies Committee.

**Academic Credit from Outside the Program**

Students, upon the recommendation of the Graduate Studies Committee and subsequent written approval of the Dean of Education, may take and receive credit towards a course-based Master of Education for up to 12 semester hours of course work outside of the program or 6 semester hours towards a thesis-based Master of Education. The arrangements for these courses must be made through the Coordinator of Graduate Studies and the Registrar's Office. Credit for up to six semester hours of course work completed at the PhD level (7000 level) will be considered by the Coordinator of Graduate Studies in consultation with the Graduate Studies Committee.

All Master course work must be at the 6000 level, or equivalent. PhD course work will normally be at the 7000 level, or equivalent. Students who are accepted into the Master of Education program may receive credit for up to two education courses at the 5000 level.

**Review of Progress**

At the end of each semester, the academic record and progress of each student will be reviewed by the Coordinator of Graduate Studies in consultation with the Graduate Studies Committee, and a report thereon will be submitted by the Coordinator of Graduate Studies to the Dean of Education. If a student fails a course or a required examination, the Graduate Studies Committee will recommend appropriate action to the Dean of Education. Only by authority of the Dean of Education may a further privilege of any kind be extended.

**4. GRADES SCHEDULE**

a. Graduate courses in the Faculty of Education will be evaluated using percentages grades.

b. The minimum passing grade in the Master of Education and the PhD in Educational Studies is 70%. A candidate who receives a final grade below 70% in any program course may repeat that course one time to obtain a minimum passing grade of '70%'. Should a grade of less than 70% be obtained in the repeated course, or in any other program course, the candidate will normally be required to withdraw from the program.

c. A student who fails to complete all components of a course, such as assignments, examinations and fieldwork, due to circumstances beyond his/her control (such as illness) may, with the permission of the professor, the Coordinator of Graduate Studies and the Dean, be granted an amount of time deemed reasonable for the completion of said components. If a student does not complete all the components of a course by the agreed- upon date, normally a grade of F shall replace INC on the transcript. Nevertheless, in cases where the component left incomplete was not a requirement for passing the course and where the student already has earned a passing grade without completing the component, the passing grade shall be submitted and shall replace INC on the transcript.

d. AUD: an "audited" course (additional courses only)

e. DISC: discontinued with permission

**5. MASTER OF EDUCATION THESIS**

Normally, students complete the course work and research to fulfill the thesis requirement within two years. In order to complete the degree within a reasonable time frame, the research topic should be identified early in the student's program and approved by the student's supervisory committee. Research involving human subjects must be approved by the University's Research Ethics Committee.

Thesis and Dissertation requirements are outlined in Graduate Regulation #16.

**Unacceptable Thesis**

If a candidate is unable to prepare an acceptable thesis, the Supervisory Committee will so report to the Coordinator of Graduate Studies and to the Dean (sending to the student a copy of the report).

**6. THE PHd DISSERTATION**

The dissertation will provide evidence of the candidate's ability to carry out independent and original research, develop the necessary theoretical and methodological framework and analyzes, and present the findings in a scholarly manner. The dissertation will be examined by arms-length internal and external examiners after the Supervisory Committee has agreed that the completed dissertation is ready for defence.

The dissertation will be assessed using a pass-fail designation (Pass as is, Pass with minor revisions, Major Revisions, Fail). The final assessment will be based both on the written dissertation and the oral defence.

Thesis and Dissertation requirements are outlined in Graduate Regulation #16.

**Retention/Maintenance of Records**

In the interests of good scholarly practice and in order to substantiate claims of intellectual property, graduate students should keep complete, dated records of their research. These records may be in the form of bound notebooks, log books, or other documentation, as appropriate to the discipline. Students should also retain copies of significant drafts and notes, and of all material submitted for evaluation, presentation, publication, or by the way of informal contribution to collaborative research projects. They must also realize that raw data and other research results should remain accessible at all times to all other members of any collaborative research activity.

**Transcripts of Records**

Official transcripts of the student's academic record are available through the Registrar's Office. Transcripts will be sent to other universities, to prospective employers, or to others outside the University only upon formal request by the student.

# Master of Applied Health Services Research

The Master of Applied Health Services Research program is designed to prepare graduates from diverse disciplines and backgrounds with the necessary skills to tackle the complex health policy issues facing us today and in the future.

There are two program streams: a Thesis Stream (MAHSR-T) and a Professional Stream (MAHSR-P).

**GLOSSARY OF TERMS**

a. Master of Applied Health Services Research: degree granted for successful completion of the requirements for the Master of Applied Health Services Research degree as listed in the regulations. There are two streams: MAHSR Thesis (MAHSR-T) and MAHSR Professional (MAHSR-P).

b. Science Graduate Studies Coordinator: a faculty member appointed by the Dean of Science to chair the Science Graduate Studies Committee

c. MAHSR Program Lead: a person appointed by the Dean of Science whose mandate it is:

i. In collaboration with the Science Graduate Studies Coordinator review all applications from prospective graduate students and recommend acceptance or rejection;

ii. To make recommendations to the Senate concerning creation, deletion, or modification of graduate program and courses;

d. Science Graduate Studies Committee: The Faculty of Science Graduate Studies Committee, chaired by the Science Graduate Studies Coordinator, is responsible for developing and implementing policies and procedures for all graduate programs in the Faculty of Science.

e. Supervisory Committee: A committee responsible for the supervision of a MAHSR-T student's research. Normally, the committee for each student consists of three faculty members, one of whom serves as the student's supervisor. The supervisor, or one co-supervisor, must be a faculty member in the Faculty of Science. All members of the Supervisory Committee must have graduate faculty status.

**MAHSR-THESIS STREAM (MAHSR-T)**

The overall aim of the MAHSR-T program stream is to promote and support health services scholarship and research capacity.

Graduates from the MAHSR-T program stream are expected to achieve the following learning objectives:

- independently undertake health services research;
- design, supervise, and evaluate projects;
- critically evaluate health services research literature;
- employ innovative approaches in health services research through understanding diversity in decision- making environments and processes;
- communicate health research issues and results clearly and responsibly to decision-makers, academics, professionals, and to the general public; and
- integrate and synthesize health services research results across all disciplines.

**1. ENROLMENT AND REGISTRATION**

**Procedures**

Academic Registration must be approved by the MAHSR Program Lead.

The registration procedure must be completed within the dates set in the Calendar.

**Registration Changes**

Changes in registration (deletion or addition of courses) must be approved by the MAHSR Program Lead and processed according to registration deadlines.

**Continuity of Registration**

Graduate students must be registered in each semester in which they are actively engaged in course work or in the research program; that is, whenever they are making use of University facilities or personnel, in connection with their work.

Once admitted to the program, normally each student is required to register for, and complete, at least one course in each semester of the academic year. A student who fails to register as required will be considered to have withdrawn from the Master of Applied Health Services Research program and will be required to apply formally for readmission.

A student who has not completed all the requirements for the degree by the due date for the thesis submission in a particular semester must reregister. Candidates must be registered in the semester in which they qualify for the degree.

In the case of conjoint or cooperative graduate programs within UPEI or with other universities, arrangements will be made to ensure that the students involved are not placed at a disadvantage in respect of continuity of registration.

**Time Limit to Complete**

Normally, students must complete the degree within six years of first registering in the program.

**Withdrawal from the Program**

A student who wishes to withdraw from the program should complete a "withdrawal form" at the Office of the Registrar. In the event that a student fails to obtain satisfactory standings or to make satisfactory progress either in course work or in research, the MAHSR Program Lead will communicate this to the Science Graduate Studies Coordinator and the student may required to withdraw. Registration will be cancelled as of a date set by the Registrar.

**2. SUPERVISION**

**Faculty Supervision**

The student's program is established and progress kept under review by the MAHSR Program Lead in consultation with the Science Graduate Studies Coordinator. The day-to-day responsibility for overseeing the student's program will rest with the student's supervisor.

**Establishment of Program**

After examining the student's academic record, due account being taken of all relevant courses passed at any recognized university or college, the MAHSR Program Lead will establish a program appropriate for the degree. The program will include prescribed studies on the basis of which the candidate's final standing will be determined, and it may include additional courses either chosen by the student or specified by the MAHSR Program Lead .

**Program**

Once the program of courses is established, changes may be made subject to the approval of the MAHSR Program Lead.

Students in the MAHSR-T program take the following required courses. Canadian Health System;- Determinants of Health; and Introductory to Health Services Research. They complete two additional elective courses.

MAHSR-T students continue to register in, and work on their thesis throughout their program, culminating in an academic defence. Students are also required to make a public presentation of their thesis research.

**Workshops**

Once a year, normally at the end of the Winter term, students in the MAHSR-T stream and Faculty will participate in a two day in person workshop. These workshops are designed to facilitate learning in a collegial environment that explores the transfer of knowledge between researchers and decision-makers.

**Review of Progress**

At the end of each semester, the academic record and progress of each student will be reviewed by the MAHSR Program Lead.

**3. GRADES SCHEDULE**

The minimum passing grade for courses in the MAHSR program is 70%.

**4. THE THESIS**

Thesis and Dissertation requirements are outlined in Graduate Regulation #16.

**Research**

Normally, the equivalent of six semesters must be devoted to research in fulfilment of the thesis requirement. In order to complete the degree within a reasonable time frame, the research topic should be identified early in the student's program and approved by the student's Supervisory Committee. Research involving human subjects must be approved by the University's Research Ethics.

**Unacceptable Thesis**

If a candidate is unable to prepare an acceptable thesis, the Supervisory Committee will report to the Science Graduate Studies Committee and to the MAHSR Program Lead (sending to the student a copy of the report).

**MAHSR PROFESSIONAL PROGRAM (MAHSR-P):**

The MAHSR-P program stream prepares graduates for employment in a health-related setting and provides an avenue for current employees to strengthen their skills. The Professional Stream is considered a 'terminal' degree that would not normally lead students into PhD or doctoral studies.

Graduates from the MAHSR-P program stream are expected to achieve the following learning objectives:

- to provide students with research-related skills and opportunities to apply them
- to work as part of a health services research team;
- to design, supervise, and evaluate projects;
- to critically evaluate health services research literature;
- to employ innovative approaches in health services research through understanding diversity in decision- making environments and processes;
- to communicate health research issues and results clearly and responsibly to decision-makers, academics, professionals, and to the general public; and
- to integrate and synthesize health services research results across all disciplines.

1. **ENROLMENT AND REGISTRATION**

**Procedures**

Academic Registration must be approved by the MAHSR Program Lead.

The registration procedure must be completed within the dates set in the Calendar.

**Registration Changes**

Changes in registration (deletion or addition of courses) must be approved by the MAHSR Program Lead and processed by the registration deadlines.

**Continuity of Registration**

Graduate students must be registered in each semester in which they are actively engaged in course work or in the research program; that is, whenever they are making use of University facilities or personnel, in connection with their work.

Once admitted to the program, normally each student is required to register for, and complete, at least one course in each semester of the academic year. A student who fails to register as required will be considered to have withdrawn from the Master of Applied Health Services Research program (MAHSR-P) and will be required to apply formally for readmission.

Candidates must be registered in the semester in which they qualify for the degree.

**Time Limit to Complete**

Normally, students must complete the MAHSR-P degree within six years of first registering the program.

**Withdrawal from the Program**

A student who wishes to withdraw from the program should complete the "withdrawal form" at the Office of the Registrar. In the event that a student fails to obtain satisfactory standings or to make satisfactory progress, the MAHSR Program Lead will communicate this to the Science Graduate Studies Coordinator and may be required the student to withdraw. Registration will be cancelled as of a date set by the Registrar and an appropriate refund of fees made.

**2. SUPERVISION**

**Establishment of Program**

After examining the student's academic record, due account being taken of all relevant courses passed at any recognized university or college, the MAHSR Program Lead will establish a program appropriate for the degree. The

program will include prescribed studies on the basis of which the candidate's final standing will be determined, and it may include additional courses either chosen by the student or specified by the MAHSR Program Lead.

**Program**

Students in the MAHSR-P program are required to take four required and four elective courses. Following the second semester, students in the MAHSR-P program undertake a 240 hour practicum with a decision-making organization. The practicum is designed to provide hands-on research, policy and decision-making experience and to develop an understanding of how knowledge is transferred between the academic community and decision-makers.

**Workshops**

Students in the MAHSR-P program stream will participate in a two-day virtual workshop, normally at the end of the Fall term of the first year of study. The workshop is designed to facilitate learning in a collegial environment that explores the transfer of knowledge between researchers and decision-makers.

**Review of Progress**

At the end of each semester, the academic record and progress of each student will be reviewed by the MAHSR Program Lead.

**3. GRADES**

The minimum passing grade for courses in the MAHSR program is 70%.

# Master of Business Administration

## 1. GLOSSARY OF TERMS

a. Master of Business Administration (MBA): degree granted for successful completion of the requirements for the Master of Business Administration degree as listed in the regulations.

b. MBA Committee: a standing committee formed to oversee graduate business programs. This committee will work with the UPEI Faculty of Graduate Studies to ensure all policies and guidelines are being fulfilled.

Other activities will include reviewing and making recommendations to the Dean of Business on programming, courses, graduates' research, and students' issues. In particular, the committee will

i. establish and periodically review the goals and objectives of the MBA program of the Faculty of Business;

ii. review all applications from prospective students and recommend acceptance or rejection;

iii. make recommendations to the Dean of Business concerning creation, deletion, or modification of graduate programs and courses;

iv. direct the coordination of graduate courses and research in the Faculty of Business;

v. review academic records of graduate students and recommend to the Dean of Business the awarding of a degree or courses of action in the event of substandard performance;

vi. recommend changes to the Graduate Studies Academic Calendar; and

vii. evaluate and recommend to the Dean of Business those faculty to serve as members of the graduate Business faculty.

c. Director of MBA Program: is a faculty member who has administrative responsibility for the coordination of MBA program in the Faculty of Business and is Chair of the MBA Committee.

d. Business Supervisory Committee: a committee of the Faculty of Business responsible for the supervision of a student's signature research project. Normally, the committee for each student consists of two members of the Faculty

of Business, one of whom serves as the student's supervisor. If a member of the Supervisory Committee has an appointment in another UPEI faculty or at another university, approval must be provided by the MBA Committee.

**2. ENROLMENT AND REGISTRATION**

**Procedures**

Applicants must receive formal notification from the Office of the Registrar that they have been accepted into the program before registering as graduate students in the MBA program. See the Admissions section in the calendar that applies to the Executive MBA and MBA in Global Leadership programs. Students will register each semester in the courses outlined in their MBA program.

**Registration Changes**

Changes in student registration (deletion or addition of courses) must be approved by the Director of MBA programs (with input as required by the MBA Committee) and formal approvals of the University when required. Please check the UPEI and the Faculty of Business web sites for the most recent program updates.

Except where credits are granted by special permission for courses outside of the Faculty of Business, credits will only be given for courses listed on the student's registration form or authorized through an official change of registration.

In exceptional cases, the MBA Committee and the Dean of Business may consider flexibility in courses for applicants. This means that students deemed to have significant learning in a particular area may normally be allowed one course exemption which is to be substituted with another approved course. Appropriate documentation will be required in order to consider course exemption.

Students should discuss course selection with the MBA Programs Manager or Director.

**Academic Credit from Outside the Program**

The courses within each MBA program are highly integrated; thus, the programs do not easily lend themselves to course-by-course credit for advanced standing. The courses designed for the programs are of high value for interpersonal skills building, team building and leadership development. Transfer of relevant, graduate course credits from recognized universities is therefore limited.

Students who wish to request a course credit transfer must have prior approval of the Director of the MBA Program. They must complete a Permission to Transfer form and submit it to the Office of the Registrar. Students may take and receive credit for up to 6 semester hours of course work from academic units outside the Faculty of Business. All course work must be at the graduate level.

Active Students are expected to register for each of their courses. To maintain active status, a student must register for at least one course in each semester. If a student seeks a leave of absence, the regulations must be followed. Normally, students must complete the Executive MBA program within six years of first registering in the program. For the MBA in Global Leadership, students must complete within two years of first registering in the program.

**Withdrawal from the Program**

Students wishing to withdraw from the program should consult with the Director of MBA programs. Students may withdraw from a program by notifying the office of the Registrar using the appropriate form. Regular semester deadlines will guide this process.

**Discontinuing a Course**

Discontinuing a course will not occur by default. Students must discuss course discontinuations with the Director of MBA programs. Discontinuations must be requested and processed by the published deadlines.

**Incomplete Courses**

A student, who fails to complete all components of a course due to circumstances, such as illness, may be granted permission for incomplete (INC) status in the course. Students must submit such a request to the Director of MBA programs before the end date for the course. The Director will seek advice from the professor concerned as to granting the incomplete status.

If approved, students will have up to a maximum of 30 calendar days to complete the outstanding individual assignments, as specified by the professor and approved by the Director of MBA programs. If a student does not complete all the components of a course by the agreed-upon date, normally a failing grade shall replace INC on the transcript.

**Re-registrations and Course Re-takes**

Students who fail a course in the MBA program may re-take the course up to an additional two times. If the course is failed after the third attempt, the student will be expelled from the MBA program, with no opportunity for re-enrolment.

Executive MBA students who do not complete Bus 8010 within the allotted time (i.e., by the end of April the first time they are registered in the course) will pay a maintenance fee and full-time student fees each semester until all degree requirements are met.

**Re-enrolment in the Program**

Re-enrolment in the program can occur, but is subject to re-application and a statement explaining why re-admission should be permitted. The MBA Committee will review these materials for approval. Students will be required to pay all applicable fees and any fee increases that have occurred between the time of their last enrolment and re-enrolment. Credit for courses previously completed will be re-evaluated and applied to the program requirements where appropriate.

**3. PROGRAM EXPECTATIONS**

The MBA Program is a professional degree program that employs a cohort model. Students' full engagement is vital to the success of the program and the experience of other students in the class.

Class attendance is mandatory. A student who is unable to attend, or who will be late for a class, due to an emergency or extenuating circumstance must inform the course instructor and the MBA Programs Manager as soon as the circumstance becomes known. Unapproved absences may negatively affect a student's grade or may even result in a failing grade, in accordance with the policy set out in the particular course's syllabus. Missing a portion of a class (for example, arriving late or leaving early) will be counted as a partial absence.

**4. GRADES**

**Grade Requirements**

A minimum grade of 60% is required to pass a course and an overall average of 70% is required to complete the program and obtain the degree.

**Transcripts of Records**

Official transcripts of the student's academic record are available through the Registrar's Office. Transcripts will be sent to other universities, to prospective employers, or to others outside the University only upon formal request by the student.

**5. GRADUATION REQUIREMENTS**

To be awarded the Master of Business Administration degree, a graduate student must:

i. successfully complete the program of studies as set out at the time of admission into the program or as agreed to by the MBA Committee,

ii. complete and submit an Application for Graduation form, and

iii. meet all other University regulations.

In addition, students must have paid all fees owed to the University and returned all library resources.

# Master of Nursing

The Master of Nursing program seeks to prepare professional nurses for advanced nursing practice in a variety of roles. To this end, the program emphasizes development and acquisition of knowledge and skills in leadership and consultation and in research design, dissemination, and utilization. In addition, students will advance the scientific base for their nursing practice. The program will offer students the opportunity to further develop practice knowledge and skills and to contribute to nursing knowledge through the conduct of research.

**1. GLOSSARY OF TERMS**

a. **Master of Nursing (MN):** degree granted for successful completion of the requirements for the Master of Nursing degree as listed in the regulations.

b. **Graduate Studies Committee:** a standing committee of the Faculty of Nursing appointed by the Dean and whose mandate is the following:

i. To establish and periodically review the goals and objectives of the graduate studies and research programs of the Faculty of Nursing.

ii. To review all applications from prospective graduate students and recommend acceptance or rejection.

iii. To make recommendations to the Dean concerning creation, deletion, or modification of graduate programs and courses.

iv. To direct the coordination of graduate courses and research in the Faculty of Nursing.

v. To review academic records of graduate students and recommend to the Dean the award of a degree or courses of action in the event of substandard performance.

vi. To evaluate, and recommend to the Dean, the faculty to serve as members of the graduate faculty.

c. **Graduate faculty:** members of the Faculty of Nursing who teach, supervise, and serve on supervisory committees in the graduate program are described herein as graduate faculty. Assignment of Graduate Faculty status and supervisory role is done in accordance with the policy entitled Graduate Faculty Approval and Supervisory Role (UPEI Policy Number *asdmogsacd001*) and based on criteria established by the Faculty of Nursing Graduate Studies Committee in consultation with the Office of Graduate Studies.

From time to time, faculty members with relevant expertise and appropriate qualifications, drawn from other Faculties, may be recommended as graduate faculty. Similarly, Adjunct Professors who are active researchers, with relevant expertise and appropriate qualifications, may be appointed as graduate faculty to co-supervise a graduate student or serve on a graduate student Supervisory Committees as a result of particular expertise related to a particular project. Normally, graduate faculty will hold a Doctorate degree.

d. **Coordinator of Graduate Studies:** has administrative responsibility for the coordination of graduate programs in the Faculty of Nursing and is Chair of the Graduate Studies Committee.

e. **Supervisory Committee:** a committee of the Faculty of Nursing responsible for the supervision of a student's research.

Supervisory Committees for a Master's thesis normally consists of two members with Graduate Faculty appointment in the Faculty of Nursing, one of whom serves as the student's supervisor. Two Graduate Faculty members may co-supervise student dissertations and theses. Adjunct Faculty who are also members of the Graduate Faculty may serve as co-supervisor for a Master's thesis or PhD dissertation. If a member of the Supervisory Committee is requested who has an appointment in another UPEI Faculty or at another university, this member must be recommended as Graduate Faculty by the Nursing Graduate Studies Committee and approved by the Dean of Nursing.

f. Description of Graduate Students

**Regular Student:**

A student who has applied to the MN Program and has been accepted to the Thesis or Nurse Practitioner stream. All MN students will pay program fees in six (6) instalments over a two-year period. After paying six instalments, students will continue to pay a maintenance fee and full student fees each term until all degree requirements are met.

g. The number of set hours per week: If the student is employed as a Graduate Student Assistant or a Graduate Teaching Assistant, the number of set hours per week should represent the total time spent on preparative work, reading set assignments, marking examinations, and the like.

Faculty of Nursing: 12 hours

**2. ENROLMENT AND REGISTRATION**

**Procedures**

Applicants must receive formal notification from the Office of the Registrar that they have been accepted into the program before registering as graduate students.

Before the beginning of the semester, each student shall file in the Office of the Registrar an academic registration setting out the program of studies for that semester. The form must be approved by the Coordinator of Graduate Studies before it is submitted.

Student identification cards, which are used for library purposes, are obtained upon initial registration and are validated at the Robertson Library at the beginning of each subsequent semester. Loss or theft of an identification card must be reported.

**Registration Changes**

Changes in registration (deletion or addition of courses) must be approved by the Coordinator of Graduate Studies. A proposal to add a course must bear the signature of the instructor concerned.

Except where credits are granted for courses taken at other universities, credits will be given only for courses listed on the registration form or authorized through an official change of registration.

**Continuity of Registration**

Graduate students must be registered in each semester in which they are actively engaged in course work or in the research program; that is, whenever they are making use of University facilities or personnel, in connection with their work.

Once admitted to the program, normally each student is required to register for, and complete, at least one course in each semester. For the purpose of these regulations, the term semester includes, in addition to first and second semester as defined in the calendar, the period from May to August in each year as a third semester. In exceptional

circumstances, this requirement may be waived by the Dean. A student who fails to register as required will be considered to have withdrawn from the MN program and will be required to apply formally for readmission.

Notwithstanding the foregoing, a regular student may make prior arrangements, with the approval of the Faculty and of the Coordinator of Graduate Studies and after consultation with the Registrar's Office, to pursue full-time studies at another approved university for a period of time.

Candidates must be registered in the semester in which they complete the requirements for the degree. Normally, students must complete the Master degree within four years of first registering in the program.

**Cancellation of Registration**

A student who wishes to withdraw from the program is expected to consult with the Coordinator of Graduate Studies prior to completing the "withdrawal form" at the Office of the Registrar.

In the event that a Master student fails to obtain satisfactory standings or to make satisfactory progress either in course work or in research, the Dean on the advice of the Graduate Studies Committee may require the student to withdraw.

**Transfer from one stream to another**

Students may request a transfer from t he Nurse Practitioner (NP) stream to the Thesis stream. This must be done in writing to the MN Graduate Studies Coordinator. With the approval of the MN Graduate Studies Committee and the Dean of Nursing, a transfer may be granted. All core MN courses the student has completed will be applied to the Thesis stream requirements.

**3. SUPERVISION**

**Faculty Supervision**

The student's program is established and progress kept under review by the Graduate Studies Committee. The day-to-day responsibility for overseeing the student's program will rest with the Coordinator of Graduate Studies in consultation with the Graduate Studies Committee.

**Academic Credit from Outside the Program**

Credit for graduate level courses taken prior to admission to the MN program will be considered on an individual basis upon admission to the program. Students, upon the recommendation of the Graduate Studies Committee and subsequent written approval of the Dean of Nursing, may take and receive credit towards the thesis Master of Nursing and Nurse Practitioner degree up to six semester hours of course work outside of the program. The arrangements for these courses must be made through the Coordinator of Graduate Studies and the Registrar's Office. Credit granted for course work completed outside of UPEI will not result in a reduction in the required MN or MN Nurse Practitioner program fee.

**Review of Progress**

At the end of each semester, the academic record and progress of each student will be reviewed by the Coordinator of Graduate Studies in consultation with the Graduate Studies Committee, and a report thereon will be submitted by the Coordinator of Graduate Studies to the Dean of Nursing, with a copy to the Office of Graduate Studies. If a student fails a course or a required examination, the Graduate Studies Committee will recommend appropriate action to the Dean of Nursing. Only by authority of the Dean of Nursing may a further privilege of any kind be extended.

**4. GRADES SCHEDULE**

**INC:** A student who fails to complete all components of a course, such as assignments, examinations and fieldwork,

due to circumstances beyond his/her control (such as illness) may, with the permission of the professor and the Dean, be granted an amount of time deemed reasonable for the completion of said components. If a student does not complete all the components of a course by the agreed-upon date, normally a failing grade shall replace "INC" on the transcript. Nevertheless, in cases where the component left incomplete was not a requirement for passing the course and where the student already has earned a passing grade without completing the component, the passing grade shall be submitted and shall replace "INC" on the transcript.

**AUD**: an "audited" course (additional courses only)

**DISC**: discontinued with permission

Seminar courses are graded as numerical grades. In the thesis, the work is reported as either satisfactory or unsatisfactory.

**5. THE MASTER OF NURSING THESIS**

Thesis and Dissertation requirements are outlined in Graduate Regulation #16.

**Research**

Normally, students complete the course work and research to fulfill the thesis requirement within two years. In order to complete the degree within a reasonable time frame, the research topic should be identified early in the student's program and approved by the student's supervisory committee. Research involving human subjects must be approved by the University's Research Ethics Committee.

**Retention/Maintenance of Records**

In the interests of good scholarly practice and in order to substantiate claims of intellectual property, graduate students should keep complete, dated records of their research. These records may be in the form of bound notebooks, log books, or other documentation, as appropriate to the discipline. Students should also retain copies of significant drafts and notes, and of all material submitted for evaluation, presentation, publication, or by the way of informal contribution to collaborative research projects. They must also realize that raw data and other research results should remain accessible at all times to all other members of any collaborative research activity.

**Unacceptable Thesis**

If a candidate is unable to prepare an acceptable thesis, the Supervisory Committee will so report to the Graduate Studies Committee and to the Dean.

# Doctor of Psychology (PsyD)

**1. GLOSSARY OF TERMS**

a) Doctor of Psychology (PsyD): degree granted for successful completion of the requirements for the Doctor of Psychology degree, as listed in the regulations. The Doctor of Psychology program exists within the Department of Psychology, Faculty of Arts.

b) Director of Clinical Training (DCT): has overall administrative responsibility for the PsyD program, is Chair of the Clinical Program Committee, and reports to the Chair of the Department of Psychology.

c) Clinical Program Committee (CPC): a standing committee of the Department of Psychology, appointed by the Chair, and made up of all clinical faculty members, one complementary faculty member, one training clinic staff member, one adjunct faculty member, and one PsyD student, whose mandate is the following:

1. To have overall responsibility for the PsyD program ensuring that the program is meeting its purpose, fulfilling

its mission statement and is in compliance with all program related requirements.
2. To periodically review the goals and objectives of the program.
3. To review all applications from prospective graduate students and recommend acceptance or rejection.
4. To make recommendations to the Department of Psychology concerning creation, deletion or modification of graduate programs and courses.
5. To review academic records of graduate students, monitor progress, and recommend to the Department of Psychology and Deans of Faculty of Arts and Faculty of Graduate Studies and Research the award of a degree or courses of action in the event of substandard performance.
6. To prepare entries to the Academic Calendar for approval by Senate.

b) Clinical Faculty: members of the Department of Psychology who are registered clinical psychologists who teach, provide clinical supervision, serve as dissertation advisors, and serve on dissertation committees.

c) Complementary Faculty: members of the Department of Psychology who are not registered clinical psychologists who teach, serve as dissertation advisors, and serve on dissertation committees.

d) Description of Graduate Students: Students enrolled in the PsyD program are considered full time students for 12 semesters (4 calendar years). Extensions beyond we semesters require permission of the Clinical Program Committee.

**2. ENROLMENT AND REGISTRATION**

a) Registration Changes

Changes in registration must be approved by the Clinical Program Committee.

b) Continuity of Registration

Once admitted to the program, each student is required to register for program requirements through 12 consecutive semesters (4 calendar years), during which students must complete all requirements of the program.

c) Cancellation of Registration

A student who wishes to withdraw from the program is expected to consult with the Director of Clinical Training prior to completing the mandatory "withdrawal form" at the Office of the Registrar.

**3. ACADEMIC CREDIT FROM OUTSIDE THE PROGRAM**

Academic credit for courses and experiences from outside the program will normally not be given. Appeals on this matter are directed to the Clinical Program Committee via the Director of Clinical Training and can only be approved by the Dean of Arts and Registrar.

**4. REVIEW OF PROGRESS**

a) Mid-year and End-of-year Reviews

In the first semester of their program, each student is assigned a clinical faculty member who serves as Program Advisor. Program Advisors meet with students at least twice per year to facilitate student progress, set training goals, and receive feedback from the student about the program. Mid-year and end-of-year reviews are completed using standard review forms that are placed in the student file and submitted to the Clinical Program Committee.

b) Remedial Plans

Resolution of student problems and challenges in the program will often be achieved through informal consultation with appropriate faculty members. In instances where informal resolution does not suffice, a remedial plan is developed and is then approved by the DCT who may consult with the CPC. Progress in completing remedial plans is monitored by the CPC.

Remedial plans are designed to support student progress in the program and may be appropriate for a wide range of issues which may include: course and practicum-based challenges, interpersonal and personal difficulties, and less serious ethical violations.

c) Ethical Violations

As a professional psychology training program, the Doctor of Psychology program is guided by the Canadian Code of Ethics for Psychologists – Fourth Edition. Students are required to integrate the Code into all aspects of their PsyD training adhering to all principles, values and ethical standards.

Alleged ethical violations by students are addressed by the Clinical Program Committee and may include the enactment of a remedial plan for less serious ethical matters or investigation by an ethical review subcommittee of the CPC.

d) Dismissal from the Program

In the unusual circumstance that difficulties cannot be adequately addressed via a remedial plan or in cases of serious ethical violations, the CPC may recommend dismissal from the program to the Dean of Arts.

**5. GRADES**

Graduate courses will be evaluated using numerical grades. The minimum passing course grade in the Doctor of Psychology program is 70%. Successful completion of all course work is a requirement for the Doctor of Psychology degree.

In instances where a student is at risk for not passing a course, the faculty member teaching the course, in consultation with the DCT will meet with the student to develop and enact a remedial plan. Should a remedial plan extend beyond the end date of a course (i.e., the date on which final grades must be submitted), the student must be given a grade of INC (Incomplete). Normally, Remedial plans conclude prior to the beginning of the next semester of course work. If a student does not pass a course prior to the beginning of the next semester of course work, additional consultation with the DCT and CPC is required to determine whether or not a student can proceed in the program. In unusual instances a student may be granted the opportunity to retake a course with the next cohort of students, which may delay program completion.

INC grades may be replaced with a grade of "F" in accord with general graduate regulation 5.

# Doctor of Applied Health (DrAH)

**PROGRAM REGULATIONS**

**1. GLOSSARY OF TERMS**

**a. The Doctor of Applied Health (DrAH)** degree is granted for successful completion of the requirements for the degree as listed in the regulations.

**b. Graduate Studies Committee**: standing committees of the Faculty of Graduate Studies appointed by the respective Dean with input from the Program Director to oversee and review the graduate program.

Mandate with respect to Graduate Studies includes:

1. to establish and periodically to review the goals and objectives of the graduate studies program (DrAH) in the Faculty of Graduate Studies
2. to review all applications from prospective graduate students and recommend acceptance or rejection
3. to make recommendations concerning creation, deletion or modification of graduate programs and courses
4. to develop and review the program and capstone project guidelines for DrAH program (these guidelines are currently provided in the DrAH Program Handbook
5. to review the academic records of graduate students and recommend to the Dean the awarding of degrees or courses of action for substandard performance
6. to recommend changes to the Graduate Studies Academic Calendar, and
7. to review all recommendations from duly appointed hiring committees for the appointment of graduate faculty and recommend acceptance or rejection.

**c. Graduate faculty**: members of the Faculty of Graduate Studies who participate in the DrAH program are described herein as graduate faculty. Such members are assigned their duties by the Dean of the Faculty on the recommendation

of the Program Director and the Graduate Studies Committee. At this time, all faculty members are drawn from other Faculties, and Adjunct Professors may be recommended as graduate faculty and may serve on graduate student Supervisory Committees because of particular expertise related to a particular project.

**d. Program Director**: the individual in the Faculty of Graduate Studies who has administrative responsibility for the co-ordination of graduate programs and who chairs the respective Graduate Studies Committee.

For these regulations, the term "semester" includes, in addition to first and second semester as defined in the Calendar, the period from May to August in each year as a third semester.

**2. DESCRIPTION OF GRADUATE STUDENTS**

**CATEGORY**

This program is developed for individuals who have diverse and established professional backgrounds in health-related areas. Students accepted into the program will have an interest in developing a better understanding of factors that affect the health of individuals and communities. UPEI anticipates that most students in the program will be employed in professions associated with the health system or will have mastered a wide range of knowledge in the health field through previous employment or educational experiences. Students entering this program will be explicit in their intention to contribute to the development of systems, structures or policies that reduce inequities and improve the health and well-being of society.

**DrAH Regular Student:** An applicant who has met the admission requirements set out for this program and for UPEI. Students are enrolled in the DrAH as part of a cohort and are full time graduate students.

**CLASSIFICATION**

In the foregoing categories a student is classified as full-time.

**Full-time Student:** A full-time student is:

- one who is designated by the University as a full-time graduate student
- is geographically available and is on the campus during the Summer Institute*
- is with exception to below, is not regularly employed at the University, for more than an average of a set number of hours per week**
- may be employed at the University as a full time Faculty or Staff***.

Residency requirements for advanced degrees are cited as for full-time students.

**NOTES associated with designation of full-time students**

* In the DrAH program, graduate students are not expected to be present on campus except during the Summer Institute.

** If the student is employed as a Graduate Assistant, the number of set hours per week should represent the total time spent on preparative work, reading set assignments, marking examinations, and the like.

The number of set hours per week: 3 hours per week for each online course. 36 hours per week for each compressed course offered during the summer institute.

*** If the student is employed as a full-time member of the UPEI Faculty or Staff then they will not be eligible for additional employment as a Graduate Assistant.

## 3. ENROLMENT AND REGISTRATION

**Regular Students**

Each regular student will enroll in the DrAH courses as part of their cohort within their respective year of study. The student will be identified as a graduate student in the DrAH program within the Faculty of Graduate Studies.

**Registration Changes**

Changes in registration must be approved by the Graduate Studies Committee of the DrAH Program and completed by the published deadline.

**Continuity of Registration**

Once admitted to the program, each student is required to register for program requirements through 12 consecutive semesters (4 calendar years), during which students must complete all requirements of the program.

**Cancellation of Registration**

A student who wishes to withdraw from the program is expected to consult with the Director of the DrAH program prior to completing the mandatory withdrawal form which can be accessed online from myUPEI.

**4. ACADEMIC CREDIT FROM OUTSIDE OF THE PROGRAM**

Academic credit for courses and experiences from outside the program will normally not be given. Appeals on this matter are directed to the Graduate Studies Committee of the DrAH Program via the Director of the Program and can only be approved by the Dean of Graduate Studies and the Registrar.

## 5. REVIEW OF PROGRESS

Regarding the continued progress of students from initial enrolment through to graduation in the DrAH program, especially when there are disruptions in the normal completion of courses, the program recognizes that while each case may be considered as a unique event, there will be consistencies in program perturbations that are similar across the student cohorts. First and foremost, the program recognizes that the student body will be mature in age/academic experience as this will be for many, an educational experience in which they are engaged following successful completion of an undergraduate degree in addition to work experience in a related field, and in some cases a master's level degree.

Following a review of events which may lead to disruption of the normal progress of the students at this level of study, the program recognizes that there are generally two categories in which barriers to successful course completion may occur. The first is in those situations where the circumstances that inhibit the student's progress may be beyond their control, such as issues arising within their family, their employment, or their own health. These events are formidable and not unexpected within any cohort of learners.

The second category of inhibitors to maintaining consistent progress as part of the cohort is where the student fails to maintain the academic requirements of the program and therefore will be obligated to either retake the course or complete additional workload to make up for any shortcomings in the program. Again, these events are treated as unique and independent circumstances and are therefore dealt with accordingly by the program director in consultation with the course instructor.

Students can consult the Dr. Applied Health Program student handbook for further guidance on progress.

## 6. GRADES

a) All graduate courses in the DrAH program will be evaluated using numerical grades. The minimum passing course grade in the Doctor of Applied Health program is 70%. Successful completion of all course work is a requirement for the degree of Doctor of Applied Health.

b) In instances where a student is at risk for not passing a course, the faculty member teaching the course, in consultation with the Program Director will meet with the student to develop and enact a remedial plan. Should a remedial plan extend beyond the end date of a course (i.e., the date on which final grades must be submitted), the student will be given a grade of INC (Incomplete). Normally, remedial plans conclude prior to the beginning of the next semester of course work. If a student does not pass a course prior to the beginning of the next semester of course work, additional consultation with the Program Director and DrAH Graduate Studies Committee is required to determine the path by which a student can proceed in the program. In most instances the student may be granted the opportunity to retake the course with the next cohort of students in the following year, in addition to their regular workload. While this may add to the total workload

of the student in any given term, it will reduce the likelihood that the student will be delayed in completing their program with their initial cohort.

### 7. MAINTAINING TIMELINES

a) Students will be enrolled in the DrAH program as full-time students within their cohort for four years. If, after four years, students have not completed all degree requirements, they may continue to pay a maintenance fee to UPEI until all requirements are completed. Students have a maximum of seven years to complete all degree requirements. If the student does not clear any INC grade from their transcript, the INC will be replaced by a grade of 0 at the predetermined grade submission deadline.

b) The cohort-based processes are outlined in the DrAH student handbook and are explicit about course load and course prerequisites, grading, advancement and probation, academic suspension and petition for readmission.

## Doctor of Philosophy in Sustainable Design Engineering (PhD-SDE)

1. **GLOSSARY OF TERMS**

   a. Faculty: Faculty of Sustainable Design Engineering

   b. Doctor of Philosophy (PhD): degree granted for successful completion of the requirements for the Doctor of Philosophy degree as listed in the regulations.

   c. Graduate Studies Committee: standing committees of the Faculty appointed by the Deans and approved by the Faculty to oversee and review the Faculty graduate programs.

Mandate with respect to Graduate Studies includes:

- To establish and review periodically the goals and objectives of the graduate studies programs within the Faculty.
- To review all applications from prospective graduate students and recommend acceptance or rejection to the Registrar's Office.
- To make recommendations to the Faculty concerning creation, deletion or modification of graduate programs and courses.
- To develop and review program and thesis guidelines for graduate programs.
- To review academic records of graduate students and recommend to the Dean the awarding of degrees or courses of action for substandard performance. Such reviews are initiated based on recommendation of the student's supervisory committee.
- To recommend to the Faculty changes to the Graduate Studies Academic Calendar.
- To review all recommendations from the Faculty for the appointment of graduate faculty and recommend acceptance or rejection.

d. Graduate Faculty: members of the Faculty who participate in the graduate programs are described herein as graduate faculty. From time to time, faculty members are drawn from other Faculties, and Adjunct Professors may be recommended as Graduate Faculty and may serve on graduate student Supervisory Committees and co-supervise graduate students as a result of particular expertise related to a particular project.

e. Graduate Studies Coordinator: the individual within the Faculty who has administrative responsibility for the co-ordination of graduate programs and who chairs the respective Graduate Studies Committee.

f. For the purpose of these regulations, the term "semester" includes, in addition to first and second semester as defined in the Calendar, the period from May to August in each year as a third semester.

2. **DESCRIPTION OF GRADUATE STUDENTS**

Graduate students are systemically described by category and classification.

**Category**

**Regular Student**: An applicant who has met the admission requirements set out above or who has been recommended for transfer from provisional student category described below is recorded as a regular student.

**Conditional Student**: Students who have met all other program admission requirements but have only met the Conditional Student English Language Proficiency requirements, and have been recommended for admission by the appropriate admission committee. Conditional Students must participate in the Graduate English Preparation program and satisfy the minimum Unconditional English Language Proficiency requirement before being permitted to enrol in Graduate level courses or participate in Graduate program activity.

**Classification**

Full-time Student: A full-time student is one who (i) is designated by the University as a full-time graduate student; (ii) is geographically available and is on the campus regularly*; (iii) save in exceptional circumstances, is not regularly employed at the University, for more than an average of a set number of hours per week**. Residency requirements are cited as for full-time students.

**NOTES:**

*It is understood that a graduate student may be absent from the University while still under supervision (e.g. visiting libraries, attending a graduate course at another institution, doing field work). Irrespective of this provision, a student conducting experimental work in an external laboratory will not normally be considered as a full-time student, except as outlined under "Student Mobility" in Academic Regulations—Graduate Programs.

**If the student is employed as a Graduate Service Assistant or a Graduate Teaching Assistant, the number of set hours per week should represent the total time spent on preparative work, reading set assignments, marking examinations, and the like.

The number of set hours per week: 12 hours

Part-time Student: All graduate students other than full-time graduate students are part-time graduate students. A part-time student may register for no more than two courses per semester. Normally, a part-time student will register in consecutive semesters and complete the PhD degree in approximately six years. This would include summer periods as semester equivalents for research work, although normally no graduate courses would be offered. To transfer from "part-time" to "full- time" status, the student must consult with the Supervisory Committee and Graduate Coordinator and have the approval of the Dean. The Graduate Coordinator shall notify the Registrar's Office.

3. **ENROLMENT AND REGISTRATION**

**Registration Procedure**

Before the beginning of the semester, the student shall file in the Office of the Registrar an Academic Registration setting out the program of studies for that semester. New students are expected to follow the same procedures, but where this is not possible their registration may be delayed until the Last Date for Registration as announced in the Calendar.

Student identification cards, which are used for identification and for library purposes, are obtained upon initial registration, and are validated at the Sports Centre at the beginning of each subsequent semester. Loss or theft of an identification card must be reported. The registration procedure must be completed within the dates set in the Calendar. Students taking undergraduate courses must have completed their registration by the date of registration for undergraduate students.

**Registration Changes**

Continuity of Registration Graduate students must be registered in each semester in which they are actively engaged in course work or in the research program; that is, whenever they are making use of University facilities or personnel, in connection with their work.

Graduate students, upon being admitted to the program, are required to register in every semester thereafter until their work is completed. Failure to register will be regarded as withdrawal from graduate studies at this university.

Students who wish to resume their studies must apply for readmission; if readmitted, they will be required to conform to current regulations.

A student who has not completed all the requirements for the degree by the due date for thesis submission in a particular semester must reregister. Candidates must be registered in the semester in which they qualify for the degree.

**Cancellation of Registration**

A student who wishes to withdraw from the University is expected to consult with the Supervisor, Supervisory Committee and Graduate Studies Coordinator prior to submitting the "withdrawal form" to the Registrar's Office, the Accounting Office, and the Office of the Program Administrator.

In the event that a student fails to obtain satisfactory standings or to make satisfactory progress either in course work or in research, the Dean on the advice of the Graduate Studies Committee may require the student to withdraw. Registration will be cancelled as of a date set by the Committee, and an appropriate refund of fees made.

A student who withdraws from the University must return all outstanding loans from the Library prior to withdrawal, regardless of the due date. Any items not returned will be declared "lost," and will be charged to the student's account. This procedure is required practice even though in his or her new capacity as an outside borrower, the ex-student may wish to borrow the same or other books.

## 4. SUPERVISION

The Supervisory Committee is composed of the Supervisor, one faculty member from any UPEI faculty, two members chosen from UPEI faculty or adjunct faculty members with Graduate Faculty status. The primary supervisor must be a faculty member in the Faculty. Adjunct faculty with graduate faculty status may be faculty members from other universities or professionals with doctorates at external organizations with whom Faculty has research collaborations.

## 5. GRADES SCHEDULE

A graduate student who receives a grade of less than 60% in any graduate level course is deemed to have failed the course.

Seminar course is graded as Pass/Fail. In the thesis, percentage grades as above are not required; instead the work is reported as either satisfactory or unsatisfactory.

## 6. THE THESIS

**Submission of Thesis or Project Report**

When the thesis, or project report, in its final form, has been prepared after the final oral examination, the candidate will bring six unbound copies to the Graduate Studies Coordinator no later than three weeks prior to Convocation. Each copy must be submitted in a separate folder with the pages numbered and arranged in the appropriate order. The thesis must be free from typographical and other errors. All copies must include the Certificate of Approval signed by the Examination Committee. Also included must be a brief Abstract and a copy of the circulation waiver and the copying licence.

When accepted by the Program Administrator, one copy will be retained for microfilming and for deposit in the University Library after being bound. A second copy will be released to the Department in which the student was registered. A third copy will be released to the student's supervisor and three copies will be released to the student.

**Publication of Thesis**

The University requires publication of the thesis in the following manner:

One unbound copy of the thesis is forwarded to Library and Archives Canada, together with an agreement form signed by the candidate authorizing Library and Archives Canada to microfilm the thesis and to make microfilm copies available

for sale on request. Library and Archives Canada will film the thesis exactly as it is and will list the thesis in Canadiana as a publication of Library and Archives Canada. A fee is charged by Library and Archives Canada to offset the cost of microfilming. Library and Archives Canada's Microfilm Agreement form will be sent to the candidate prior to the Thesis Examination, to be signed and submitted to the Program Administrator immediately after the successful completion of the Examination.

**Circulation & Copying of Thesis or Project Report**

The candidate, in consultation with the Supervisor and the Department Chair, shall have the right to request that circulation and/or copying of the thesis or project report in any form be withheld for up to one year. In normal circumstances, as a condition of engaging in graduate study in the University, the author of a thesis or project report grants certain licences and waivers in respect of the circulation and copying of the thesis or project report:

to the University Librarian—a waiver permitting the circulation of the thesis or project report as part of the Library collection;

to the University—a licence to make single copies of the thesis or project report under carefully specified conditions;

to Library and Archives Canada—a licence to microfilm the thesis or project report under carefully specified conditions.

**Copyright**

Copies of the thesis or project report shall have on the title page the words "In partial fulfilment of the requirements for the degree of Doctor of Philosophy." The International copyright notice, which consists of three elements in the same line—(a) the letter "C" enclosed in a circle, (b) the name of the copyright owner (the student), and (c) the year—should appear as a bottom line on the title page of the thesis or project report.

**Retention/Maintenance of Records**

In the interests of good scholarly practice and in order to substantiate claims to intellectual property, graduate students should keep complete, dated records of their research. These records may be in the form of bound notebooks, log books, laboratory records, or other documentation, as appropriate to the discipline. Students should also retain copies of significant drafts and notes, and of all material submitted for evaluation, presentation, publication or by way of informal contribution to collaborative research projects. They must also realize that raw data and other research results should remain accessible at all times to all other members of any collaborative research activity.

**Unacceptable Thesis or Project Report**

If a candidate is unable to prepare an acceptable thesis or project report, the Supervisory Committee will so report to the Graduate Studies Coordinator (sending to the candidate a copy of the report).

**Transcripts of Records**

Certified official transcripts of the student's academic record are available through the Registrar's Office. Only individually signed copies are official. Transcripts will be sent to other universities, to prospective employers, or to others outside the University only upon formal request by the student.

# Master of Cleantech Leadership and Transformation

**GLOSSARY OF TERMS**

**a.** Master of Cleantech Leadership and Transformation (MCLT): degree granted for successful completion of the requirements for Master of Cleantech Leadership and Transformation degree as listed in the regulations.

**b.** Academic Director of the Cleantech Program: a Faculty Member who has administrative responsibility for the coordination of the MCLT program.

**c.** Cleantech Coordinating Committee: an interdisciplinary standing committee formed to oversee the MCLT program. This committee will work with the UPEI Faculty of Graduate Studies to ensure all policies and guidelines are fulfilled. The mandate of the committee may include:

**i.** establishing and periodically reviewing the goals and objectives of the MCLT program;

**ii.** reviewing applications from prospective students and recommending acceptance or rejection;
**iii.** making recommendations to the Dean of Graduate Studies concerning creation, deletion, or modification of graduate programs and courses;
**iv.** directing the coordination of graduate courses in the Cleantech program;
**v.** reviewing academic records of graduate students and recommending to the Dean of Graduate Studies the awarding of a degree or courses of action in the event of substandard performance, including dismissal from the program;
**vi.** recommending changes to the Graduate Studies Academic Calendar.

**2. ENROLMENT AND REGISTRATION**

**Procedures**

Applicants must receive formal notification from the Office of the Registrar that they have been accepted into the program before registering as graduate students in the MCLT program. See the Admissions section in the calendar that applies to the MCLT program. Students will register continually each semester in the courses outlined in their MCLT program. In exceptional circumstances where a graduate student finds it necessary to interrupt their studies they may apply for a Leave of Absence, per Graduate Academic Regulations. A student who fails to register as required will be deemed to have withdrawn from the program. Students should refer to the Academic Calendar.

**Registration Changes**

Changes in student registration such as deletion or addition of courses must be approved by the Academic Director (with input as required by the MCLT Coordinating Committee) and formal approvals of the University when required. Please check the UPEI web sites for the most recent program updates.

Except where credits are granted by special permission for courses outside of program, credits will only be given for courses listed on the student's registration form or authorized through an official change of registration.

In exceptional cases, the MCLT Coordinating Committee and the Dean of Graduate Studies may consider flexibility in courses for applicants. This means that students deemed to have significant learning in a particular area may normally be allowed one course exemption which is to be substituted with another approved course. Appropriate documentation will be required to consider course exemption.

Students should discuss course selection with the Program Manager or Academic Director.

**Withdrawal from the Program**

Students wishing to withdraw from the program should consult with the Academic Director. Students may withdraw from a program by notifying the Office of the Registrar using the appropriate form. Regular semester deadlines will guide this process.

**Discontinuing a Course**

Discontinuing a course will not occur by default. Students must discuss course discontinuations with the Academic Director. Discontinuations must be requested and processed by the published deadlines.

**Incomplete Courses**

A student who fails to complete all components of a course due to circumstances, such as illness, may be granted permission for incomplete (INC) status in the course. Students must submit such a request to the Academic Director before the end date for the course. The Director will seek advice from the professor concerned as to granting the incomplete status. Students should refer to the Graduate Academic Regulation that governs INC grades.

**Re-registrations and Course Re-takes**

Students who fail a course in the MCLT program may re-take the course once more. If the course is failed after the second attempt, the student will be dismissed from the MCLT program.

**Re-enrolment in the Program**

Re-enrolment in the program can occur but is subject to re-application and a statement explaining why re-admission should be permitted. The MCLT Committee will review these materials for approval. Students will be required to pay all applicable fees and any fee increases that have occurred between the time of their last enrolment and re-enrolment. Credit for courses previously completed will be re-evaluated and applied to the program requirements where appropriate.

**3. PROGRAM EXPECTATIONS**

The MCLT Program is a professional degree program that employs a cohort model. Students' full engagement is vital to the success of the program and the experience of other students in the class.

Class attendance is expected. A student who is unable to attend, or who will be late for a class, due to an emergency or extenuating circumstance should inform the course instructor as soon as the circumstance becomes known. Unapproved absences may negatively affect a student's grade, in accordance with the policy set out in the course syllabus.

**4. GRADES**

**Grade Requirements**

A minimum grade of 60% is required to pass a course and an overall average of 75% is required to complete the program and obtain a degree.

**Transcripts of Records**

Official transcripts of the student's academic record are available through the Registrar's Office. Transcripts will be sent to other universities, to prospective employers, or to others outside the University only upon formal request by the student.

**5. GRADUATION REQUIREMENTS**

To be awarded the Master of Cleantech Leadership and Transformation degree, a graduate student must:

**i.** successfully complete the program of studies as set out at the time of admission into the program or as agreed to by the MCLT Coordinating Committee,

**ii.** complete and submit an Application for Graduation form, and

**iii.** meet all other University regulations.

In addition, students must have paid all fees owed to the University and returned all library resources

PART VII

# GRADUATE PROGRAMS AND COURSES

# 102. Master of Arts (MA) - Island Studies

**A) PROGRAM REQUIREMENTS**

Students enrolled in the graduate program are required to choose a thesis-based option or a course-based option. Both MA degree options require the demonstration of a reasonable mastery of a concentrated field of study, as attested by achieving a satisfactory standing in the minimum number of graduate courses required by the respective Faculty, and a thesis based upon the research or the successful completion of the courses depending on the program option chosen.

Graduate students will register in the interdisciplinary MA program in Island Studies, under the Dean of Arts. Each student's program of study will be designed in consultation with the Program Coordinator and student's Supervisor (for the thesis option) or Coordinator (for the course-based option).

There will be considerable interaction and co-operation among the departments to provide courses and research facilities to meet the needs of individual students and their research.

In addition to the "General Regulations for Graduate Programs," described above, the following regulations apply specifically to the Master's degree:

**Residency Requirements**

Normally, at least two semesters of full-time study in residence at the University must be devoted to the thesis-based Master's program if the student is admitted as a regular student. Upon completion of the residency requirement, the student is then eligible to become a candidate for the MA degree. Normally, the thesis must be formally submitted or the program be otherwise complete within 48 months of the completion of the residency requirement. Departure from these normal requirements requires approval from the Graduate Studies Advisory Committee.

**Elective Courses**

In addition to these prescribed studies, the candidate may undertake to achieve satisfactory standings in courses supportive of the special discipline. These courses may be at either the undergraduate or the graduate level.

When a student is required to register in a seminar or colloquium course in more than one semester, the record will show a grade or a designation of "In Progress" for semesters prior to completion of the course and "Pass" or "Fail" for the final semester. With the consent of the Supervisory Committee, and of the instructor and the Department Chair concerned (or the Dean of Arts in the case of the MA in Island Studies), a student may register for, and audit, all or part of a course. It is understood that the student will attend lectures as prescribed, but will not write any examination or receive any grade. Such a course may be recorded as an additional course, identified by AUD.

**Elective Courses (4 courses required)**

Island Studies 6090 Migration and Movement Among Small Islands
Island Studies 6110 Strategies for Economic Development for Small Islands
Island Studies 6120 International Relations of Small Island States
Island Studies 6130 Political Ecology of Small Islands
Island Studies 6140 Islandness: Culture, Change, and Identity on Small Islands
Island Studies 6150 Public Policy in Small Islands
Island Studies 6160 Directed Studies
Island Studies 6170 Special Topics
Island Studies 6180 Colonial and Postcolonial Discourse Theories: An Introduction
Island Studies 6190 Environmental Governance
Island Studies 6200 Communications Management and Island Issues
Island Studies 6230 Islands and Tourism
Island Studies 6240 Approaches to the Management of Island Tourism
Island Studies 6250 Sustainability for Small Islands
Island Studies 6260 Blue/Green Development Strategies for Small Islands

Island Studies 6270 Subnational Island Jurisdictions
Island Studies 6280 Tourism and Hospitality Management on Islands

**C) THE THESIS**

Research

Normally, the equivalent of at least two full-time semesters must be devoted to research in fulfilment of the thesis requirement. Summers during which research work is actively conducted may be counted as research semester equivalents, even though courses would not normally be offered at that time. In order to avoid undue prolongation of the time required to complete the degree, the research topic should be identified early and approved by the Supervisory Committee. Research involving the use of animals must follow the Guidelines of the Canadian Council on Animal Care. Research involving human participants must adhere to the Tri-Council policy on research ethics and be approved by the University's Research Ethics Board.

**Thesis**

Each candidate for the degree of Master of Arts is required to submit a thesis based upon the research conducted under supervision as described above. The thesis must demonstrate the candidate's capacity for original and independent work, and should include a critical evaluation of work which has previously been done in the field of his or her research. The thesis should emphasize any new conclusions which may be drawn from the candidate's own research.

General specifications as to paper, format, order, and binding are available from the Office of the Program Coordinator.

**Procedures**

The thesis may be handed in at any time of the year, but candidates must bear in mind the desirability of having the final examination as much in advance of the deadline date for thesis submission as possible. Candidates are advised to inform themselves of the deadlines schedule, a copy of which may be obtained in the Office of the Program Administrator. It is desirable that each candidate initiate discussion about examination dates with the Supervisor early in the final semester.

The candidate should keep in close touch with the Supervisor and the Supervisory Committee throughout the preparation of the thesis. The final draft of the thesis, after it has been reviewed by all members of the Supervisory Committee, is sent when ready for examination to the members of the Master's Examination Committee (see below).

Following the Master's Examination, the candidate, if successful, arranges for the preparation of the thesis in final form, and for its submission to the Program Coordinator (see below). The thesis in final form must include any minor corrections or revisions indicated during the Examination. Approval of the thesis takes the form of a Certificate of Approval, signed by the Examination Committee.

**The Master's Examination**

The final oral examination, devoted chiefly to the defence of the thesis, is a departmental examination identified as the Master's Examination and carried out by the Master's Examination Committee.

In the Faculty of Arts, the Master's Examination Committee normally consists of three members of the Supervisory Committee, including the Supervisor of the candidate's research. The Program Coordinator will chair the Master's Examination Committee on behalf of the Dean of Arts. The Examination Committee also includes an External Examiner from another university or research organization who has expertise in the student's field of research and is recommended for approval by the Supervisor or Supervisory Committee to the Coordinator and Dean.

The Program Coordinator selects the Examination Committee at the request of the Supervisor and is responsible for notifying the Program Administrator of its composition. The Examination is normally open to the public; however, members of the audience may question the candidate only upon invitation of the Chair. The Examination is passed and the thesis approved in principle if there is no more than one negative vote, an abstention being regarded as a negative vote. The report, from the Program Coordinator records the result as "unsatisfactory," or "satisfactory". If the result is "unsatisfactory," the candidate may be given the opportunity by the Master's Examination Committee of a second attempt. A second "unsatisfactory" result will terminate candidacy at this university.

**COURSE-BASED OPTION**

Students enrolled in this option will register in one of three focus areas: Island Tourism, Sustainable Island

Communities or International Relations and Island Public Policy. Students in all focus areas will complete eight compulsory courses and two elective courses, as described below.

**Compulsory Courses for all Focus Areas (5 required courses)**

Island Studies 6010 Themes and Perspectives in Island Studies
Island Studies 6040 Research Methods and Design for Island Studies
Island Studies 6200 Communications Management and Island Issues
Island Studies 6210 Theory and Practice of Island Research I
Island Studies 6220 Theory and Practice of Island Research II

**Additional Compulsory Courses in Island Tourism Focus Area (3 required courses)**

Island Studies 6110 Strategies for Economic Development for Small Islands
Island Studies 6230 Islands and Tourism
Island Studies 6240 Approaches to the Management of Island Tourism

**Additional Compulsory Courses in Sustainable Island Communities Focus Area (3 required courses)**

Island Studies 6130 Political Ecology of Small Islands
Island Studies 6250 Sustainability for Small Islands
Island Studies 6260 Blue/Green Development Strategies for Small Islands

**Additional Compulsory Courses in International Relations and Island Public Policy Focus Area (3 required courses)**

Island Studies 6120 International Relations of Small Island States
Island Studies 6150 Public Policy in Small Islands
Island Studies 6270 Subnational Island Jurisdictions

**Elective Courses for all Focus Areas (2 courses required)**

Island Studies 6090 Migration and Movement Among Small Islands
Island Studies 6140 Islandness: Culture, Change, and Identity on Small Islands
Island Studies 6180 Colonial and Postcolonial Discourse Theories: An Introduction
Island Studies 6190 Environmental Governance
Island Studies 6280 Tourism and Hospitality Management on Islands

In addition to these Island Studies elective courses, and in order to satisfy their elective requirements, students in each of the focus areas may take any of the compulsory courses in the other two focus areas.

**ISLAND STUDIES COURSES**

**IST 6010 THEMES AND PERSPECTIVES IN ISLAND STUDIES**

This course explores contemporary and historical research questions and issues central to the interdisciplinary and comparative study of small islands and archipelagos. Topics include islands' identity, characteristics, challenges, opportunities, cultures, geography, economics, history, environmental concerns, and governance systems.
SEMESTER-HOURS OF CREDIT: 3
HOURS PER WEEK: 3
LECTURE: 2
SEMINAR: 1

**IST 6040 RESEARCH METHODS AND DESIGN FOR ISLAND STUDIES**

Introduction to research methods and research design as they pertain to study of small islands. The non-availability of island-specific data in non-island jurisdictions and researchers' perspectives and points of view will be considered.
PREREQUISITES: Admission into a UPEI graduate program or eligibility for graduate studies
SEMESTER-HOURS OF CREDIT: 3
HOURS PER WEEK: 3
LECTURE: 2
SEMINAR: 1

**IST 6090 MIGRATION AND MOVEMENT AMONG SMALL ISLANDS**

This course examines the diverse issues arising from migration and movement among and within small islands. Topics will include the creation of small-island societies through successive and often competing waves of colonization by

migrants, adventurers, and/or conquerors, as well as the complex two-way traffic that generally characterizes the subsequent development of island societies. Case studies of specific small islands, as well as comparative assessment of different small-island cases, provide opportunities to investigate the themes discussed in a concrete and practical manner.
PREREQUISITE: Admission into a UPEI graduate program or eligibility for graduate studies
SEMESTER-HOURS OF CREDIT: 3
HOURS PER WEEK: 3
LECTURE: 2
SEMINAR: 1

**IST 6110 STRATEGIES FOR ECONOMIC DEVELOPMENT FOR SMALL ISLANDS**

Using case studies, this course introduces the comparative study of economic development strategies applicable to small- island economics.
PREREQUISITES: Admission into a UPEI graduate program or eligibility for graduate studies
SEMESTER-HOURS OF CREDIT: 3
HOURS PER WEEK: 3
LECTURE: 2
SEMINAR: 1

**IST 6120 THE INTERNATIONAL RELATIONS OF SMALL ISLAND STATES**

Small-island states share a wide range of issues that are either exclusive to small islands or of particular salience for these island states. This course explores in-depth the international agenda for small-island states, the channels and resources involved in their international relations, and the attention and commitment of metropolitan states and international organizations.
PREREQUISITE: Admission into a UPEI graduate program or eligibility for graduate studies
SEMESTER-HOURS OF CREDIT: 3
HOURS PER WEEK: 3
LECTURE: 2
SEMINAR: 1

**IST 6130 THE POLITICAL ECOLOGY OF SMALL ISLANDS**

This course examines the intersections among politics, policy, and island environments. The tension between external economic pressures and trans-jurisdictional environmental protection mechanisms, with particular emphasis on topics such as global warming, fishing stocks, and biodiversity, is examined. Other factors including cultural and political forces that encourage development despite environmental risks also are explored.
PREREQUISITE: Admission into a UPEI graduate program or eligibility for graduate studies
SEMESTER-HOURS OF CREDIT: 3
HOURS PER WEEK: 3
LECTURE: 2
SEMINAR: 1

**IST 6140 ISLANDNESS: CULTURE, CHANGE, AND IDENTITY ON SMALL ISLANDS**

In this course students investigate the effects of insularity on small-island populations. The relationship between the population's identity (culture, ethnicity, self-confidence) and its economic and political choices is examined. Students examine history, folklore, art, literature, anthropology, economics, and political theories in the context of "islandness."
PREREQUISITE: Admission into a UPEI graduate program, or eligibility for graduate studies
SEMESTER-HOURS OF CREDIT: 3
LECTURE: 2
SEMINAR: 1

**IST 6150 PUBLIC POLICY IN SMALL ISLANDS**

This course examines the determinants or causes of public policy in small-island jurisdictions. Students familiarize themselves with various models for understanding the causes of public policy and with selected frameworks for

comparing policy across jurisdictions.
PREREQUISITE: Admission into a UPEI graduate program, or eligibility for graduate studies
SEMESTER-HOURS OF CREDIT: 3
HOURS PER WEEK: 3
LECTURE: 2
SEMINAR: 1

**IST 6160 DIRECTED STUDIES**

Under the supervision of a faculty member, a graduate student independently pursues an area of interest in-depth. The course includes a thorough literature review of the topic and directed research.
NOTE: Students are permitted to take no more than two Directed Studies courses towards the Master of Arts in Island Studies.
PREREQUISITE: Admission into a UPEI graduate program, or eligibility for graduate studies
SEMESTER-HOURS OF CREDIT: 3

**IST 6170 SPECIAL TOPICS**

Creation of a course code for special topics offered by Master of Arts.

**IST 6180 COLONIAL AND POSTCOLONIAL DISCOURSE THEORIES: AN INTRODUCTION**

Students will be introduced to the basic elements of colonial and postcolonial discourse analysis, an interdisciplinary field of study. Some of the prominent practitioners and debates in the field will be considered, as well as some of the cultural, historical, and political reasons for its emergence. A particular emphasis will be placed on colonialism and postcolonialism in island contexts.
Cross-level listed with Sociology/Anthropology 4140.
PREREQUISITE: Admission into a UPEI graduate program, or eligibility for graduate studies
SEMESTER HOURS OF CREDIT: 3
LECTURE: 2
SEMINAR: 1

**IST 6190 ENVIRONMENTAL GOVERNANCE**

(See Environmental Studies 4110)

**IST 6200 COMMUNICATIONS MANAGEMENT AND ISLAND ISSUES**

This course examines the concepts, principles and application of interpersonal and small group communications, public relations, strategic planning, law, leadership and ethics and applies them to island organizations and governments.
HOURS OF CREDIT: 3

**IST 6210 THEORY AND PRACTICE OF ISLAND RESEARCH I**

This course provides students with an opportunity to develop, integrate and apply their knowledge of island issues and theory in a specific focus area. Students will be involved in practical experiences with private, public or non-governmental organizations that deal with island issues. In-class discussions and discussion forums among students will assist students in developing an interdisciplinary and integrated approach to analysing these experiences.
HOURS OF CREDIT: 3

**IST 6220 THEORY AND PRACTICE OF ISLAND RESEARCH II**

This course provides students with an opportunity to develop, integrate and apply their knowledge of island issues and theory in a specific focus area that is developed collaboratively with private, public or non-governmental organizations. In-class discussions and discussion forums build on the knowledge gained earlier in the program, including in the introductory experiential course (IST 6210).
HOURS OF CREDIT: 3

**IST 6230 ISLANDS AND TOURISM**

This course provides students with an interdisciplinary analysis of the nature of island tourism. It covers the motivations and marketing of island tourism, the development opportunities, impacts and challenges, mass tourism versus niche tourism and the application to different island contexts, including warm-water versus cold-water locations.
HOURS OF CREDIT: 3

**IST 6240 APPROACHES TO THE MANAGEMENT OF ISLAND TOURISM**

This course explores the relationship between theory and practice in island tourism operations and tourism destinations. It will also examine the various ways that tourism impacts island communities throughout the world. The primary focus is on policies, designs, and strategies to mitigate the negative impacts and help tourism to become a sustainable and positive aspect of community development. Environmental, economic, cultural and social aspects of tourism will be considered. Graduate-level project will be required as defined in consultation with the instructor.

Cross-level listed with BUS 4550; credit cannot be received for both courses.

HOURS OF CREDIT: 3

**IST 6250 SUSTAINABILITY FOR SMALL ISLANDS**

This course explores the concept of sustainability as it has been applied to small islands of the world. It will show how the concepts of vulnerability and resilience have been applied to better understand development and underdevelopment taking place on islands from a holistic perspective. It also examines island sustainability from an indigenous and islander perspective versus an 'outsider' perspective.

HOURS OF CREDIT: 3

**IST 6260 BLUE/GREEN DEVELOPMENT STRATEGIES FOR SMALL ISLANDS**

Blue-green development is an approach that emphasizes the integration of marine and land-based resources and sectors, sustainable production and consumption, indigenous perspectives, diversification, clean technology, renewable energy and island entrepreneurship. This course examines and critiques this framework as a viable development path for small islands.

HOURS OF CREDIT: 3

**IST 6270 SUBNATIONAL ISLAND JURISDICTIONS**

Subnational island jurisdictions (or SNIJs) are political island entities that are in a semi-autonomous relationship with other jurisdictions. It includes provinces, states, and overseas territories. This course describes the nature and evolution of SNIJs and explains their resilience in a post-colonial world.

HOURS OF CREDIT: 3

**IST 6990 THESIS**

These topics will ordinarily require framing in a regional and comparative island studies context, with students then focusing on an issue or issues as it impacts on: one particular island; two or more islands; or the relationship between island and mainland. Students will be required to present a thesis proposal and their thesis results in a seminar format prior to their oral examination.

PREREQUISITE: Successful completion of Island Studies 6010, 6040, and one other graduate level 3 credit-hour course that is part of their program of studies

# 103. Doctor of Psychology

**Introduction**

The Doctor of Psychology (PsyD) is a doctoral program in clinical psychology which is comprised of 18 required classroom courses, 3 colloquium courses, a minimum of 750 hours of practical experience across four practicum courses, a dissertation across four courses, and a fulltime, 12-month predoctoral internship considered one course. The program is designed to prepare students to practice as clinical psychologists.

**Overview**

Infused with a critical lens, and focused throughout on integration of theory, research, and practice across individual and cultural diversities, the Doctor of Psychology Program prepares graduates to practice as clinical psychologists who will meet the needs of individuals, couples, and families, and also of broader communities and populations through the conscientious practice of the human art and science of clinical psychology.

Students will learn to develop, deliver and supervise high quality mental health services including assessment, diagnosis as appropriate, psychotherapeutic intervention and consultation, supervision, and research as well as learn to practice clinical psychology with an emphasis on responding to the broader needs for health and wellness promotion, community strengthening and prevention of psychological distress.

Of particular priority in the program is the development in students of the capacity to respectfully and effectively engage with the diversity of past and current experiences of individuals and communities, including with respect to culture, ethnicity, socioeconomic status, gender, language, religion, sexuality, physical and psychological characteristics, and identity. Students will develop an understanding of prominent systems and learn to work within them to effectively advocate for those requiring psychological services and to inform and shape organizational and public policy. Ethical decision making will be paramount throughout the program.

Students in the program are engaged full-time with the program throughout almost the entirety of the four years of study. The first semesters include five courses per semester; the workload for five graduate- level courses in a professional training program is much greater than that for five senior undergraduate courses. As is the case in other professional training programs such as medicine or veterinary medicine, students in the PsyD will not have time for significant employment outside the program.

Students' initial practicum placements will take place in the UPEI Psychology Clinic. The program will place students for subsequent practica in sites across Prince Edward Island, unless students initiate an approved placement site outside of the province. For the pre-doctoral internship, students take part with students across North America in the competitive APPIC internship matching program (www.appic.org).

Continuation in the program requires successful completion of, and ethical and professional conduct in, courses, practicum placements, and internship. Failure of any clinical practica will result in dismissal from the program.

**Clinical Psychology**

Clinical Psychology is a subfield within psychology that applies psychological theories, research and knowledge to various aspects of human functioning. Clinical psychologists are professionals who have doctoral level training in clinical psychology. They work in a wide range of contexts, with many working as professional clinicians, academics, or both. Clinical psychologists work across the spectrum of health and mental health promotion, prevention, assessment, diagnosis as appropriate, intervention, consultation, and supportive care. They are engaged with program design, implementation, and evaluation and with policy and systems change.

Clinical psychologists are trained to address many human problems including depression, anxiety, stress, major mental

disorders, learning problems, relational problems, challenges in parenting, addictions, behaviours contributing to chronic disease, developmental challenges, problems related to aging, problems which may arise from abuse or other traumatic experiences, and issues within the forensic field.

Clinical psychologists often work closely with psychiatrists, social workers and other health professionals, often within leadership roles on interdisciplinary teams. They may work with individuals, couples, or groups in public mental health clinics, in private practice, in public education systems, in other community settings, and at universities.

**DOCTOR OF PSYCHOLOGY IN CLINICAL PSYCHOLOGY**

Students following this degree program must complete 57 semester hours of required courses, plus 750 hours of clinical practica( 12 semester hours), a dissertation (12 semester hours) and a full-time 12-month clinical internship.

**REQUIRED LIST OF COURSES**

- PSY 6001 Colloquium I
- PSY 6201 Critical Historical Perspectives on Clinical Psychology
- PSY 6202 Ethics and Professional Issues in Clinical Psychology
- PSY 6101 Foundations I: Human Development and Personality
- PSY 6203 Psychopathology and Diagnosis Across the Lifespan
- PSY 6204 Psychometrics and Assessment Practices with Adults
- PSY 6102 Foundations II: Social Bases of Behaviour
- PSY 6103 Foundations III: Cognitive and Affective Bases of Behaviour
- PSY 6206 Quantitative Approaches to Research in Clinical Psychology
- PSY 6207 Qualitative Research in Clinical Psychology
- PSY 6205 Psychometrics and Assessment Practices with Children and Adolescents
- PSY 6501 Assessment Practicum
- PSY 6208 Introduction to Psychotherapy
- PSY 7101 Foundations IV: Biological Bases of Behaviour
- PSY 7202 Intervention with Children and Adolescents
- PSY 7801 Clinical Dissertation: Research Proposal I
- PSY 7203 Intervention with Adults: Cognitive-Behavioural & Related Approaches
- PSY 7205 Advanced Intervention with Children and Adolescents
- PSY 7802 Clinical Dissertation: Research Proposal II
- PSY 7501 Intervention Practicum
- PSY 8001 Colloquium III
- PSY 8801 Clinical Dissertation: Project I
- PSY 8201 Clinical Psychology in the Community
- PSY 8202 Clinical Psychology for Organizational and Systems Change
- PSY 8501 Advanced Practicum I
- PSY 8502 Community Intervention Practicum
- PSY 8802 Clinical Dissertation: Project II
- PSY 8203 Clinical Supervision
- PSY 8501 Advanced Practicum I
- PSY 9000 Predoctoral Internship
- One of PSY 7204 Advanced Intervention with Adults: Specific Clinical Approaches OR PSY 7205: Advanced Intervention with Children and Adolescents.

**Optional Course**

- PSY 8503 Advanced Practicum II
- One of PSY 7204 Advanced Intervention with Adults: Specific Clinical Approaches OR PSY 7205: Advanced Intervention with Children and Adolescents.

**SUGGESTED COURSE SEQUENCE**

The order in which courses are offered may vary year to year.

**YEAR 1**

Semester 1 (Fall)
PSY 6001 Colloquium
PSY 6201 Critical Historical Perspectives on Clinical Psychology
PSY 6202 Ethics and Professional Issues in Clinical Psychology
PSY 6203 Psychopathology and Diagnosis Across the Lifespan
PSY 6204 Psychometrics and Assessment Practices with Adults
PSY 6206 Quantitative Approaches to Research in Clinical Psychology

**Semester 2 (Winter)**

PSY 6001 Colloquium I (con't)
PSY 6102 Foundations II: Social Bases of Behaviour
OR
PSY 7101 Foundations IV: Biological Bases of Behaviour
(and)
PSY 6205 Psychometrics and Assessment Practices with Children and Adolescents
PSY 6207 Qualitative Research in Clinical Psychology
PSY 6208 Introduction to Psychotherapy
PSY 6501 Assessment Practicum

**Semester 3 (Summer)**

PSY 6101 Foundations I: Human Development and Personality
**OR**
PSY 6103 Foundations III: Cognitive and Affective Bases of Behaviour
**(and)**
PSY 6501 Assessment Practicum (con't)
PSY 7801 Clinical Dissertation: Research Proposal I

**YEAR 2**

**Semester 1 (Fall)**
PSY 7001 Colloquium II
PSY 7202 Intervention with Children and Adolescents
PSY 7203 Intervention with Adults: Cognitive-Behavioural & Related Approaches
PSY 7204 Advanced Intervention with Adults Specific Clinical Approaches
PSY 7501 Intervention Practicum
PSY 7801 Clinical Dissertation: Research Proposal I (con't)
PSY 8202 Clinical Psychology for Organizational and Systems Change

**Semester 2 (Winter)**

PSY 7001 Colloquium II (con't)
PSY 6102 Foundations II: Social Bases of Behaviour
**OR**
PSY 7101 Foundations IV: Biological Bases of Behaviour
**(and)**
PSY 7205 Advanced Intervention with Children and Adolescents

PSY 7501 Intervention Practicum (con't)
PSY 7802 Clinical Dissertation: Research Proposal II

**Semester 3 (Summer)**

PSY 6101 Foundations I: Human Development and Personality
**OR**
PSY 6103 Foundations III: Cognitive and Affective Bases of Behaviour
**(and)**
PSY 8501 Advanced Practicum I

**YEAR 3**

**Semester 1 (Fall)**
PSY 8001 Colloquium III
PSY 7204 Advanced Intervention with Adults; Specific Clinical Approaches
PSY 8201 Clinical Psychology in the Community
PSY 8203 Clinical Supervision
PSY 8801 Clinical Dissertation: Project I
PSY 8501 Advanced Practicum I (con't)

**Semester 2 (Winter)**

PSY 8001 Colloquium III (con't)
PSY 8502 Community Intervention Practicum
PSY 8503 Advanced Practicum II (optional)
PSY 8802 Clinical Dissertation: Project II

**Semester 3 (Summer)**

PSY 8503 Advanced Practicum II (optional) (con't)
PSY 8802 Clinical Dissertation: Project II (con't)

# DOCTOR OF PSYCHOLOGY COURSES

COLLOQUIUM I 6001
This course gathers together all students in the program, approximately weekly, for student case presentations and for presentations from university and community resources on topics related to clinical psychology practice and research.
One hour a week

PSY 6101 FOUNDATIONS I: HUMAN DEVELOPMENT & PERSONALITY

Students develop an appreciation of foundational theory and contemporary research in human development and personality, evaluated within the contexts of cultural and individual diversities, and in relation to competent clinical practice. Students assess major theories and models of development and of personality from a life-span perspective, examining typical and atypical growth across development, while considering consider the contribution of this body of knowledge to understanding mental health and effectively treating clinical disorders. We explore what is known, and what is yet unknown, about the applicability of key concepts and findings across cultural and individual diversities. Students reflect upon the implications of theory and research in development and personality for their own development as clinicians, and for the experiences of the clients they will serve.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three hours a week
Three semester hours

PSY 6102 FOUNDATIONS II: SOCIAL BASES OF BEHAVIOUR

Students develop an appreciation of foundational theory and contemporary research in social bases of behaviour,

evaluated within the contexts of cultural and individual diversities, and in relation to competent clinical practice. Students assess major theories and models of social psychology in light of current research and consider their contribution to understanding mental health and effectively treating clinical disorders. We explore what is known, and what is yet unknown, about the applicability of key concepts and findings across cultural and individual diversities. Students reflect upon the implications of theory and research in social psychology for their own development as clinicians, and for the experiences of the clients they will serve.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three hours a week
Three semester hours

PSY 6103 FOUNDATIONS III: COGNITIVE AND AFFECTIVE BASES OF BEHAVIOUR

Students develop an appreciation of foundational theory and contemporary research in cognitive and affective bases of behaviour, evaluated within the contexts of cultural and individual diversities, and in relation to competent clinical practice. Students assess major theories and models of cognition and emotion in light of current research and consider their contribution to understanding mental health and effectively treating clinical disorders. We explore what is known, and what is yet unknown, about the applicability of key concepts and findings across cultural and individual diversities. Students reflect upon the implications of theory and research in cognition and emotion for their own development as clinicians, and for the experiences of the clients they will serve.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three hours a week
Three semester hours

PSY 6201 CRITICAL HISTORICAL PERSPECTIVES ON CLINICAL PSYCHOLOGY

This course places modern psychotherapy (and assessment) within its social and historical context by examining the various and continually evolving relationships between the "healer" and the "sufferer." The course begins with a review of the history of "abnormal" behavior from ancient to modern times, followed by a discussion of the emergence of modern psychotherapy in the late 19th century. World War II witnessed the rise of Psychology as the recognized professional body for psychological assessment and treatment. Numerous approaches to psychotherapy were soon developed, including behavior therapy, humanistic psychology, Gestalt therapy, cognitive therapy, systems therapy, and cognitive-behavioral therapy (among others). The course concludes with an analysis of the current conditions of clinical therapeutic practice in North America, and a return to the question of the sufferer's relationship to the healer. Throughout the course, emphasis is given to the various individual and cultural influences that have characterized the story of clinical psychology so far, and how this narrative is connected to the larger social and historical conditions of Western societies.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three hours a week
Three semester hours

PSY 6202 ETHICS AND PROFESSIONAL ISSUES IN CLINICAL PSYCHOLOGY

This course introduces students to important ethical and professional issues in the practice of clinical psychology. Ethical issues are explored through an in-depth study of the Canadian Code of Ethics for Psychologists. Students learn to resolve ethical dilemmas that are likely to emerge in clinical practice. The course also provides students with an opportunity to learn about legal and professional aspects of the practice of psychology including examination of relevant jurisprudence, regulatory issues within the profession, as well as a range of other topics that characterize the practice of professional psychology. Implications for the profession of an increasingly diverse client base are also considered.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three hours a week
Three semester hours

PSY 6203 PSYCHOPATHOLOGY AND DIAGNOSIS ACROSS THE LIFESPAN

This course introduces the concepts related to the classification of psychopathologies across the lifespan, emphasizing the DSM-5 and other classification systems. Students gain an in-depth familiarity with how psychological disorders

are conceptualized and diagnosed and develop a strong understanding of the essential features of psychopathologies which occur across the lifespan. Significant emphasis is placed on a thorough analysis of the strengths and weaknesses of diagnostic systems, examination of categorical versus dimensional understandings of psychological functioning, and exploration of the historical and societal factors that have influenced, and continue to influence, how clinical psychologists conceptualize psychopathology. Students are also introduced to the rapidly growing field of developmental psychopathology, a theoretically and empirically-based framework that provides a unifying perspective for understanding the onset and development of both health and clinical disorder across life.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three hours a week
Three semester hours

PSY 6204 PSYCHOMETRICS AND ASSESSMENT PRACTICES WITH ADULTS

This course provides students with an opportunity to learn about the foundational theory and practices in psychological assessment of adults and begins with an examination of the nature and limitations of psychological assessment through an in-depth review of psychometric theory. Students are then provided with a survey of prominent approaches to the assessment of various psychological constructs including intelligence, personality (objective and projective), and mental health symptoms. A critically informed analysis of the role, benefits and costs of psychological assessment and diagnosis is undertaken. An emphasis on issues related to psychological assessment with diverse populations is present throughout the course. Students receive hands-on instruction in the administration, scoring and interpretation of major psychological measures used with adults (e.g., tests of intelligence, academic achievement, personality and mental health). Within the context of conducting rigorous and comprehensive assessments, students are also introduced to the concept of "formulation", namely how clinical psychologists draw on theory and key empirical findings to examine a client's or family's problems, how they arose and what may currently be holding them in place. Moreover, the importance of considering cultural and individual differences when assessing clients is examined. Ethical issues that may arise when working with adults in an assessment context are explored.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three hours a week
Three semester hours

PSY 6205 PSYCHOMETRICS AND ASSESSMENT PRACTICES WITH CHILDREN AND ADOLESCENTS

This course provides students with an opportunity to learn about the foundational theory and practices in psychological assessment of children and adolescents, grounded in application of psychometric theory. Students gain familiarity with a range of psychological assessment devices used with children and adolescents including measures of intelligence, academic achievement and mental health symptoms. Students receive hands-on instruction in the administration, scoring and interpretation of major objective and projective psychological tests used with children and adolescents and develop skills in explaining the tests results and their implications to parents and, at a developmentally appropriate level, children and adolescents. Emphasis is placed on formulating problems experienced by children and adolescents, and looking at them in relation to a developmental psychopathology framework (e.g., individual, parent, parenting/family, and social risk and protective factors). Moreover, the importance of considering individual and cultural diversities when assessing children and adolescents is examined. Ethical issues that may arise when working with children and adolescents in an assessment context are explored.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three hours a week
Three semester hours

PSY 6206 QUANTITATIVE APPROACHES TO RESEARCH IN CLINICAL PSYCHOLOGY

Building upon their undergraduate advanced statistics coursework, students learn to interpret and evaluate research designs and quantitative data analyses most commonly encountered in the clinical literature and in program evaluation. Included are epidemiological methods, single case designs, analysis of correlational data, quasi-experimental and experimental designs, structural equation modelling, and meta-analysis. Emic and etic approaches to research are discussed, and attention is paid to issues related to cross-cultural research, equivalence, and data collection with

cultural minorities and vulnerable populations.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three hours a week
Three semester hours

PSY 6207 QUALITATIVE RESEARCH IN CLINICAL PSYCHOLOGY

This course builds on foundations in qualitative inquiry to support student's assessment of the transferability of qualitative empirical and theoretical work for psychological practice. Students learn how to interrogate qualitative research for ontology, epistemology, and methodology to assess the authenticity and trust worthiness of published accounts. Analysis of case study, phenomenological, and discursive applications enable students to discern the strength and limitations inherent in each approach. Evaluation of mixed methods is also included in the course, broadly-speaking for their applicability for understanding health and psychopathology, and specifically in areas such as understanding the appropriateness, impact, and effectiveness of psychological interventions.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three hours a week
Three semester hours

PSY 6208 INTRODUCTION TO PSYCHOTHERAPY: COMMON FACTORS

This course introduces students to psychotherapeutic approaches, theories, and application to clinical practice. Emphasis is placed on the common factors that influence the effectiveness of psychotherapeutic interventions emerging from the humanistic and person-centered theoretical tradition. Students consider the most well-studied factors in psychotherapy including the therapeutic alliance, empathy, positive regard, genuineness, motivation, corrective emotional experiences, insight, self-efficacy, and the differences between process and content. Through reflection and attention to theory and evolving evidence, students consider how clinical psychologists develop cultural sensitivities and competence in their ability to develop working alliances, conduct assessments, and deliver evidence-informed interventions.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three hours a week
Three semester hours

PSY 6501 ASSESSMENT PRACTICUM

Students are required to complete a minimum of 200 practicum hours focusing on assessment activities at the UPEI Psychology Clinic working about equally with adult and child/adolescent clients. Students also attend clinical teaching sessions and rounds relevant to specific issues relevant to psychology practice within the UPEI Psychology Clinic. Students also are provided with opportunities to engage in community outreach focused on the provision of intervention to under-served communities.
PREREQUISITE: PSY 6204
Three semester hours
This course is graded Pass/Fail

COLLOQUIUM II 7001

This course gathers together all students in the program, approximately weekly, for student case presentations and for presentations from university and community resources on topics related to clinical psychology practice and research.
One hour a week

PSY 7101 FOUNDATIONS IV: BIOLOGICAL BASES OF BEHAVIOUR

Students develop an appreciation of foundational theory and contemporary research in the neurobiological bases of behaviour, evaluated within the contexts of cultural and individual diversities, and in relation to competent clinical practice. Students assess major theories and models of the neurobiological bases of behaviour in light of current research. Students consider what is known about genetic influences on the development of clinical disorders and attention is paid to the methodologies for studying genetic transmission, as well as the complex interactions between genetic factors and the environment in the development of clinical problems. We explore what is known, and what is yet unknown, about the applicability of key concepts and findings across cultural and individual diversities. Students reflect

upon the implications of theory and research in biological bases of behaviour for their own development as clinicians, and for the experiences of the clients they will serve.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three hours a week
Three semester hours

PSY 7202 INTERVENTION WITH CHILDREN AND ADOLESCENTS

This course considers basic approaches to intervention with children and adolescents through the lens of developmental psychopathology and evidence-based practice. Students gain an understanding of the importance of selecting interventions that are appropriate to what we know about effectiveness for specific clinical problems, the developmental level of the client, and the wider ecology of risk and protective factors that characterize children's and adolescents' lives. Major approaches to psychotherapeutic intervention with children and adolescents are reviewed. Students gain experience in the development of basic clinical skills that can be applied within a variety of clinical interventions. Important ethical issues that often emerge in work with children and adolescents are discussed. The importance of cultural and individual diversities in key areas that are often targeted by interventions with children and adolescents are considered, e.g., parenting values, beliefs and practices or family hierarchies and communication patterns. Students also are encouraged to draw on the conceptual and empirical research base (or lack thereof) that informs our understanding of the impact of social and cultural factors on therapeutic effectiveness.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three hours a week
Three semester hours

PSY 7203 INTERVENTION WITH ADULTS: COGNITIVE-BEHAVIOURAL AND RELATED APPROACHES

This course is designed to provide students with a solid understanding of the theory, principles and skills in cognitive behavioral therapy and related approaches. Students learn to apply CBT theory, techniques, and strategies to interventions with adults, including the treatment of anxiety and mood disorders. This course takes a case formulation approach, emphasizing, the formulation as a guide for the therapist's decision making, and the application of evidence-based knowledge and skills. Implications of cultural and individual diversities for application of behavioral, cognitive, and related approaches are explored.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three hours a week
Three semester hours

PSY 7204 ADVANCED INTERVENTION WITH ADULTS: SPECIFIC CLINICAL APPROACHES

The course provides in-depth study of a model—which can vary year to year—of an intervention or psychotherapeutic approach with adults, examining theory, research findings, historical perspectives, and techniques. The goal is an in depth understanding of the particular approach, and development of foundational skills in application of the approach, including its use in case formulation and specific interventions. Students have an opportunity to practice interventions in audiovisual recorded practice sessions. A rotating series of intervention models are considered, e.g., psychodynamic approaches, humanistic approaches, "Third Wave" behavioural therapies, treatment of trauma, interventions for specific populations, group psychotherapy. Implications of cultural and individual diversities for application of the approaches are explored.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three hours a week
Three semester hours

PSY 7205 ADVANCED INTERVENTION WITH CHILDREN AND ADOLESCENTS

This course provides students with an opportunity to explore specific therapeutic interventions used in the treatment of psychological problems experienced by children and adolescents. Empirically supported approaches to the treatment of childhood behavioural problems, anxiety, depression and other issues impacting children will be reviewed. Students also have an opportunity to learn about approaches that are often used with parents, guardians and others who help children. Specific therapeutic approaches primarily used with adolescents are also reviewed. Students have

opportunities to gain experience in practicing some of these techniques through experiences such as class-based role plays and delivery of an empirically supported parenting program to groups of parents. Implications of cultural and individual diversities for interventions with children and adolescents are explored.
PREREQUISITE: PSY 7202
Three hours a week
Three semester hours

PSY 7501 INTERVENTION PRACTICUM

Students are required to complete a minimum of 200 practicum hours focusing on intervention activities at the UPEI Psychology Clinic working about equally with adult and child/adolescent clients. Students also attend clinical teaching sessions relevant to specific issues relevant to psychology practice within the UPEI Psychology Clinic. Students are provided with opportunities to engage in community outreach focused on the provision of intervention services to under-served communities.
PREREQUISITE: PSY 6208
Three semester hours
This course is graded Pass/Fail

PSY 7801 CLINICAL DISSERTATION: RESEARCH PROPOSAL I

The Clinical Dissertation is the major research component in the Doctor of Psychology Program. It is completed during the second and third year of the program and must be completed (via a formal defense) before students leave for internship. The project is carried out using a cohort model in which students develop independent research projects with the support of student colleagues and under the supervision of a graduate faculty member who serves as the Doctoral Research Coordinator. In this course students complete a comprehensive literature review which determines the type and scope of the research to be carried out. The research proposal is presented to the class and other members of the Department of Psychology and approved by the Doctoral Research Coordinator. Student projects must make a novel contribution to the clinical psychology research literature and may develop research within qualitative, quantitative or mixed methods paradigms. Research projects that do not include data gathering, such as novel research syntheses or work toward policy development, may be proposed.
PREREQUISITE: PSY 6206, PSY 6207
Three semester hours
This course is graded Pass/Fail

PSY 7802 CLINICAL DISSERTATION: RESEARCH PROPOSAL II

This course is the second in a sequence of four courses leading to the completion of the Clinical Dissertation. Preparations for data gathering are made as required with community partners or other sources of participants. Students who are collecting data will develop a full submission to the Research Ethics Board and revise as required. After receiving REB approval students move into the data gathering phase of their research project. Qualitative and/or quantitative data analysis is carried out using accepted approaches. Students address any gaps in their competencies for completion of the data analysis procedures identified in their research plan. Students completing non-empirical research projects begin work on the novel synthesis of the scholarly material. Students address any gaps in their competencies for knowledge synthesis projects.
PREREQUISITE: PSY 7801
Three semester hours
This course is graded Pass/Fail

COLLOQUIUM III 8001

This course gathers together all students in the program, approximately weekly, for student case presentations and for presentations from university and community resources on topics related to clinical psychology practice and research.

PSY 8201 CLINICAL PSYCHOLOGY IN THE COMMUNITY

The course extends beyond clinical psychology's focus on the individual so that students may develop a greater understanding of the impacts clinical psychologists may have at the community level. This course allows students to explore established and novel approaches which may be used by clinical psychologists to effectively engage with

communities. Topics are likely to include community-based health promotion and prevention, political action, and empowerment in the application of clinical psychology principles to community-based social, mental health, and environmental problems. It also emphasizes values, applied research, and action focused on promoting the welfare of the whole community through organizational, community, and societal-level action. Implications of cultural and individual diversities for application of clinical psychology in the community are explored.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three hours a week
Three semester hours

PSY 8202 CLINICAL PSYCHOLOGY FOR ORGANIZATIONAL AND SYSTEMS CHANGE

Students explore roles for clinical psychology in development and change of organizations and of systems. We consider questions such as: What is the nature of organizations and systems in the public, not-for-profit, and private sectors? What are opportunities and responsibilities to influence policy and practice leadership? How can research evidence be translated to policy and practice? What is the psychologist's role when the experiences of marginalized communities are not reflected in policy and practice? How can communication and collaboration be fostered within and across organizations and systems to support health and wellness promotion; prevention of disorder; timely and appropriate assessment, intervention, and consultation; and meaningful support? What is the role of advocacy for clients and populations? Implications of cultural and individual diversities for application of clinical psychology to organizational and systems change are explored.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three hours a week
Three semester hours

PSY 8203 CLINICAL SUPERVISION

The provision of clinical supervision is one of the most important aspects of training in psychology and is one of the core competencies associated with being a clinical psychologist. In this course students are exposed to the current state of the art of clinical supervision. Various models of supervision are reviewed and students gain experience by offering clinical peer supervision to graduate students in earlier years of the doctoral program. Implications of cultural and individual diversities for clinical supervision and teaching are explored.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three hours a week
Three semester hours

PSY 8501 ADVANCED PRACTICUM I

Students are required to complete a minimum of 300 practicum hours in a pre-authorized practicum setting that may focus on clinical work with children and adolescents and/or adults. This practicum offers students the opportunity to gain significant exposure to clinical work with a particular population and / or clinical issue. A number of previously established practicum settings are available. Students may also seek out their own clinical placement but must gain formal approval of the placement from the Associate Director of Clinical Experience.
PREREQUISITE: PSY 6501, PSY 7501
Three semester hours
This course is graded Pass/Fail

PSY 8502 COMMUNITY INTERVENTION PRACTICUM

Students are required to complete a minimum of 50 practicum hours involving intervention at the group or community level. This work may involve an intervention focused on improving mental health or an intervention aimed at preventing a mental health problem or at health promotion. Students may collaborate with other students, under the direction of a core faculty member, to work toward community engagement which will allow some form of clinically relevant and empirically supported intervention.
PREREQUISITE: Acceptance to the Doctor of Psychology Program
Three semester hours
This course is graded Pass/Fail

PSY 8503 ADVANCED PRACTICUM II

Students may complete a second advanced practicum consisting of at least 200 practicum hours. The practicum setting may be one that has been previously established or the student may seek out their own clinical placement which must be approved by the Director of Clinical Training.

PREREQUISITE: PSY 8501 and permission of the Director of Clinical Training.

Three semester hours

This course is graded Pass/Fail

PSY 8801 CLINICAL DISSERTATION: PROJECT I

In this third course in the clinical dissertation sequence students carry out data collection and conduct qualitative and/or quantitative analyses appropriate to their projects. Students completing non-empirical research projects continue work on the novel synthesis of the scholarly material.

PREREQUISITE: PSY 7802

Three semester hours

This course is graded Pass/Fail

PSY 8802 CLINICAL DISSERTATION: PROJECT II

In this final course in the clinical dissertation sequence students prepare their research projects for a formal defense in front of student colleagues, members of the Department of Psychology faculty, the Doctoral Research Coordinator, and others in the community. The defense includes the submission of a written dissertation report, a concise knowledge translation document designed for a policy or practice audience appropriate to the research project, and a concise presentation of research findings. Following the research presentation students respond to questions from the audience. The quality of the written research report, knowledge translation, oral presentation and responses to questions will be assessed by an examination committee, chaired by a member of the Psychology Department (non-voting member). The examination committee includes the supervisor, co-supervisor if applicable, additional supervisory committee member, and one external examiner who is not affiliated with UPEI. The committee determines whether the work fulfills the requirements for the clinical dissertation project.

PREREQUISITE: PSY 8801

Three semester hours

This course is graded Pass/Fail

PSY 9000 PREDOCTORAL INTERNSHIP

Doctor of Psychology students complete a full-time 12-month internship which consists of full-time clinical practice under the supervision of registered psychologists.

PREREQUISITE: Permission of the Director of Clinical Training

This course is graded Pass/Fail

# 104. Executive Master of Business Administration (EMBA)

Based on executive education models, this MBA program offers students a unique and valuable opportunity to advance their education while continuing to work. Specialized streams of study are available in "Biotechnology Management and Entrepreneurship" and "Innovative Management". These will provide students with the theory, skills, experiential learning and research opportunities to advance their knowledge and enhance their success in these flourishing fields. Dedicated faculty, peer-to-peer learning, an integrated program approach, and an emphasis on developing global perspectives ensure that graduates are well prepared for the unique challenges of leading and innovating in an ever-changing, international business environment. The degree conferred upon successful completion of the program is a Master of Business Administration (MBA).

**Specialization in Biotechnology Management and Entrepreneurship**

In this specialization stream, students gain a valuable combination of knowledge and skills in the business of science. The program will focus on the issues of commercialization, as well as the ethical and regulatory issues that face the biotechnology industry. Graduates of this specialization stream will be well equipped to develop and manage new ventures and small businesses or to work in the public and private sectors in the business of biotechnology/science fields.

**Specialization in Innovative Management**

The Innovative Management stream is designed to develop the skills and knowledge necessary to effectively manage within and for an innovative environment. Courses integrate the concepts of creativity and entrepreneurial thinking as well as real world learning and management skills such as leadership and teamwork. Global content ensures graduates have a well- developed perspective on worldly issues and decision-making. This program fits those who are interested in business from new perspectives.

**A) STRUCTURE OF THE PROGRAM**

The Executive MBA program is designed for working people. The program structure is flexible to fit students' needs as much as possible. For example, classes are held every other week on Fridays and Saturdays to accommodate working students. Students normally enrol in four courses per semester and form small, self-managed teams to work on projects, thus enabling them to learn from each others' backgrounds and experiences.

The first year of studies focuses on enhancing managerial skills and understanding functional business topics. Students are able to take four courses in each of the fall and winter semesters.

The second year of studies focuses on the development and application of more strategic perspectives and application within a dynamic global business environment. In year two, students are able to take four courses in the fall semester. The program finishes with the completion of BUS-8010.

**B) PROGRAM REQUIREMENTS**

Students enrolled in the Executive MBA program are required to complete a total of 42 credit hours (14 courses) comprised of required courses, specialization courses, and a signature project. Students have the opportunity to complete the MBA program in twenty months. They must complete all required courses within six years of being admitted to the program.

**C) GRADUATE COURSES**

Students in both specialization streams must complete 24 credit hours of required core courses and a signature project equivalent to 6 credit hours. The required core courses for both streams are as follows:

Business 6010 – Management of People and Organizations
Business 6020 – Financial and Managerial Accounting
Business 6030 – Marketing Management
Business 6040 – Operations Management
Business 6050 – Corporate Finance
Business 6070 – Strategic Management
Business 6080 – Research Methods for Evidence-Based Practice
Business 6090 – Business Communication
Business 8010 – Business Research in Practice

**Specialization Courses**

Students are required to take 12 credit hours (4 courses) in one of the specializations. These four courses will normally include two required courses plus two elective courses in the chosen area of specialization. Students, however, will have the option to take one of the elective courses in the other specialization. Not all elective courses will be offered each semester. Electives may include Special Topics or Directed Studies courses.

**Biotechnology Management and Entrepreneurship Courses**
Business 7010 – Biotechnology Management and Development (required)
Business 7020 – Commercialization of Biotechnology and Innovations (required)
Business 7030 – Ethics and Governance in Biotechnology Management
Business 7040 – International Relations, Laws, and Policies of Biotechnology
Business 7050 – Growth Strategies
Business 7060 – Venture Financing Strategies
Business 7070 – Managing Biotechnology Innovation

**Innovative Management Courses**
Business 7200 – Innovation and Entrepreneurship (required)
Business 7210 – Innovative Culture and Leadership (required)
Business 7220 – Managing Customer Value
Business 7230 – Creativity and Innovation for Change Management
Business 7240 – Governance, Leadership, and Professional Development
Business 7250 – Management and Government Perspectives
Business 7260 – Strategy and Management Consulting
Business 7270 – Negotiation and Conflict Management
Business 7280 – International Business

**Special Topics Course**
Business 7850 – Special Topics in Business

**Directed Studies Course**
Business 7860 – Directed Studies

# BUSINESS COURSES (EXECUTIVE)

BUS 6010 MANAGEMENT OF PEOPLE & ORGANIZATIONS

This course considers concepts, knowledge, and skills related to the behaviour and management of people in organizations. Human resource management entails thinking systematically and strategically, essential for achieving meaningful outcomes through others. Included are topics such as leadership, motivation, organizational structure, recruitment, selection, reward systems, performance management, training and development, employee commitment and retention, workforce diversity, and managing people across borders and cultures.

BUS 6020 FINANCIAL AND MANAGERIAL ACCOUNTING

In this course students learn to become proficient at understanding and interpreting financial statements, assessing them for decision-making purposes and supporting value- creating organizational strategies, operational tactics, and performance measurement schemes. The course employs international standards and addresses how accounting is used in decision-making. Tools for learning include guest speakers, case studies, and projects.

BUS 6030 MARKETING MANAGEMENT

This course is designed to provide students with an introduction to the essentials of marketing practice. Students work together to apply principles and techniques for assessing changing consumer wants in an environment driven by globalization and evolving technological change. Emphasis is placed on providing managers with the tools necessary to make timely, strategic marketing decisions from the perspective of targeted consumer wants.

BUS 6040 OPERATIONS MANAGEMENT

This course focuses on concepts and techniques for the design, planning, control, and improvement of manufacturing and service processes. These concepts and techniques pertain to a range of applications in the private and public sectors. Topics include quantitative decision making; process mapping flows of labour, material, capital, and value; supply chain coordination; inventory management; risk mitigation; quality management; process design; and revenue management. Students will complete problem solving and case applications.

BUS 6050 CORPORATE FINANCE

This course is designed to provide students with a broad overview of corporate finance and financial markets. The focus is on the conceptual and analytical techniques necessary for making financial decisions. The information collection, problem solving, and decision-making skills inherent in the finance function are stressed. Key concepts covered include the relevance of financial markets to the firm, understanding the relationship between risk and return and its importance in all financial decisions, and learning how financial and real assets are valued and the impact on a company.

PREREQUISITE: Business 6020 BUS 6070 STRATEGIC MANAGEMENT

This course looks at the development and implementation of management strategies to create a sustainable advantage in new ventures and entrepreneurial activities in the fast-changing global economy. Utilizing a variety of pedagogic approaches, the course may include topics such as venture concepts, product and market development, intellectual property strategies, pipeline and portfolio management, licensing, alliances, mergers and acquisitions, and international expansion strategies.

PREREQUISITE: Business 6010 and 6020 BUS 6080 RESEARCH METHODS FOR EVIDENCE-BASED PRACTICE

This course looks at research as a systematic, objective, and creative process and provides students with a foundation for practicing evidence-based management. Through an introductory yet thorough overview of research methodology, this course enables and encourages students to consider ways managers can use research to support decision-making and actions.

Students learn how to locate and evaluate existing knowledge and how to conduct (or participate in) original research.

BUS 6090 BUSINESS COMMUNICATION
This course is designed to help students hone their oral and written communication skills. Students will learn how to deliver professional, engaging, and persuasive public presentations and written work. The course will also teach effective communication within meetings and team settings. In addition, the course will review the principles of academic integrity.
3 hours credit

BUS 7010 BIOTECHNOLOGY MANAGEMENT AND DEVELOPMENT (required)
This course provides an overview of management in the biotech/sciences fields. It develops a framework for understanding and analyzing issues in the strategic management of technology and innovation in the context of taking a scientifically feasible idea and examining whether or not it is commercially viable. It evaluates opportunities and challenges in the management of growth in entrepreneurial settings and looks at funding sources from venture capital, business angels, investment banking, and commercial banking sources, and considers the potential global impact of biotechnology research, regulatory requirements, and knowledge management.

BUS 7020 COMMERCIALIZATION OF BIOTECHNOLOGY AND INNOVATIONS (required)
This course examines the theory and practice of commercializing innovation through the launching of new business ventures in the biotechnology industry. It looks at the determination of the value of an innovation; if, when, and how to commercialize an innovation; the research, development, preparation, and presentation of a business plan; how to manage cross-disciplinary teams of scientists, engineers, lawyers, and MBAs; and the strategic alliances and partnerships that are critical to a successful biotech business.

BUS 7030 ETHICS AND GOVERNANCE IN BIOTECHNOLOGY MANAGEMENT
This course provides a foundation for the ethical and social problems involved in running today's biotechnology companies which may not have the advantages of deep cumulative knowledge and experienced long-term leadership. The course addresses major transitions in technology, markets, and government policy in industries such as pharmaceuticals, biotechnology, information technology, energy, and communications. It examines research collaborations between university and industry, ethical drug advertising, rules of competition, and incorporating ethics into the fabric of business decision-making. Classes feature guest speakers, venture capitalists, business executives, regulators, and others who can bring their insights and expertise to the issues.

BUS 7040 INTERNATIONAL REGULATIONS, LAW, AND POLICIES OF BIOTECHNOLOGY
This course reviews current legal issues affecting the biotechnology industry and the general public. Special attention is devoted to approval processes and regulations, technology transfer, facility design, and cleaning validation, with emphasis placed on intellectual property issues involving patents, assignment and licensing of technology, and trademarks. Included are international regulations and political policies and their impact on strategic and policy development. Major theoretical and practical approaches are utilized to examine such issues as the debt crisis, trade disputes, NAFTA, and the expansion of the European Union.

BUS 7050 GROWTH STRATEGIES
This course focuses on the evaluation of opportunities and the challenges involved in the management of growth. Because growth is the ultimate resource "constrainer," often stretching systems in a company to the limit and beyond, the course emphasizes management "at the limit" of what students may have already learned in other functional courses. It provides students with a series of frameworks, analytical skills and techniques, and decision-making tools used in growing businesses.

BUS 7060 VENTURE FINANCING STRATEGIES
This course focuses on raising seed and growth capital from various sources such as venture capital, business angels,

investment banking, and commercial banking sources. It considers financial problems unique to small and medium-sized firms undergoing rapid growth. It also examines financial management for entrepreneurs over the life of a business project, including financing start-ups, financial planning for smaller enterprises, going public, selling out, bankruptcy, and other related topics.

BUS 7070 MANAGING BIOTECHNOLOGY INNOVATION
This course takes a critical look at biotech industries and the life sciences revolution, examining what major transitions in technology, markets, and government policy mean to both established and emerging players, and to the demands on management. Since biotech industries have not normally enjoyed experienced long-term leadership, it is often difficult for them to acquire a cutting edge, particularly when the playing field is being drastically altered and the rules of competition rewritten. Students leave the course with a better understanding of the global challenges facing these industries, and with a broader perspective of leadership and strategy.

BUS 7200 INNOVATION AND ENTREPRENEURSHIP (required)
This course looks at how to manage a business in an innovative and entrepreneurial culture. Topics include an overview of innovation and its value for a firm, entrepreneurial thinking as an approach to general management, how the innovation process works, creating entrepreneurial companies, organizing and managing innovation within existing firms, the role of technology, and coping with the strategic challenges facing all innovators. The course utilizes real-world learning techniques such as case studies, guest speakers, and projects.

BUS 7210 INNOVATIVE CULTURE AND LEADERSHIP (required)
Economies around the world have become increasingly knowledge- based. In accordance, innovation has become integral to organizational success, especially in a global context. This has forced organizational executives to gain the knowledge and skills required to foster an innovative work culture. This course provides a practical and theoretical understanding of how to create an innovative workforce through effective leadership and employee management. A complexity approach to innovation in organizations is used to contextualize the course content. A selection of leadership styles, competencies and methods are presented and explored through various experiential processes and activities.

BUS 7220 MANAGING CUSTOMER VALUE
This course develops business decision-making skills that touch on customer value as a prerequisite to business success. Topics include defining the term "customer value"; how to align the company's product or service with customer needs and to distinguish it from competitive offerings; how to provide customers with a superior total package of benefits comprising the product itself, associated services, brand image, appropriate pricing, and availability; and an intimate understanding of customers' needs and behaviour. Particular attention is paid to the unique contexts of marketing knowledge-intensive products and services, new and rapidly growing markets, business markets, and investors. Topics such as fusion branding and value-based marketing are also explored. This course readily lends itself to real-world learning and management skills.

BUS 7230 CREATIVITY AND INNOVATION FOR CHANGE MANAGEMENT
This course considers the dynamics of change in organizations and how to achieve key goals by combining analysis, creativity, and wisdom. Topics include the forces affecting the nature and rate of innovation, the advantages and disadvantages of existing organizations in pursuing innovation objectives, and the choices made at different levels in the organization which promote or hinder creativity/innovation. Teaching and learning tools include research, practice, student experience, case discussions, group work, peer consulting, teamwork, and projects.

BUS 7240 GOVERNANCE, LEADERSHIP, AND PROFESSIONAL DEVELOPMENT
This course provides a theoretical and practical understanding of leadership, professionalism, and governance. It takes a comprehensive and timely look at social responsibility and corporate citizenship for large and small enterprises, shareholders, and society at large as corporate leaders and managers consider the impacts of their activities and decisions on their employees, communities, and international markets. Consideration of leadership styles and methods are explored through

various experiential processes such as self-assessment exercises, case studies, and presentations.

BUS 7250 MANAGEMENT AND GOVERNMENT PERSPECTIVES
In this course students examine the workings of various levels of government in order to understand more clearly how they, as managers and future leaders, can build knowledge of the interface between business and government into daily business operations and strategy. By developing a thorough command of how government works, students learn how executives and managers can deal more effectively with various levels of government and make better use of public affairs resources to address more astutely the public policy aspects of strategic planning.

BUS 7260 STRATEGY AND MANAGEMENT CONSULTING
This course looks at the subject of management consulting, which can provide some of the most challenging and rewarding aspects in today's business world. Topics include global strategy, game theory, management of innovation and creativity, strategy implementation, structure of global industries, strategic alliances, and building global organizations. Emphasis is placed on challenges in the consulting industry, working with clients, and preparing effective reports. This includes how to analyze cross- functional business problems and provide recommendations by applying appropriate frameworks and quantitative tools.

BUS 7270 NEGOTIATION AND CONFLICT MANAGEMENT
This course teaches the dynamics of conflict in the workplace and the use of negotiation and conflict management skills to effectively manage such situations. Through a combination of discussion sessions, workshop exercises and simulation, participants will learn and apply essential negotiation strategies and approaches. In addition, participants will have an opportunity to focus on developing conflict management skills and negotiator styles through a series of self-assessments and role-playing exercises.
PREREQUISITE: Permission of the instructor

BUS 7280 INTERNATIONAL BUSINESS
This course focuses on the challenges and opportunities of venturing into international markets. The course addresses the complexities that arise when doing business in different business environments and cultural contexts. Specific topics may include international strategy, managing currency risks, opportunity assessment, managing across borders, intercultural management, international negotiations, and ethical decision-making.

BUS 7850 SPECIAL TOPICS
This course focuses on a number of topics judged by faculty to be current and relevant within the context of managing in a business environment.

BUS 7860 DIRECTED STUDIES
In this course students pursue a specific topic or issue in business. Before approval is granted, each student must prepare a detailed outline of the topic to be studied, and obtain the consent of a faculty member to supervise the work.

BUS 8010 BUSINESS RESEARCH IN PRACTICE
This course requires students to complete a project or set of projects involving in-depth research. Potential projects include academic research papers, business plans, business case analyses or business consulting. To ensure integration of knowledge and skills, students will be expected to apply the concepts learned in the core courses of the EMBA program and to make evidence-based recommendations.
PREREQUISITES: All 8 core courses or permission of the Program Director
HOURS OF CREDIT: 6

# 105. Master of Business Administration (MBA) in Global Leadership

The MBA in Global Leadership is an intensive and cohort-model MBA program that can be completed in either 12 or 24 months. The curriculum and the offered courses are designed to develop students' skills to enable them to succeed in today's complex and dynamic international business environment.

**STRUCTURE OF THE PROGRAM**

The MBA in Global Leadership program is designed for individuals who wish to complete their MBA degree in 12 or 24 months and who are willing and able to immerse themselves in an intensive full-time program. The program begins with an orientation module (usually offered in late August or early September). The remainder of the program requires students to take courses in the Fall, Winter, and Summer semesters.

**PROGRAM REQUIREMENTS**

Students enrolled in the MBA in Global Leadership must complete a total of 42 credit hours (14 courses). The components of the degree program include the MBA Skills Orientation Module (0 credit hours), eleven core courses (33 credit hours), and three elective courses (9 credit hours). Students must complete all required courses within two years of being admitted to the program.

**The required courses for the MBA in Global Leadership are as follows:**
Business 6500 – MBA Skills Orientation Module
Business 6510 – Global Leadership and Ethics
Business 6520 – Negotiation within and across Cultures
Business 6530 – Financial and Managerial Accounting
Business 6540 – Financial Management
Business 6550 – Management and Organizational Behaviour
Business 6560 – International Marketing Management
Business 6570 – International Operations Management
Business 6580 – Statistics and Business Analytics
Business 6590 – Project Management
Business 6600 – Strategy for the Global Organization
Business 6610 – International Capstone Project

**In addition to completing all the required courses, students must complete three of the following *elective courses:**
Business 7510 – Corporate Governance and Business Ethics
Business 7520 – Disruptive Technologies and Creative Business Thinking
Business 7530 – Global Banking and Capital Markets
Business 7540 – Global Sourcing and Supply Chain Management
Business 7550 – Innovation and Entrepreneurship in the Global Business Environment
Business 7560 – International Trade and Finance
Business 7570 – Managing People and Teams in a Global Context
Business 7580 – The Future of Marketing
Business 7590 – The Impact of Climate Change on Business
Business 7950 – Special Topics in Business
Business 7960 – Directed Studies in International Business

*Not all elective courses will be offered each year.

## BUSINESS COURSES (GLOBAL LEADERSHIP)

BUS 6500 MBA SKILLS ORIENTATION MODULE

The orientation module is a set of skill-building workshops intended to promote presentation, intercultural communication, teamwork, and research skills. Students will receive an introduction to academic literature searching, citation and referencing styles, and the principles of academic integrity. Additionally, students will get information on UPEI's online learning platforms, campus life, and what to expect from their MBA studies. The course grade will be on a pass/fail basis.

PREREQUISITE: Admission into the program

0 semester hours

BUS 6510 GLOBAL LEADERSHIP AND ETHICS

This intensive course provides students with an overview of leadership research and helps them develop skills required for leadership in today's complex and dynamic business environment. Key areas of skill development include critical thinking, self-awareness, creativity, and problem solving. This course is also intended to advance students' ability to engage in ethical reasoning and action planning.

PREREQUISITE: Business 6500

Three hours per week equivalent

BUS 6520 NEGOTIATION WITHIN AND ACROSS CULTURES

This intensive course introduces students to the theory and practice of negotiation. Topics covered include negotiation strategy, collective bargaining, the psychology of persuasion, creative problem solving, and conflict management and resolution. Through lectures, group discussions, and role plays, students are expected to develop analytical, self-awareness, and interpersonal skills essential to successful negotiations anywhere in the world.

PREREQUISITE: Business 6510

Three hours per week equivalent

BUS 6530 FINANCIAL AND MANAGERIAL ACCOUNTING

This course develops students' proficiency at understanding, interpreting, and using financial statements and other accounting information for the purposes of decision-making. The course employs international standards and addresses how accounting is used in decision-making in a global context.

PREREQUISITE: Business 6500

Three hours per week

BUS 6540 FINANCIAL MANAGEMENT

This course provides students with a broad overview of corporate finance and financial markets. The focus is on the conceptual and analytical techniques necessary for making financial decisions with particular emphasis on information collection, problem-solving, and decision-making skills inherent in the finance function. Key concepts include the relevance of financial markets to the firm, understanding the relationship between risk and return and its importance in all financial decisions, and learning how to value financial and real assets and the impact on a company.

PREREQUISITE: Business 6500

Three hours per week

BUS 6550 MANAGEMENT AND ORGANIZATIONAL BEHAVIOUR

This course examines the behaviour and management of individuals and groups in organizations. Organizational behaviour topics, including motivation, decision making, leadership, and work and organizational design, will be studied at different levels of analysis – individual, team, and organization. Students also learn about managing people in organizations, with a focus on the personnel processes involved in the recruitment, development, and retention of human resources in the global workplace.
PREREQUISITE: Business 6500
Three hours per week

BUS 6560 INTERNATIONAL MARKETING MANAGEMENT
This course is a detailed examination and application of the marketing function in the era of globalization. Emphasis is given to local consumer behaviour and the cultural, competitive, economic, political, and regulatory environments prevailing within and across world, regional, and national markets. Students will focus on the strategic and operational aspects of marketing including assessment of country attractiveness, mode of entry strategies, multinational product development and management, pricing strategies, promotional campaigns, and marketing networks and channels.
PREREQUISITE: Business 6500
Three hours per week

BUS 6570 INTERNATIONAL OPERATIONS MANAGEMENT
This course focuses on the management of processes. Applicable processes span a wide range including: one-time or on-going, international manufacturing or service, and pro- actively or reactively controlled. Topics include mapping operational processes, coordinating a firm's supply and demand, managing inventory, and managing quality of production. Students are required to demonstrate competence through logical solving of relevant problems and cases in operations.
PREREQUISITE: Business 6500
Three hours per week

BUS 6580 STATISTICS AND BUSINESS ANALYTICS
This course teaches students how to effectively collect and use data to support decision-making in a business context. The course focuses on understanding and interpreting statistical data; understanding how data collection methodology affects the quality of statistical results; and assessing the reliability, usefulness and limits of statistical information for a particular business situation.
PREREQUISITE: Business 6500
Three hours per week

BUS 6590 PROJECT MANAGEMENT
This course provides students with the tools and skills necessary to reduce project risk and increase their ability to complete projects on time and on budget. The course incorporates the latest research on project management methodologies, providing students the ability to evaluate each methodology on their merits and how they have been applied within different industries and situations. The course also examines the evolution of the project driven organizational structure and the impact project management has on the strategic planning within an (international) organization.
PREREQUISITE: Business 6500
Three hours per week

BUS 6600 STRATEGY FOR THE GLOBAL ORGANIZATION
This course focuses on strategic thinking, analysis, and management in a global business context. Topic include: industry analysis; competitive advantage; strategic change; global strategies; mergers, acquisitions and alliances; management of international portfolios; and intellectual property strategies.
PREREQUISITE: Business 6560
Three hours per week

BUS 6610 INTERNATIONAL CAPSTONE PROJECT
This course provides students with an opportunity to work on a live project for a local company seeking to enter new international markets or to establish new international operations. Working in teams, students will draw on skills, concepts, and knowledge acquired throughout the MBA program. Students will develop a business plan for entry into the chosen location. Students will also deliver a public presentation with recommendations for the particular company.
PREREQUISITES: Business 6530, 6540, 6550, and 6560
Three hours per week

BUS 7510 CORPORATE GOVERNANCE AND BUSINESS ETHICS
This course looks at both the fiduciary and strategic role of the board and management in governance with a global and local perspective. The course reviews the importance of strong business ethics and the critical elements in developing a strong corporate culture. Within the course students explore many of the pressing and evolving challenges faced by corporations and executives.
PREREQUISITE: Business 6500
Three hours per week

BUS 7520 DISRUPTIVE TECHNOLOGIES AND CREATIVE BUSINESS THINKING
This course develops students' ability to think creatively, and to manage within an environment of disruptive technologies. The course examines the research on disruptive technologies to enrich students' understanding of the pace and direction of change and how it will influence companies as they adapt to the changing business world. The course also examines the research on creativity.
PREREQUISITE: Business 6500
Three hours per week

BUS 7530 GLOBAL BANKING AND CAPITAL MARKETS
This course provides students with the conceptual foundation for sound financial decision-making regarding corporate finance, international finance, and banking. The course first examines currencies, with an in-depth analysis of exchange rates, international monetary systems, and contemporary currency regimes, with an emphasis on practical applications. The course then examines international capital markets, investment in foreign financial assets, and international corporate finance. Topics include managing exposure to various kinds of exchange rate risks, and the methods and financial instruments such as options and futures used to manage those risks.
PREREQUISITE: Business 6540
Three hours per week

BUS 7540 GLOBAL SOURCING AND SUPPLY CHAIN MANAGEMENT
This course familiarizes students with key features of global supply chains and their importance to international business. Topics include: supplier selection, negotiation of contracts, international logistics and importing, transportation, inventory control and warehousing, managing distribution networks, and integration with the firm's other activities. Application and cases will be relevant to both manufacturing and service-based businesses.
PREREQUISITE: Business 6570
Three hours per week

BUS 7550 INNOVATION AND ENTREPRENEURSHIP IN THE GLOBAL BUSINESS ENVIRONMENT
This course focuses on the management of innovation and the pursuit of entrepreneurship in different regions of the world and in trans- national settings. The concepts covered are relevant to existing businesses aiming to structure their innovation portfolio and to new, aspiring businesses looking to create value from market opportunities. Topics include change management, technological innovation, entrepreneurship around the world, entrepreneurial marketing, entrepreneurial finance, and characteristics of entrepreneurs. Students are required to demonstrate

competence through in-depth analysis of relevant cases related to these topics.
PREREQUISITE: Business 6500
Three hours per week

BUS 7560 INTERNATIONAL TRADE AND FINANCE
This course focuses on the global marketplace and explores implications of globalization for trade and finance. Students will develop a comprehension of international economic and financial issues so that they understand the drivers underlying international trade and foreign investment. The course also examines management issues related to currency exchange rates and government imposed trade restrictions.
PREREQUISITE: Business 6540
## Three hours per week

BUS 7570 MANAGING PEOPLE AND TEAMS IN A GLOBAL CONTEXT
This course will examine human resource management (HRM) in an international context. Students will examine core HRM functions, including staffing, training, motivating, and retaining human resources, with special emphasis on the opportunities and challenges brought on by increasing internationalization. Students are expected to acquire the knowledge, cross-cultural skills, and global mindset needed to effectively work with, manage, and lead others in the globalized workplace.
PREREQUISITE: Business 6520
Three hours per week

BUS 7580 THE FUTURE OF MARKETING
The course will examine current trends and innovations in marketing including shifting thought paradigms, global (cross-cultural) issues, customer relationship management, service marketing, sustainability and green marketing, and the role of social media. The course involves article discussions, in-class exercises, guest speakers, individual student reflections, case analyses, and a written research paper and presentation.
PREREQUISITE: Business 6560
Three hours per week

BUS 7590 THE IMPACT OF CLIMATE CHANGE ON BUSINESS
This course provides the knowledge and skills for an informed understanding of climate change science, policy and business. Students will develop skills to critically evaluate scenarios for future climates, assess the effectiveness of different policy approaches, and determine suitable business responses to the climate change challenge. Assignments will focus on how climate change influences product quality and markets; and the important role of climate change in business risk assessment.
PREREQUISITE: Business 6500
Three hours per week

BUS 7950 SPECIAL TOPICS IN BUSINESS
This course typically covers a specific topic in business and is intended to enhance and expand the selection of elective offerings from semester to semester.
PREREQUISITE: Business 6500
Three hours per week

BUS 7960 DIRECTED STUDIES IN INTERNATIONAL BUSINESS
In this course, students may pursue a specific topic or issue in international business through an independent research assignment, consulting project, or business plan for an entrepreneurial venture. Before approval is granted, each student must prepare a detailed outline of the topic to be studied and obtain the consent of a faculty member to

supervise the work.
PREREQUISITE: Business 6500
Three hours per week equivalent

# 106. Master of Education (MEd)

The MEd program is designed to provide experienced educators with the knowledge and skills required to become more effective educational leaders. The overall aim of the program is to promote and support educational scholarship, research, and improved practice.

**A) PROGRAM REQUIREMENTS**

Students enrolled in the graduate program are required to choose a thesis-based or course-based option. In the thesis-based option students will complete five compulsory courses, one elective course, and a thesis (4 course equivalents). In the course-based option, students will complete seven compulsory courses and three elective courses. The course-based MEd program includes focus areas in 21st Century Teaching & Learning, Inclusive Education, Global Perspectives, and College Education.  Not all focus areas are offered each year.

**THESIS-BASED OPTION**

**Compulsory Courses (5 required courses)**
Education 6110 Introduction to Research Methods in Education
Education 6140 Theories of Research and Learning
Education 6150 Educational Leadership
Education 6190 Critical Pedagogy
and one of the following:
Education 6120 Quantitative Research Design
OR
Education 6130 Qualitative Research Design
OR
Education 6160 Action Research in Education
OR
Education 6180 Learning, Leadership and Reflective Practice
OR
Education 6290 Program Evaluation

**Elective Courses (1 required)**
Education 6010 Selected Topics in Education
Education 6020 Student Diversity and Inclusive Education
Education 6030 Instructional and Assessment Practices for Inclusive Education
Education 6170 Issues in Educational Leadership
Education 6220 Research on Learning Difficulties
Education 6225 Assessment for Students with Learning Challenges
Education 6240 Change: Leadership in Learning
Education 6250 Curriculum: Leadership in Learning
Education 6260 Technology: Leadership in Learning
Education 6270 Global Education
Education 6280 International Education and Development
Education 6300 Perspectives in Ecology and Sustainable Leadership
Education 6310 Leadership in Postcolonial Education
Education 6320 Leadership in Languages and Literacies
Education 6330 Multiliteracies and New Literacies

Education 6340 An Introduction to 21st Century Teaching and Learning
Education 6420 Workplace learning and Leadership
Education 6910 Directed Study
Education 6950 Graduate Seminar

**Thesis**
Education 6990 (4 course equivalents)

**COURSE-BASED OPTION**

**Compulsory Courses (7 required courses)**
Education 6110 Introduction to Research Methods in Education
Education 6140 Theories of Research and Learning
Education 6150 Educational Leadership
Education 6190 Critical Pedagogy
Education 6250 Curriculum: Leadership in Learning
And one of the following courses:
Education 6120 Quantitative Research Design
OR
Education 6130 Qualitative Research Design
OR
Education 6160 Action Research in Education
OR
Education 6180 Learning, Leadership and Reflective Practice
OR
Education 6290 Program Evaluation
And one of the following courses:
Education 6170 Issues in Educational Leadership
OR
Education 6270 Global Education
OR
Education 6280 International Education and Development
**Elective Courses (3 courses required)**
Education 6010 Selected Topics in Education
Education 6020 Student Diversity and Inclusive Education
Education 6030 Instructional and Assessment Practices for Inclusive Education
Education 6210 Current Research in Learning
Education 6220 Research on Learning Difficulties
Education 6225 Assessment for Students with Learning Challenges
Education 6230 Statistics for Research in Education
Education 6240 Change: Leadership in Learning
Education 6260 Technology: Leadership in Learning
Education 6300 Perspectives in Ecology and Sustainable Leadership
Education 6310 Leadership in Postcolonial Education
Education 6320 Leadership in Languages and Literacies
Education 6330 Multiliteracies and New literacies
Education 6340 An Introduction to 21st Century Teaching and Learning
Education 6420 Workplace learning and Leadership

Education 6910 Directed Study
Education 6950 Graduate Seminar

**B) THE THESIS**

Each candidate in the thesis-based option is required to submit a thesis based upon research conducted under supervision as described in this section of the calendar. The thesis must demonstrate the student's capacity for original and independent research and should extend the knowledge base in the field under study.

General specifications as to paper, format, order, and binding are available from the Office of the Co-ordinator of Graduate Studies.

The student should consult frequently with the Supervisor and the Supervisory Committee when preparing the thesis. After the final draft has been read and approved by the members of the Supervisory Committee, an electronic copy must be submitted to the Co-ordinator of Graduate Studies for dissemination to members of the Examining Committee. These copies must be submitted no later than four weeks prior to the student's oral defence.

**The Master's Examination**

The final oral examination, which is devoted chiefly to the defence of the thesis, is a Faculty examination, identified as the Master's Examination. Normally, the Examining Committee consists of the two members of the Supervisory Committee, one other member of the Faculty of Education, and one reader, external to the University, who submits a written report attesting to the quality of the work. The Co-ordinator of Graduate Studies selects the Examining Committee at the request of the Supervisor, appoints the Chair, and is responsible for notifying the Dean of Education of its composition.

Normally, the final oral examination is open to the public; however, members of the public may question the student only upon the invitation of the Chair of the Examining Committee.

The examination is passed and the thesis approved if there is no more than one negative vote; an abstention is considered to be a negative vote. The Co-ordinator of Graduate Studies is responsible for reporting the result of the examination to the Dean of Education. The result is recorded as "Accepted as is," "Accepted after minor revision," "Accepted after substantial revision," or "Unacceptable." The result "Accepted after minor revision" normally entails editorial changes. If the result is "Accepted after substantial revision," the student may be given the opportunity by the Examining Committee to revise the thesis with or without defending again. If the thesis revision is successful, the thesis supervisor is to sign before the thesis is presented to the Graduate Studies Committee. An electronic copy should be submitted to the Graduate Studies Co-ordinator. If the result is "Unacceptable," the student may be given one opportunity by the Examining Committee to revise the thesis and to defend it again.

**Submission of Thesis**

When the thesis, in its final form, has been prepared after the final oral examination, the student will submit an electronic copy to the Co-ordinator of Graduate Studies at least three weeks prior to Convocation.

# EDUCATION COURSES

ED 6010 SPECIAL TOPICS IN EDUCATION
In this course, students investigate special topics in the field of education. Permission of the Coordinator of Graduate Studies and the Dean is required.
HOURS OF CREDIT: 1, 2 or 3 credit hours

ED 6020 STUDENT DIVERSITY AND INCLUSIVE EDUCATION

This course explores student diversity within the context of inclusive education. Current theoretical and conceptual frameworks in the field of inclusive education and critical disability studies will be examined to better support a 'capacity approach' to diverse students learning. Specifically, students will examine and critique dominant views informing schooling policies and practices regarding current issues related to diversity and equity in learning environments.

PRE OR CO-REQUISITE: Education 6110 or permission of graduate studies coordinator

HOURS OF CREDIT: 3

ED 6030 INSTRUCTIONAL AND ASSESSMENT PRACTICES FOR INCLUSIVE EDUCATION

This course involves the examination of theoretical and practical aspects regarding inclusive strategies and practices for diverse learners in educational settings. The principles of Universal Design for Learning (UDL) will be examined in relation to instructional methods, materials, activities, and evaluation procedures for diverse learners.

PRE OR CO-REQUISITE: Education 6110 and Education 6020 or permission of graduate studies coordinator

HOURS OF CREDIT: 3

ED 6110 INTRODUCTION TO RESEARCH METHODS IN EDUCATION

In this course, students are introduced to a variety of methods that are appropriate for conducting research in educational settings. Students develop an understanding of qualitative and quantitative research methodologies. Students are introduced to the process of planning, conducting, and reporting research on learning and instruction, and to the critical analysis of current studies reported in educational literature.

HOURS OF CREDIT: 3

ED 6120 QUANTITATIVE RESEARCH DESIGN

In this course, students explore the characteristics of quantitative methodology and examine their usefulness in conducting educational research. The methods discussed include causal-comparative, correlational, and experimental. Students learn how to state hypotheses, define and measure variables, select samples, collect and analyze data, and prepare research reports. Students design a research study on a topic related to learning and instruction.

PRE OR CO-REQUISITE: Education 6110 or permission of graduate studies coordinator

HOURS OF CREDIT: 3

ED 6130 QUALITATIVE RESEARCH DESIGN

In this course, students study the development of qualitative research methodology and explore approaches drawn from this model that are used frequently by educational researchers. Students examine the use of observational techniques, interviews, questionnaires, and personal and official documents. Students design studies using qualitative methods.

PRE OR CO-REQUISITE: Education 6110 or permission of graduate studies coordinator

HOURS OF CREDIT: 3

ED 6140 THEORIES OF RESEARCH AND LEARNING

In this course, students address the role of theory in educational research. The aim is to familiarize graduate students with various theoretical frameworks including theories and principles of learning.

PRE OR CO-REQUISITE: Education 6110 or permission of graduate studies coordinator

HOURS OF CREDIT: 3

ED 6150 EDUCATIONAL LEADERSHIP

In this course, students examine the field of educational leadership. Educational leadership extends beyond the role of the school administrator and focuses upon the development of teachers as leaders who impact on creating effective educational environments. Students research aspects of leadership that impact on schools, and explore models of effective leadership through case studies and simulation.

PRE OR CO-REQUISITE: Education 6110 or permission of graduate studies coordinator
HOURS OF CREDIT: 3

ED 6160 ACTION RESEARCH IN EDUCATION
In this course, students explore ways in which teachers can systematically examine their own classroom practices using action research strategies. Emphasis is placed on issues such as topic selection, methodology, data collection and analysis, and interpretation of results. This process of inquiry is directed towards reflective practice.
PREREQUISITE: Education 6110 or permission of graduate studies coordinator
HOURS OF CREDIT: 3

ED 6170 ISSUES IN EDUCATIONAL LEADERSHIP
In this course, students examine current issues in educational leadership. Students research the factors that influence educational leadership, such as socio-economic trends, school restructuring, curriculum development, and educational technology.
PREREQUISITE: Education 6110 and Education 6150 or equivalent, or permission of graduate studies coordinator
HOURS OF CREDIT: 3

ED 6180 LEARNING, LEADERSHIP AND REFLECTIVE PRACTICE
In this course, students examine processes of reflective practice such as analytic problem-solving and self-assessment. Students research reflective practices that have made positive contributions to learning and leadership.
PREREQUISITE: Education 6110 or permission of graduate studies coordinator
HOURS OF CREDIT: 3

ED 6190 CRITICAL PEDAGOGY
In this course, students examine the social conditions and practices that shape education. Students explore schools in their historical, economic, political, cultural, and social contexts.
PRE OR CO-REQUISITE: Education 6110 or permission of graduate studies coordinator
HOURS OF CREDIT: 3

ED 6220 RESEARCH ON LEARNING DIFFICULTIES
In this course, students examine the research on learning difficulties, and conduct research to identify effective strategies that can be applied in their teaching.
PREREQUISITE: Education 6110 or permission of graduate studies coordinator
HOURS OF CREDIT: 3

ED 6225 ASSESSMENT FOR STUDENTS WITH LEARNING CHALLENGES
In this course, you will be introduced to the overall process and considerations involved with formal individualized educational assessment of students (Level B assessment) and become familiar with several specific assessment tools, their administration, and how to write the resulting academic assessment report. We will also study the top three Learning Theories; Behaviorism, Cognitivism, and Constructivism, and apply those theories to learning and, more specifically, assessment.
PREREQUISITE: ED 6110
HOURS OF CREDIT: 3

ED 6240 CHANGE: LEADERSHIP IN LEARNING
In this course, students examine the research on models of innovation and change that have had an impact on education over the last 30 years. Students explore the role of leadership in facilitating change in education.
PREREQUISITE: Education 6110 and Education 6150 or permission of graduate studies coordinator
HOURS OF CREDIT: 3

ED 6250 CURRICULUM: LEADERSHIP IN LEARNING

In this course, students examine research into recent curriculum developments that are based on principles of integration, resource-based learning, and holistic learning, and which require the use of alternative assessment approaches. In addition, the impact of these developments on teachers' instructional strategies and students' learning are investigated. The focus is on the integration of knowledge about curriculum design and teaching in order to develop leadership skills for curriculum change.
PRE OR CO-REQUISITE: Education 6110 or permission of graduate studies coordinator
HOURS OF CREDIT: 3

ED 6260 TECHNOLOGY: LEADERSHIP IN LEARNING
This course provides an opportunity for students to examine and critique current research trends in information and communication technology in education. Leadership models for the implementation of technology plans are studied and evaluated. A major portion of work for this course takes place in an online learning environment.
PRE OR CO-REQUISITE: Education 6110 or permission of graduate studies coordinator
HOURS OF CREDIT: 3

ED 6270 GLOBAL EDUCATION
In this course, students examine the theory and practice of global education as it has developed in Canada and elsewhere. Other curriculum innovations that have contributed to global education (e.g., development education, environmental education, human rights education, peace education) are also examined. Interactive and participatory learning methodologies are used to encourage reflection on the teaching of contemporary social and global issues in a variety of educational contexts.
PRE OR CO-REQUISITE: Education 6110 or permission of graduate studies coordinator
HOURS OF CREDIT: 3

ED 6280 INTERNATIONAL EDUCATION AND DEVELOPMENT
In this course, students examine how education is organized and practised in other countries, and its relationship to cultural, economic, and social development. Insights into education systems in Canada are afforded through comparing these with others around the world. In addition to common themes of study, students explore topics of their choice through the methodology of a comparative case study. Electronic communication with teachers in other countries provides first-hand information.
PRE OR CO-REQUISITE: Education 6110 or permission of graduate studies coordinator
HOURS OF CREDIT: 3

ED 6290 PROGRAM EVALUATION
In this course, students study the various concepts and issues in program evaluation. Students examine literature on program evaluation to understand the methods and theory required to conduct an evaluation.
PREREQUISITE: Education 6110 or permission of graduate studies coordinator
HOURS OF CREDIT: 3

ED 6300 PERSPECTIVES IN ECOLOGY AND SUSTAINABLE LEADERSHIP
This interdisciplinary course explores contemporary topics related to the environment, such as ecological consciousness, place attachment, principles of ecological design, sustainability and responsible stewardship, ecological citizenship, and environmental practice. Students apply a critical inquiry framework and consider philosophical ideologies related to anthropocentric and ecocentric perspectives, environmental ethics, and ecological worldviews. Participatory methodologies are encouraged to promote leadership in ecological knowledge and environmental preservation in a variety of contexts.
PREREQUISITE: Education 6110 or permission of graduate studies coordinator
HOURS OF CREDIT: 3

ED 6310 LEADERSHIP IN POSTCOLONIAL EDUCATION

In this course, students consider postcolonial history and key texts as they critically examine a variety of theoretical frameworks within postcolonial education. The postcolonial context of education within particular Indigenous and colonized societies provides a major focus for the course. The role of educational leaders in negotiating complex change in specific contexts is considered.
PREREQUISITE: Education 6110 and Education 6150 or permission of graduate studies coordinator
HOURS OF CREDIT: 3

ED 6320 LEADERSHIP IN LANGUAGES AND LITERACIES
In this course, students address the role of educational leaders in the implementation of policies and practices sustaining languages and literacies in particular contexts. A variety of theoretical frameworks and principles of language learning and plurilingualism are considered. Successes and challenges related to leadership in language retention and the development of multi-literacies in education are carefully examined.
PREREQUISITE: Education 6110 and Education 6150 or permission of graduate studies coordinator
HOURS OF CREDIT: 3

ED 6330 MULTILITERACIES AND NEW LITERACIES
This course introduces students to theories of literacy as situated social practice. Drawing on theories of Multiliteracies and New Literacies as developed in classic and current readings, students will be given the opportunity to consider how such theories connect to issues of school, work, and leisure. Students will also be encouraged to experiment with using a variety of Multiliteracies as they work through the course material.
HOURS OF CREDIT: 3

ED 6340 AN INTRODUCTION TO 21ST CENTURY TEACHING AND LEARNING
In this course, students will explore, assess, and critique various perspectives on the sociocultural, economic, political, and technological forces that are shaping education in the 21st century. Various forms of synchronous and asynchronous online environments will be introduced.
HOURS OF CREDIT: 3

ED 6420 WORKPLACE LEARNING AND LEADERSHIP
This course provides graduate students with a general understanding and awareness of organizational cultures and leadership practices through experiential and reflective learning in diverse educational/work placement settings. Participants will have opportunities to develop cross-cultural awareness and communication skills while making contributions to the educational/work settings in which they are placed. Participants will identify action research topics and applications related to workplace-learning and leadership.
PREREQUISITE: Education 6110 or permission of graduate studies coordinator
HOURS OF CREDIT: 3

ED 6710 FOUNDATIONS OF SCHOOL AND COMMUNITY LIBRARIANSHIP
This course provides participants working in a wide range of library contexts with the historical foundations and theoretical framework for the role, philosophy, and administration of school and community libraries and to the role of teacher-librarians in the context of 21st century schools and learning.

ED 6720 SCHOOL AND COMMUNITY LIBRARIES FOR 21st CENTURY LEARNING
This course explores the theoretical underpinnings of information and digital literacies and how they are developed within school and local library programs. Participants examine research supporting the guided inquiry process, problem-based learning, the effective use of digital and traditional learning resources, as well as how teacher-librarians, classroom teachers and community members collaborate to design and implement effective multi-literacies instruction.

ED 6730 BUILDING A CULTURE FOR READING IN A DIGITAL AGE
This course examines the emerging principles and practices influencing the development of reading habits in children

and youth and the role of libraries in creating a culture for reading in the community. Participants explore gender issues related to reading, diversifying reading choices, building worldmindedness into children's reading. Using social media to promote and encourage reading as well as critically examining online reading issues are also addressed.

ED 6740 COLLECTIONS MANAGEMENT
This course examines the principles and methods of establishing, managing and sustaining school and community library collections including the formulation of selection/ circulation policies and criteria for evaluating/critiquing print, non-print and digital materials. Issues of censorship, influences of digital media and copyright are included as well as a critical examination of the relationship of the publishing industry to collection development and knowledge sharing.

ED 6750 INQUIRY PROJECTS IN SCHOOL AND COMMUNITY LIBRARIES
This is an action research, project-based course. Participants will identify an issue that pertains to learning in contemporary school and community libraries and will design a research project employing the principles of action research. Working from a solid theoretical framework, participants apply the inquiry process to explore critical questions in their practice.

ED 6910 DIRECTED STUDIES
In this course, individual students pursue a special topic or issue in education. Before approval is granted, each student must prepare a detailed outline of the contents of the course, and obtain the consent of a faculty member to supervise the work.
PREREQUISITE: Permission of the Dean and Co-ordinator of Graduate Studies, or permission of the instructor
HOURS OF CREDIT: 3

ED 6920 HIGHER EDUCATION TEACHING
This course introduces the pedagogies, practices, and instructional alternatives that foster acquisition of the knowledge, skills, and attitudes critical to successful teaching at the postsecondary level. It examines topics such as the teaching learning process, instructional and curriculum design, addressing student needs, and learning characteristics. Note: This course is graded pass-fail.
Cross-listing: None required, but the course could be cross-listed with various graduate programs across the UPEI campus.
PREREQUISITES and/or COREQUISITES: The minimum standard for admission would be the successful completion of an undergraduate degree, as per the admission requirements for graduate programs at UPEI.
HOURS OF CREDIT: 3

ED 6950 GRADUATE SEMINAR
In this course, students attend and present seminars on topics in their discipline, are evaluated on their seminars, and provide constructive criticism to others giving seminars in the course.
CO- or PREREQUISITE: Education 6110, or permission of the Graduate Studies Coordinator
HOURS OF CREDIT: 3

ED 6990 THESIS
Each student in the Master of Education program is required, under the supervision of a Faculty Advisor and Thesis Committee, to write a thesis based on research into an approved topic. It must demonstrate the candidate's ability to conduct original independent work, and include a critical evaluation of the principal works published on the subject of the thesis. It should make an original contribution to the body of knowledge in that field of study.
PREREQUISITE: Admission to the MEd program
HOURS OF CREDIT: 12 upon completion of thesis

# 107. PhD in Educational Studies

The degree of Doctor of Philosophy (PhD) in Educational Studies is a research degree requiring a dissertation on original and significant research within traditional educational and community-based educational contexts extending from early childhood through mature adulthood.

The general goal of the Doctor of Philosophy program in Educational Studies at the University of Prince Edward Island is to examine education at an advanced level from a variety of perspectives, including, but not limited to, the investigation of theoretical and practical aspects of policy, curricula, teaching and teacher education, administration, and professionalism.

Graduates of the PhD in Educational Studies develop the competence and expertise needed to assume positions of leadership, such as educational researchers in institutional and non-institutional contexts; teacher educators; curriculum and instructional leaders in school boards and private industry; and school, school board, and governmental educational administrators. This program also promotes collaborative work with colleagues in educational endeavours and lifelong professional development. The program provides learning opportunities in which the candidate, in supervisory and collegial relationships with one or more faculty members:

1. develops a critical and comprehensive understanding of significant trends and major concerns in the field of education, and formulates and expresses, both orally and in writing, personal and professional positions in relation to how these trends and concerns are manifested in their area of interest;
2. develops in-depth knowledge and understanding of different philosophical stances in education and educational research and their sociopolitical and practical implications;
3. develops an understanding of, and ability to use and evaluate, a wide range of research methodologies used in educational research;
4. designs and presents a proposal for an original research project of significance in the field of education;
5. completes the proposed research under faculty supervision, then writes and orally defends a dissertation;
6. develops competencies in clear and logical writing skills that allow for disseminating knowledge to a variety of audiences;
7. develops competencies in leadership roles within formal and/or informal educational institutions, agencies, or communities.

**Supervisory Committee**

The candidate works with a supervisor, and possibly a co-supervisor, appointed at the time of admission to the program and based on a fit between the candidate's area of interest and the area of expertise, publication, and funding of the supervisor(s). Supervisor(s) are member(s) of the UPEI graduate faculty with supervisory or co-supervisory privileges. The Supervisory Committee is chaired or co-chaired by the supervisor(s) and includes two other members of the UPEI graduate faculty.

**Program Requirements**

Students are enrolled in the UPEI PhD program in Educational Studies as a full-time student for three years. This program also requires a residency of three semesters, normally completed consecutively. If, after three years, students have not completed all degree requirements, they continue to pay a maintenance fee to UPEI until all requirements are completed. Students have a maximum of seven years to complete all degree requirements.

The UPEI PhD in Educational Studies includes four courses, a comprehensive portfolio, and a dissertation.

**Required courses:**

ED 7000 – Advanced Quantitative Methodology and Methods in Education Research
ED 7010 – Advanced Qualitative Methodology and Methods in Education Research
ED 7020 – Directed Studies in Educational Research Methodology and Methods
ED 7034 – Theory in Educational Research
ED 7040 – Graduate Seminar in Educational Studies
ED 7050 – Comprehensive Examination (ePortfolio and Oral Defence)
ED 7060 – PhD Dissertation

**Submission of Dissertation**

When the dissertation, in its final form, has been prepared after the final oral examination, the student submits an electronic copy to the Co-ordinator of Graduate Studies at least three weeks prior to Convocation.

# EDUCATION COURSES (PHD)

ED 7000 ADVANCED QUANTITATIVE METHODOLOGY AND METHODS IN EDUCATION RESEARCH
This course explores an extensive range of quantitative approaches to research in education including, but not limited to, experimental and quasi-experimental research and surveys. The course also focuses on statistical analyzes appropriate for quantitative research.
CREDIT HOURS: 3

ED 7010 ADVANCED QUALITATIVE METHODOLOGY AND METHODS IN EDUCATION RESEARCH
This course explores a range of qualitative methodologies and methods in qualitative inquiry in educational studies and locates these approaches in broader theoretical and epistemological trends in social science and humanities. In addition, students will explore varying ways to collect, analyze and interpret qualitative data. Taught by active researchers with expertise in qualitative research methodologies, the course prepares students for critiquing and using qualitative research.
CREDIT HOURS: 3

ED 7020 DIRECTED STUDIES IN EDUCATIONAL RESEARCH METHODOLOGY AND METHODS
Working with their dissertation supervisor(s), students develop in-depth knowledge and practical expertise related to specific research methods appropriate to their chosen dissertations.
PREREQUISITE: ED 7000 and ED 7010

ED 7030 DIRECTED STUDIES IN EDUCATIONAL RESEARCH AND THEORY
Facilitated by the student's supervisor(s), this course focuses on reading and development of a comprehensive literature review in the area of interest of the student's doctoral dissertation.

ED 7034 THEORY IN EDUCATIONAL RESEARCH
This course focuses on the evolution of educational thought from a variety of cultural perspectives. The interplay of theorists and theories from philosophy, psychology, and sociology will be drawn together to explore their influence on conceptions and practices of education.
PREREQUISITE: ED 7040 and one methods course (ED 7000 or ED 7010)
CREDIT HOURS: 3

ED 7040 GRADUATE SEMINAR IN EDUCATIONAL STUDIES
In this seminar, students are exposed to and engaged in selecting and critiquing a wide variety of public scholarly presentations by visiting scholars and UPEI faculty researchers, and facilitating scholarly dialogue among those who

attend. The course also requires students to prepare a book review for publication in a scholarly journal, and present for critique by peers and colleagues the literature review prepared for ED 7030.

ED 7050 COMPREHENSIVE EXAMINATION (ePORTFOLIO and Oral Defence)
The ePortfolio is an independent work, separate from the dissertation proposal, where the student provides evidence of his or her knowledge, skills, and readiness to embark on a dissertation journey. Students collect pieces of their own work completed throughout the program, in a variety of formats, which demonstrate 1) that they have read broadly in the field of educational studies; 2) that they have in-depth knowledge of the literature in one area of research interest, which could be related or unrelated to the intended dissertation topic; and 3) that they have a critical understanding of methodologies and attendant methods used in educational studies, including quantitative and qualitative paradigms. In an introduction to the portfolio, students make a case for the documents they include in the portfolio by justifying how the documents demonstrate that the goals of the comprehensive requirement have been reached. Students' competencies in the course are assessed through a comprehensive examination, which includes an assessment of the eportfolio and an oral defence of their competencies in four areas of competency (i.e., Knowledge of Theory, Research Knowledge, Professional Competencies, and Instructional Competencies).
PREREQUISITE: ED 7020, 7034, 7040

ED 7060 PHD DISSERTATION
The PhD dissertation provides evidence of the candidate's ability to carry out independent and original research, develop the necessary theoretical and methodological framework and analyzes, and present the findings in a scholarly manner.
PREREQUISITE: ED 7050

# 108. Master of Nursing (MN)

**A) PROGRAM REQUIREMENTS**

The Master of Nursing program has two streams: the Thesis Stream and the Nurse Practitioner Stream. The Master's program is built on the existing strengths of the faculty and the focus of Primary Health Care, which is the foundation for the curriculum in the current undergraduate program. Graduates from both streams will be prepared to function in an advanced practice role in Primary Health Care settings. The MN Thesis graduate will be prepared to engage in a variety of advanced practice roles including, but not limited to, direct care of individuals; families, communities or populations; education; administration and research. The MN Nurse Practitioner graduate will be prepared to manage the health needs of individuals; families; groups and communities across the lifespan. Graduates of the Nurse Practitioner Stream will be eligible to write the Canadian Nurse Practitioners Examination: Family/All Ages (CNPE: F/AA). The degree designated upon successful completion of either stream is a Master of Nursing (MN).

**Thesis Stream: 8 courses plus thesis**
NURS 6100 – Foundations of Graduate Study
NURS 6110 – Theoretical Foundations of Nursing
NURS 6120 – Advanced Primary Health Care
NURS 6130 – Quantitative Nursing Research
NURS 6140 – Qualitative Nursing Research
NURS 6210 – Ethics in Nursing
NURS 6220 – Advanced Nursing Practice
NURS 6360 – Biostatistics
NURS 6000 – Thesis
27 credit hours plus 9 for thesis

**TOTAL of 36 credit hours**

**Please note:** Admission to the Thesis stream occurs annually

**NP Stream: 10 courses**
NURS 6010 – Advanced Human Physiology and Pathophysiology
NURS 6120 – Advanced Primary Health Care
NURS 6150 – Advanced Health Assessment
NURS 6160 – Pharmacotherapeutics for Advanced Practice
NURS 6170 – Evidence-Based Practice and the Nurse Practitioner
NURS 6310 – Health Promotion and Disease Prevention Across the Life Span
NURS 6320 – Episodic Health Care Across the Life Span
NURS 6330 – Professional Role of the Nurse Practitioner
NURS 6340 – Chronic Disease Management
NURS 6350 – Nurse Practitioner Practicum

**TOTAL of 43 credit hours and 700 clinical hours**

**Please note:** Admission to the Nurse Practitioner Stream occurs **every second year**.

# NURSING COURSES

NURS 6000 THESIS
Under the supervision of a faculty advisor and a thesis committee, the student will write a thesis based on research related to an approved topic. The thesis must demonstrate the candidate's capacity for independent work, and should include a critical evaluation of the principal works published on the subject of the thesis. It should make an original contribution to the body of knowledge in that field of study.
HOURS OF CREDIT: 9 (Pass/Fail)

NURS 6010 ADVANCED HUMAN PHYSIOLOGY & PATHOPHYSIOLOGY
This course discusses the function of human organ systems, emphasizing disease states. Seminars and independent study will focus on how to diagnose diseases, minimize disease risk and formulate therapeutic management plans. A combination of formal lectures, seminars, directed readings and case studies is used.
Cross-level listed with Biology 4010.
PREREQUISITE: Enrolment in the Master of Nursing, Nurse Practitioner (NP) stream
LECTURE: 3 hours
SEMINAR: 2-3 hours
HOURS OF CREDIT: 3

NURS 6100 FOUNDATIONS OF GRADUATE STUDY
This course is designed to develop and consolidate advanced information and writing skills required for scholarly work. Students will learn to pose research questions, use evidence to support claims and communicate evidence-based practice. The course will foster a culture of graduate study.
LECTURE/SEMINAR: 3 hours
HOURS OF CREDIT: 3 (Pass/Fail)

NURS 6110 THEORETICAL FOUNDATIONS OF NURSING
This course focuses on the nature and use of inquiry in the development and refinement of nursing knowledge. It provides students with the opportunity to discuss and analyze conceptual, philosophical, and theoretical bases for advanced nursing practice from a primary health care perspective. Students will critically examine theories from nursing, as well as borrowed theories from other disciplines that inform and guide nursing practice, research, and education. Students will analyze concepts relevant to advanced nursing practice and critique and discuss the value of theory to the future of nursing. During this course, students will develop increasing competence in professional oral and written communication.
LECTURE/SEMINAR: 3 hours
HOURS OF CREDIT: 3

NURS 6120 ADVANCED PRIMARY HEALTH CARE
This course will draw upon theory on the social determinants of health, primary health care, wellness promotion, program planning and evaluation, population health, and healthy public policy. Links to social, cultural, environmental, political, and economic contexts that impact on health, equity, and health disparities will be critically analyzed. Research-based evidence central to primary health care and advanced nursing practice will be examined. Emphasis throughout will be placed on upstream, participatory, and collaborative approaches to the development of population health initiatives and healthy public policy.
LECTURE/SEMINAR: 3 hours
HOURS OF CREDIT: 3

NURS 6130 QUANTITATIVE NURSING RESEARCH
The purpose of this course is to develop the student's ability to critique and use existing quantitative research and

to conduct original quantitative research. The research process will be examined with respect to the philosophical underpinnings of quantitative research; research ethics; developing research problems, questions, and hypotheses; writing literature reviews; using conceptual/theoretical frameworks; using experimental, quasi-experimental, and non-experimental designs; sampling; measurement; collecting and analyzing data; interpreting results; and assessing rigor.
LECTURE/SEMINAR: 3 hours
HOURS OF CREDIT: 3

NURS 6140 QUALITATIVE NURSING RESEARCH
The purpose of this course is to develop the student's ability to critique and use existing qualitative research and to conduct original qualitative research. The epistemological and ontological underpinnings of qualitative research will be explored. The qualitative research process will be examined with respect to research ethics; developing research questions and objectives; using qualitative methodologies of ethnography, phenomenology, grounded theory, critical and feminist theory, participatory action research, and narrative inquiry; sampling; collecting and analyzing data; interpreting results; and assessing trustworthiness.
LECTURE/SEMINAR: 3 hours
HOURS OF CREDIT: 3

NURS 6150 ADVANCED HEALTH ASSESSMENT
With a focus on detailed history taking, interpretation, synthesis, diagnostic differentiation and formulation, and documentation of clinical findings, this course enhances and refines the student's clinical, theoretical, and scientific knowledge base related to health assessment. Aspects of diagnostic reasoning will be investigated, critically reviewed, and applied to clinical case studies across the lifespan. Elements of advanced client assessment including physical and mental status; psychosocial, family, community, cultural, and diversity factors; the implications of social determinants of health; and risk appraisal will be addressed in terms of their impact upon a client's health status. Approaches to effective written and verbal communication of findings and diagnostic reasoning will feature prominently in this course.
LECTURE: 3 hours
LAB: 2 hours
HOURS OF CREDIT: 4

NURS 6160 PHARMACOTHERAPEUTICS FOR ADVANCED PRACTICE
This course provides students with an opportunity to acquire the advanced knowledge required to critically appraise/interpret concepts integral to pharmacotherapy and advanced counseling in the treatment of common conditions seen across the lifespan in primary health care settings. Building upon basic pharmacologic principles and the pharmacologic actions of the major drug classes, learning will focus on the preparation of students to develop, initiate, manage, and evaluate patient-centred therapeutic plans of care. In addition, students will analyze different pharmacotherapeutic principles and approaches in relation to physiologic systems, with an emphasis on the competent application of these pharmaceutical agents. Legal aspects related to prescriptive authority will be fully addressed. A combination of formal lectures, seminars, directed readings, and case studies will be used.
PREREQUISITE: Enrolment in the Master of Nursing program, Nurse Practitioner stream
LECTURE: 3 hours
SEMINAR: 2-3 hours
HOURS OF CREDIT: 3

NURS 6170 EVIDENCE-BASED PRACTICE AND THE NURSE PRACTITIONER
Advanced practice is grounded in the ability of registered nurses to evaluate evidence, to apply relevant findings to guide practice and influence policy, and to utilize data to assess the quality of patient care and positively influence patient outcomes and health care delivery. In this course, students develop the knowledge and skills to critically appraise qualitative and quantitative research, systematic reviews, meta-analyses, meta-syntheses, evidence-based guidelines, and other data sources used to inform clinical practice, clinical decision-making, and policy development. The research process, knowledge development, and the role of research in evidence-based practice are central to this course.

PREREQUISITE: Enrolment in the Master of Nursing program, Nurse Practitioner stream
HOURS OF CREDIT: 3

NURS 6210 ETHICS IN NURSING
In all aspects of their professional lives, nurses encounter ethical issues. Grounded in primary health care, this course will identify issues which occur when caring for clients across the life span using a framework of ethical principles and theories. Nurses explore current critical issues encountered in nursing and health care as the relationship with the health care system and society is considered.
LECTURE/SEMINAR: 3 hours
HOURS OF CREDIT: 3

NURS 6220 ADVANCED NURSING PRACTICE
In this course, students synthesize and integrate knowledge of research, theory, philosophy, ethics, clinical care, education, organizational change, and leadership to provide primary health care to diverse populations across the lifespan. They will demonstrate autonomy in decision-making and the critical analysis of organizational and system issues that influence scope of practice and professional accountability. In the clinical experience, students will demonstrate their competence in integrating the theory of advanced nursing practice in a chosen domain, based on availability of clinical agency experts and faculty expertise.
LECTURE/SEMINAR: 3 hours
CLINICAL EXPERIENCE: 72 hours across the course
HOURS OF CREDIT: 6

NURS 6310 HEALTH PROMOTION AND DISEASE PREVENTION ACROSS THE LIFE SPAN
This course will focus on the teaching-coaching function of the nurse practitioner in health promotion, screening and disease prevention activities across the life span for individuals, families and communities. Epidemiological principles and health promotion goals will be examined, with emphasis on cultural and environmental influences, individual assessment, and evidence informed practice. Methods of inter-sectoral collaboration and intervention strategies to optimize health-seeking behaviours within the context of the family, group, and/or community will be explored.
LECTURE/SEMINAR: 3 hours
CLINICAL EXPERIENCE: 100 hours across the course
HOURS OF CREDIT: 6

NURS 6320 EPISODIC HEALTH CARE ACROSS THE LIFE SPAN
This course deals with the diagnosis and management of episodic and common acute health conditions experienced by clients across the life span. Pathophysiology, assessment, and diagnostic strategies specific to the acute and common problems of clients of all ages will be stressed. Nursing strategies used to restore, maintain and enhance health are emphasized, as are the biological, psychological, social and cultural aspects of care.
PREREQUISITES: NURS 6010 and NURS 6160
LECTURE/SEMINAR: 3 hours
CLINICAL EXPERIENCE: 200 hours across the course
HOURS OF CREDIT: 6

NURS 6330 PROFESSIONAL ROLE OF THE NURSE PRACTITIONER
This course assists the student to explain and promote the role of the nurse practitioner. It addresses political, social, and economic forces related to the scope of practice, as well as system and organizational issues that may affect the delivery of care. Emphasis is placed on the legal and ethical considerations for the nurse practitioner in an extended practice environment. The skills in leadership and collaborative interdisciplinary practice necessary to perform the NP role will also be emphasized.
LECTURE/SEMINAR: 3 hours
HOURS OF CREDIT: 3

NURS 6340 CHRONIC DISEASE MANAGEMENT

This course applies concepts of pharmacology, advanced counselling, and complementary therapies to clients and specific populations with chronic health conditions across the life span. The focus will be on nursing interventions that assist clients with multiple care needs to manage their chronic disease conditions, while optimizing health and preventing/ minimizing disability. The selection of clinical interventions, clinical decision-making, and evaluation of strategies used to enhance the health outcomes for the chronically ill will be stressed. Emphasis is placed on evidence informed practice and accepted clinical guidelines.

PREREQUISITES: NURS 6010 and NURS 6160

LECTURE/SEMINAR: 3 hours

CLINICAL EXPERIENCE: 200 hours across the course

HOURS OF CREDIT: 6

NURS 6350 NURSE PRACTITIONER PRACTICUM

This course provides the student with an opportunity to integrate and consolidate theory, research, and advanced knowledge and skills required of the nurse practitioner in providing primary health care to clients, families, groups and communities experiencing common episodic and chronic health related problems/illnesses. The focus will be on the refinement of critical thinking skills, clinical reasoning, and advanced practice clinical judgment in assessment, diagnosis, and management of clients' health. Collaboration with clients, families, and other health care professionals will be emphasized. Students will develop role competencies under the supervision of a faculty member and a clinical preceptor negotiated by the student and professor.

PREREQUISITES: NURS 6010 and NURS 6160

CLINICAL EXPERIENCE: 200 hours across the course

SEMINAR: 3 hours

HOURS OF CREDIT: 6 (Pass/Fail)

NURS 6360 BIOSTATISTICS

This course is designed to present the fundamental concepts of statistical applications to quantitative methods for graduate students in applied health sciences. The presentation of the course and accompanying materials are organized into five distinct sections: 1) data management and reporting, 2) processing continuous data to produce descriptive statistics, 3) processing discrete data to produce descriptive statistics, 4) concepts related to probability, and 5) testing hypotheses and measuring effect size.

LECTURE: 3 hours

LABORATORY: A series of assignments has been created that students can access via the web. This will constitute the laboratory component of the course.

HOURS OF CREDIT: 3

# 109. Master of Applied Health Services Research (MAHSR)

This program is intended for students who are interested in pursuing a career in health research or in health services. The Master's Degree in Applied Health Services Research is a collaborative venture of Memorial University of Newfoundland, the University of New Brunswick, St. Mary's University, and the University of Prince Edward Island, and is coordinated through the Atlantic Research Training Centre (ARTC). The degree program provides knowledge and skills necessary to tackle complex health policy issues and contribute to the future of health services in Atlantic Canada. There are two program streams to completing the Masters of Applied Health Service Research: 1) a research (thesis) stream (MAHSR-T) and 2) a course-based (professional) stream (MAHSR-P).

**1) MAHSR Thesis Stream (MAHSR-T)**

**A) PROGRAM REQUIREMENTS**

Students complete three required and two elective courses and a thesis, and attend one workshop and approximately 12 seminars.

**Required Courses:**

AHS 6000 – Introduction to Health Services Research
AHS 6004 – Determinants of Health: Healthy Public Policy
AHS 6008 – Advanced Qualitative Methods OR AHS 6009 – Advanced Quantitative Methods

**Thesis**

AHS 6010 – Thesis

**Elective Courses (choose two from the list below)**

AHS 6001 – Canadian Health System
AHS 6005 – Policy and Decision Making
AHS 6007 – Knowledge Transfer and Research Uptake
AHS 6011 – Indigenous Health
AHS 6012 – Big Data Research and Analytics in Health care
AHS 6099 – Capstone Project
AHS 6110 – Special Topics
AHS 6120 – MAHSR Practicum

Students are required to attend the following:

- One themed workshop
- Approximately 12 seminars (scheduled throughout the degree program)

**Residency Requirements**

Normally, at least two semesters of full-time study in residence at the University must be devoted to the Master's program if the student is admitted as a regular student. Upon completion of the residency requirement, the student is then eligible to become a candidate for the MAHSR degree.

**Review of Progress**

At the end of each semester, the academic record and progress of each student will be reviewed by the MAHSR Program

Lead. The candidate must maintain a minimum average of 75% or higher in order to maintain registration in the program.

**B) GRADES SCHEDULE**

the minimum passing grade for courses in the MAHSR program is 70%.

**C) THE THESIS**

**Research**

Normally, the equivalent of 6 semesters of continuous study must be devoted to research in fulfilment of the thesis requirement. In order to complete the degree within a reasonable time frame, the research topic should be identified and approved by the Supervisory Committee by the second semester of the students' program. Research involving human subjects must be approved by the University's Research Ethics Board.

Students will prepare a thesis proposal that outlines the particular area to be investigated. Normally this will happen during the first year of the program. At the end of the program an academic defence is required and, in addition, students will make a public presentation of their thesis research.

**Supervisory Committee**

The supervisory committee is composed of the supervisor (or co-supervisors) who are graduate faculty, and at least two other graduate faculty members. All members of the supervisory committee are expected to participate actively in the student program.

**Thesis**

Each candidate for the degree of Master of Applied Health Services Research- Thesis Stream (MAHSR-T) is required to submit a thesis based upon research conducted under supervision as described in this section of the calendar. The thesis must demonstrate the student's mastery of skills and show potential for original and independent research.

General specifications as to paper, format, order, and binding are available from the Science Graduate Studies Coordinator.

The student should consult frequently with the Supervisor and the Supervisory Committee when preparing the thesis. The final draft of the thesis, after it has been approved by all members of the Supervisory Committee, is sent for examination to the members of the Master's Examination Committee (see below).

**The Master's Examination**

The final oral examination, devoted chiefly to the defence of the thesis, is an examination identified as the Master's Examination and carried out by the Master's Examination Committee.

The Science Graduate Studies Coordinator selects the Examination Committee at the request of the Supervisor. The Examination is normally open to the public; however, members of the audience may only question the candidate upon invitation of the Chair of the Committee.

The Examination is passed and the thesis approved if there is no more than one negative vote, an abstention being regarded as a negative vote. The Science Graduate Studies Coordinator records the result as "unsatisfactory" or "satisfactory." If the result is "unsatisfactory," the candidate may be given the opportunity by the Master's Examination Committee of a second attempt. A second "unsatisfactory" result will terminate candidacy at this university.

The Master's Examination Committee normally consists of five members as follows:

•Three members of the Supervisory Committee, including the Supervisor of the candidate's research;

•One member of the area of specialization but from a department other than that of the student's supervisor. This external examiner may be from the University of Prince Edward Island, or from another University or Research Institute, as is deemed appropriate;

•The Science Graduate Studies Coordinator (or designate), who will Chair the Master's Examination Committee.

**Submission of Thesis**

Following the Master's Examination, the candidate, if successful, arranges for the preparation of the thesis in final form, and for its submission to the Science Graduate Studies Coordinator. Please refer to Academic Regulation 16 for more detail.

**Unacceptable Thesis**

If a candidate is unable to prepare an acceptable thesis, the Supervisory Committee will report this to the Science Graduate Studies Coordinator (sending to the student a copy of the report).

**2. MAHSR Professional Stream (MAHSR-P)**

**A: Program Requirements**

Students complete four required courses, four elective courses, a two-day interactive virtual workshop at the end of the Fall semester of the first year of study and a practicum or capstone project. All students are required to participate in monthly seminars throughout the Fall and Winter semesters. Students in the MAHSR-P are not required to complete a thesis.

**Required Courses:**

- AHS 6000: Introduction to Health Services Research
- AHS 6001: Canadian Health System
- AHS 6004: Determinants of Health

At least one of the following:

- AHS 6008: Advanced Qualitative Methods
- AHS 6009: Advanced Quantitative Methods

One of the following:

- AHS 6120 MAHSR Practicum
- AHS 6099 Capstone Project

**Elective Courses:**

4 electives from the following including:

- One of AHS 6005: Policy and Decision Making OR AHS 6110: Special Topics
- AHS 6007: Knowledge Transfer and Research Uptake
- AHS 6011: Indigenous Health
- AHS 6012: Big Data Research and Analytics in Healthcare

**Review of Progress**

At the end of each semester, the academic record and process of each student will be reviewed by the MAHSR Program

Lead in collaboration with the Science Graduate Studies Coordinator. The candidate must maintain a minimum-average of 75% or higher in order to maintain registration in the program.

**B) GRADES**

The minimum passing grade for courses in the MAHSR program is 70%.

**Transition between streams:**

Students initially registered in either the MAHSR-thesis (MAHSR-T) or MAHSR-professional (MAHSR-P) may transfer between streams with the approval of the Program Lead and the Science Graduate Studies Coordinator.

Those students initially in the MAHSR-T stream may apply to transfer to the MAHSR-P stream and will be required to complete all of the requirements of the MAHSR-P stream, including the four required courses and four electives, the AHS 6120 Practicum, seminars and workshops or their equivalent. Students must have their courses assessed by the MAHSR Program Lead to ensure they have completed the required courses (or equivalents) successfully. Students should submit a request for program transfer to the Program Lead and the Science Graduate Coordinator.

Those students initially in the MAHSR-P stream may apply to transfer to the MAHSR-T stream and will be required to complete all of the requirements of the MAHSR-T stream. Students must have a confirmed supervision and research project topic. Acceptance to the Thesis Stream is contingent upon availability of funding. An application consisting of a thesis proposal, a transcript of grades, an assessment of course equivalents by the MAHSR Program Lead and a letter from the proposed supervisor must be submitted to the MAHSR Program Lead and Science Graduate Coordinator for approval. Deadline for changing program streams from professional to thesis will normally be the end of the Winter term Year 1, although student applications to change streams will be managed on a case-by-case basis.

# APPLIED HEALTH SERVICES COURSES

AHS 6000 INTRODUCTION TO HEALTH SERVICES RESEARCH

This course provides students an introduction and overview of Applied Health Services Research. It provides an overview of what we mean by health and health services, describes the broad research paradigms, the role of health research ethics and how these approaches fit into decision making in health. Determinants of Indigenous health will be also be discussed.

HOURS OF CREDIT: 3

AHS 6001 CANADIAN HEALTH SYSTEM

This course proposes to give an overview of the history of the Canadian Health System and its current organization, as well as an overview of other international health system models. The key concepts that will be explored in the Canadian Health System include legislation, institutions, funding structures, human resources, and guiding values. Other issues examined will be the factors affecting health services utilization, the measurement of health outcomes and their use for accountability, and a review of health information systems in Canada and the structures and instruments within them. Finally, current issues and trends relating to the Canadian Health Care system will be reviewed.

HOURS OF CREDIT: 3

AHS 6004 DETERMINANTS OF HEALTH: HEALTHY PUBLIC POLICY

This course will explore the development of the philosophy of the determinants of health, and identify the determinants of health and their relationship with health status. As the course unfolds, students will gain an understanding of the philosophical underpinnings, as well as understanding their inter-relationships. An understanding of the complexity of developing healthy public policy that addresses multiple determinants of health will be developed by students, as well as the consideration of the implications of policy from the perspective of the determinants of health. Determinants of Indigenous health will be also be discussed.

HOURS OF CREDIT: 3

AHS 6005 POLICY AND DECISION-MAKING

In this course, students will explore the process of how Canadian Health Policy is developed, implemented, and evaluated. This course will also assist in building skills in the areas of research approach, critical appraisal, policy synthesis, and briefing notes. The course will follow a case-based approach to understand the implications of political, social, ethical, and economic policy.
HOURS OF CREDIT: 3

AHS 6007 KNOWLEDGE TRANSFER AND RESEARCH UPTAKE
This course will explore the facilitators and barriers of using evidence in decision-making, as well as developing the students' understanding of the conceptual, philosophical, and theoretical underpinnings of knowledge transfer and research uptake. Students will also learn how to create ongoing/sustainable linkages with decision-makers and how to share research findings with academic and non-academic audiences. The course strengthens the program by providing students with skills to interact with stakeholders and facilitate the use of evidence in decision-making. Topics explored include Evidence-Based Decision-Making—barriers and facilitators, and why evidence is not used in decision-making. The course will look at how to encourage decision-makers to use research evidence through behavioural change, social marketing, and sustainable linkages.
HOURS OF CREDIT: 3

AHS 6008 ADVANCED QUALITATIVE METHODS
In this course, students will gain an understanding of the use of qualitative research methods in applied health research. Students' skills will be developed in the analysis of qualitative data, grant-proposal writing using qualitative data, and the critique of qualitative research. Topics explored include issues in qualitative approaches such as subjects/participants, ethical issues, representativeness, data trustworthiness, bias/perspective, researcher as an instrument, the designing of an analysis template, concurrent/non-current, and ethnography. Other topics explored include theoretical approaches to analysis, such as conflict analysis, feminist, deconstructionist, thematic analysis, participatory action research, grounded theory, and case studies.
HOURS OF CREDIT: 3

AHS 6009 ADVANCED QUANTITATIVE METHODS
This course will expose students to a variety of more advanced quantitative and statistical approaches to research methodology. The two main purposes of the course are to provide students with the tools to conduct advanced quantitative empirical research, and to further develop their ability to critically evaluate the work of others. Students will learn to examine issues and develop research strategies to begin to identify and answer important topics that need to be researched, and students will design a realistic appraisal of what can and cannot be achieved, given resource constraints.
HOURS OF CREDIT: 3

AHS 6010 THESIS
Each student in the Master of Applied Health Services Research program is required, under the supervision of a Faculty Advisor and Supervisory Committee, to write a thesis based on research into an approved topic. It must demonstrate the candidate's ability to conduct original independent work, and include a critical evaluation of the principal works published on the subject of the thesis. It should make an original contribution to the body of knowledge in that field of study.
PREREQUISITE: Admission to the Master of Applied Health Services Research program
HOURS OF CREDIT: 12

AHS 6011 INDIGENOUS HEALTH
This course provides students with an introduction to the historical and contemporary forces affecting Indigenous health, as well as to experience the cultural teachings and ceremonies that define wellness among this marginalized community. The student will build an understanding of Indigenous models of health and healing, community wellness and cultural safety to promote equitable health care practice and policy as well as explore tools for "Allyship".

HOURS OF CREDIT: 3

AHS 6012 Big Data Research and Analytics in Health care

Upon completion of this course students will have foundational knowledge on what is meant by 'big data' and how it can be used to advance research and clinical practice in health care. Students will be introduced to a variety of research methods using big data and will explore potential future uses of big data for health system improvement.

PREREQUISITE: AHS 6009 or permission of instructor

HOURS OF CREDIT: 3

AHS 6099 Capstone Project

Students will undertake a supervised semester long project by developing and addressing a research question through a limited scoping review or analyses of available secondary data to produce a research report in an appropriate format.

PREREQUISITE: AHS 6000 and 6004

HOURS OF CREDIT: 6

AHS 6110 SPECIAL TOPICS

The purpose of this course is to focus on a timely and significant issue related to applied health services research, examining the issue and its implication from multiple perspective, including research, policy, and key stakeholders.

PREREQUISITE: Permission of instructor.

HOURS OF CREDIT: 3

AHS 6120 MAHSR PRACTICUM

Students undertake a 240 hour research residency with a decision-making organization. The residency is designed to provide hands-on research and decision-making experience, and to develop an understanding of how knowledge is transferred between the academic community and decision-makers.

PREREQUISITE: AHS 6000 and AHS 6004

HOURS OF CREDIT: 6

# 110. Master of Science (Science, Sustainable Design Engineering and Veterinary Medicine)

Faculty of Veterinary Medicine MSc Program
http://upei.ca/avc/graduatestudies

Faculty of Science MSc Program
http://upei.ca/science/graduatestudies

**A) GENERAL STRUCTURE OF THE PROGRAM**

The MSc degree of the University of Prince Edward Island requires the demonstration of a reasonable mastery of a concentrated field of study. The latter is attested by the achieving of satisfactory standings in the minimum number of graduate courses required by the respective Faculty, the completion of a research project, and the writing of a thesis based upon the research.

There will be considerable interaction and co-operation among the departments/faculties to provide courses and research facilities to meet the needs of individual students and their research projects.

In addition to the "General Regulations for Graduate Programs," described above, the following regulations apply specifically to the Master's degree:

**Residency Requirements**

Normally, at least two semesters of full-time study in residence at the University must be devoted to the Master's program if the student is admitted as a regular student. For a regular student admitted to a part-time study program, the residency period is based on the equivalence of three part-time semesters to one full-time semester. A student, admitted as a provisional student requiring two semesters in that category, must spend at least one additional semester as a regular full-time student to meet the residency requirement. Upon completion of the residency requirement the student is then eligible to become a candidate for the MSc degree.

Normally, the thesis must be formally submitted or the program be otherwise complete within 48 months of the completion of the residency requirement. Departure from these normal requirements requires approval from the Graduate Studies Committee.

**B) COURSES**

**Prescribed Studies**

The proportion of weight attached to the research and thesis may vary, even within a department/faculty. Accordingly, the number of courses and/or general examinations may correspondingly vary. In no case, however, will the minimum requirements be less than those outlined in the following two paragraphs. For graduate credit, the courses selected must be acceptable to the department/faculty and the Graduate Studies Committee. The candidate must maintain a cumulative average grade of at least a B standing (see Grades in General Regulations section) in the substantive courses outlined below in order to maintain registration in the program.

A department/faculty may require examinations (oral and/or written), from time to time, to evaluate the student's progress in his/her overall program.

**Additional Courses**

In addition to these prescribed studies, the candidate may undertake to achieve satisfactory standings in courses supportive of the special discipline. These courses may be at either the undergraduate or the graduate level. The standings obtained in them will not affect the average grade of the prescribed studies.

**C) THE THESIS**

**Research**

Normally, the equivalent of at least two full-time semesters must be devoted to research in fulfilment of the thesis requirement. Summers during which research work is actively conducted may be counted as research semester equivalents, even though courses would not normally be offered at that time. In order to avoid undue prolongation of the time required to complete the degree, the research topic should be identified early and approved by the Supervisory Committee. Research involving the use of animals must follow the Guidelines of the Canadian Council on Animal Care.

**Thesis**

Each candidate for the degree of Master of Science is required to submit a thesis based upon the research conducted under supervision as described above. The thesis must demonstrate the candidate's capacity for original and independent work, and should include a critical evaluation of work which has previously been done in the field of his or her research. The thesis should emphasize any new conclusions which may be drawn from the candidate's own research.

General specifications as to paper, format, order, and binding are available from the Office of the Program Administrator.

**Procedures**

The thesis may be handed in at any time of the year, but candidates must bear in mind the desirability of having the final examination as much in advance of the deadline date for thesis submission as possible. Candidates are advised to inform themselves of the deadlines schedule, a copy of which may be obtained in the Office of the Program Administrator. It is desirable that each candidate initiate discussion about examination dates with the Supervisor early in the final semester.

The candidate should keep in close touch with the Supervisor and the Supervisory Committee, throughout the preparation of the thesis. The final draft of the thesis, after it has been reviewed by all members of the Supervisory Committee, is sent when ready for examination, to the members of the Master's Examination Committee (see below).

Following the Master's Examination, the candidate, if successful, arranges for the preparation of the thesis in final form, and for its submission to the Program Administrator (see below). The thesis in final form must include any minor corrections or revisions indicated during the Examination. Approval of the thesis takes the form of a Certificate of Approval, signed by the Examination Committee.

**The Master's Examination**

The final oral examination, devoted chiefly to the defence of the thesis, is an examination identified as the Master's Examination and carried out by the Master's Examination Committee.

The Department Chair selects the Examination Committee at the request of the Supervisor and is responsible for notifying the Program Administrator of its composition. The Examination is normally open to the public; however, members of the audience may question the candidate only upon invitation of the Chair of the Committee.

The Examination is passed and the thesis approved if there is no more than one negative vote, an abstention being regarded as a negative vote. The report, from the Department Chair to the Program Administrator, records the result as "unsatisfactory" or "satisfactory." If the result is "unsatisfactory," the candidate may be given the opportunity by the Master's Examination Committee of a second attempt. A second "unsatisfactory" result will terminate candidacy at this university.

# MSc Program (Faculty of Veterinary Medicine)

The graduate students will register in one of the four academic departments listed below and in one of the designated areas of specialization:

**Department of Biomedical Sciences**

Animal Behaviour
Physiology, Pharmacology and Toxicology
Cell and Molecular Biology
Neuroscience
Endocrinology

**Department of Companion Animals**

Anesthesiology
Cardiology
Clinical Sciences
Diagnostic Imaging
Small Animal Medicine
Small Animal Surgery

**Department of Health Management**

Epidemiology/Health Management
Animal Science and Animal Nutrition
Clinical Sciences
Aquatic Animal Health
Animal Welfare
Biostatistics
Public Health

**Department of Pathology and Microbiology**

Morphologic Pathology
Wildlife Pathology
Clinical Pathology
Parasitology
Virology
Bacteriology
Public Health
Immunology
Aquatic Animal Health
Biosecurity

The graduate program of each graduate student is specific to the student's research requirements and as such relies on the student's Supervisory Committee to identify the optimal set of courses. Substantive courses are graduate level courses assigned a minimum of two credit hours. Students are required to complete courses totalling a minimum of twelve credit hours. Within this course complement there are at least four substantive courses and the appropriate departmental Seminar course (one credit). Recognizing that it is the responsibility of the student and their supervisor, with input from their Supervisory Committee, to propose courses that best support the development of the student's research skills proficiency, the Graduate Studies and Research Committee may approve a justified reduction in the requirement of four substantive courses, twelve total credits, or both. Normally, only one of the substantive courses is a Directed Studies Course unless the Supervisory Committee and the Graduate Studies and Research Committee agree that it is in the best interests of the student to take more than one Directed Studies to ensure appropriate skills

development in the field of study to complete their degree. All students are expected to complete VHM 8010 (Veterinary Biostatistics) unless comparable training has been completed prior to entry into the program or a more appropriate alternative statistics is proposed by the Supervisory Committee and approved by the Graduate Studies and Research Committee. Approved waivers of biostatistics courses may result in the total number of graduate level credits during the MSc program at UPEI being reduced if supported by the student's Supervisory Committee and approved by the Graduate Studies and Research Committee. In the case of a waiver, it will not be necessary to replace a statistics course with a non-statistics course unless the student's Supervisory Committee deems the student deficient in another important field. As a result, the normal 12 credit hours of required courses may be reduced when justified by the Supervisory Committee that it would be in the best interests of the student, and such a reduction is approved by the Graduate Studies and Research Committee.

When a student is required to register in a seminar or colloquium course in more than one semester, the record will show a grade or a designation of "In Progress" for semesters prior to completion of the course and "Pass" or "Fail" for the final semester. The student will register in the seminar course until all other MSc degree requirements have been met or six semesters, whichever occurs first. With the consent of the Supervisory Committee, and of the instructor and the Department Chair concerned, a student may register for, and audit, all or part of a course. It is understood that the student will attend lectures as prescribed, but will not write any examination or receive any grade. Such a course may be recorded as an additional course, identified by AUD.

The Master's Examination Committee normally consists of five members as follows:

i. two graduate faculty of the Department, who are not members of the Supervisory Committee, one of whom is proposed by the Department Chair and approved by the Associate Dean of Graduate Studies and Research to act as chair of the Master's Examination and to make the arrangements therefore;

ii. the Supervisor of the candidate's research;

iii. one additional member of the Supervisory Committee;

iv. one member of the graduate faculty from a department other than that in which the student is registered. For the purposes of this role, an adjunct faculty member whose primary responsibility is outside the department is considered to meet this requirement.

## MSc Program (Faculty of Science)

The graduate students will register in one of the designated areas of specialization listed below:

- Molecular and Macromolecular Sciences (MMS)
- Environmental Sciences (ESC)
- Human Biology (HB)
- Sustainable Design Engineering (SDE)
- Mathematical and Computational Sciences (MCS)

Students are required to take a minimum of three graduate level courses, all of which are to be regarded as substantive. (In the MCS specialization, a minimum of four substantive graduate level courses are required, including MCS 8920 (a requirement) and only one of the required courses may be cross-level listed with an undergraduate course.). A Seminar course (MMS 8900 or ESC 8900 or HB 8900 or SDE 8900 or MCS 8900) is required. Students may take only one Directed Studies course (MMS 8810 or ESC 8810 or HB 8810 or SDE 8810 or MCS 8810 or alternatively, VBS 8810 or 8820, VPM 8810 or 8820, VCA 8810 or 8820, VHM 8810 or 8820) for credit. Students lacking an Honours degree or background in one or more area may, at the discretion of the Supervisory Committee, be required to take the appropriate undergraduate

level course(s), in addition to the required courses. All graduate students must receive non-credit WHMIS (Workplace Hazardous Materials Information System) training in their first year.

When a student is required to register in a seminar or colloquium course in more than one semester, the record will show a grade or a designation of "In Progress" for semesters prior to completion of the course and "Pass" or "Fail" (or a numerical grade in the case of MMS 8900) for the final semester. Enrolment in the Seminar course implies the student will participate as a presenter in at least one Graduate Studies Day. With the consent of the Supervisory Committee, and of the instructor and the Department Chair concerned, a student may register for, and audit, all or part of a course. It is understood that the student will attend lectures as prescribed, but will not write any examination or receive any grade. Such a course may be recorded as an additional course, identified by AUD.

The Master's Examination Committee normally consists of five members as follows:

i. three members of the Supervisory Committee, including the Supervisor of the candidate's research;

ii. one member of the area of specialization but from a department other than that of the student's supervisor. This external examiner may be from the University of Prince Edward Island, or from another University or Research Institute, as is deemed appropriate;

iii. the Coordinator of Graduate Studies (or designate), who will Chair the Master's Examination Committee.

## Graduate Courses

## Faculty of Science

Master of Science—Environmental Sciences (ESC)
Master of Science—Human Biology (HB)
Master of Science—Molecular and Macromolecular Sciences (MMS)
Master of Science—Mathematical and Computational Sciences (MCS)

# ENVIRONMENTAL SCIENCES (ESC) COURSES

ESC 8000 THESIS

ESC 8120 ADVANCED TOPICS IN ENVIRONMENTAL SCIENCES
This course covers advances in practical and theoretical aspects of environmental sciences, including both aquatic and terrestrial systems. With a focus on integrating knowledge across disciplines, students will develop an understanding of complex environmental challenges. Students are expected to prepare written reports or present seminars.
PREREQUISITE: Admission to a graduate program in Science or permission of the instructor
HOURS OF CREDIT: 3
NOTE: Responsibility for this course rests with the department of Biology.

ESC 8200 ADVANCED CLIMATE CHANGE SCIENCE AND POLICY
The course provides an advanced examination of the fundamental science of global climate change, the state-of-the-art technologies and tools for climate modeling, climate data analysis, climate change impact assessment, and climate change mitigation and adaptation, as well as the historical and latest development in climate policies. Students will be given the opportunity to develop the knowledge and skills to critically evaluate scientific scenarios of future climate, assess the effectiveness of different policy approaches, and determine suitable responses to climate change.

PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

ESC 8620 ADVANCED FRESHWATER ECOLOGY
This course provides advanced study in the ecology of freshwater habitats, particularly those found on Prince Edward Island. The first part of the course concentrates on the physical, chemical, and biological characteristics of fresh waters, classification of freshwater habitats, and applied limnology. A laboratory/field component includes an introduction to water analysis techniques and field equipment, field water analysis, the collection and analysis of biological samples, and the physical properties of water. The second part is a field/lab project on a limnological topic tailored to the student's individual program, and consists of an experimental or observational study coupled with a comprehensive literature review, project write-up, and oral presentation.
NOTE: Credit is not given for both Biology 4620 (Limnology) and Biology 8620 and ESC 8620. Responsibility for this course rests with the department of Biology.

ESC 8650 ADVANCES IN COASTAL RESEARCH
This course provides an update on relevant areas of ongoing coastal research. The first part of the course concentrates on presentations relevant to climate change on coastal settings, including ocean warming, coastal erosion and other global stressors, long-term and large-scale changes, coastal biodiversity loss, ecosystem services, and aquatic invasive species. The second part of the course includes participation in regular discussion sessions based on analysis of advanced literature relevant to coastal research disciplines and to the student's particular research interest. Assignments include an essay relevant (but not restricted) to a student's field of research.
PREREQUISITE: Admission to a graduate program in Science or permission of the instructor
HOURS OF CREDIT: 3
NOTE: Responsibility for this course rests with the Department of Biology.

ESC 8810 DIRECTED STUDIES IN ENVIRONMENTAL SCIENCES
Under the supervision of a faculty member, a graduate student independently pursues an area of interest in depth. The course includes an extensive literature review of the specific discipline, directed research on the topic, or collection and analysis of data. The student may be required to present a written report and/or present a seminar in the area. Topics must not be a part of the student's thesis research although they may be in a complementary area. Course outlines must be approved by the supervisory committee, the department Chair, and the Dean of Science.
PREREQUISITE: Admission in the graduate program in Biology and permission of instructor
HOURS OF CREDIT: 3

ESC 8900 SEMINAR
In this course students attend seminars on current topics in their thesis areas and deliver seminars. Techniques in preparing scientific communications (oral presentations and poster displays) are also covered.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3
NOTE: Responsibility for this course rests with the department of Biology.

# HUMAN BIOLOGY (HB) COURSES

HB 8000 THESIS

HB 8110 ADVANCED TOPICS IN CELL AND MOLECULAR BIOLOGY
This course enhances student knowledge of cell and molecular biology from a research perspective. Current advances in cell and molecular biology, including biotechnology and cytogenetics, are emphasized. Topics vary yearly according to the needs of the participating students. A combination of formal lectures, directed readings, and group discussion of

journal articles is used. Students are expected to prepare written reports or present seminars.
PREREQUISITE: Admission to a graduate program in Science and permission of the instructor
HOURS OF CREDIT: 3
NOTE: Responsibility for this course rests with the department of Biology.

HB 8250 ADVANCED TECHNIQUES IN SCANNING ELECTRON MICROSCOPY
This course covers the principles of scanning electron microscopy, including techniques used for the preparation of biological or other materials for microscopy and the use of specialized software to analyze surface features of samples. Students learn to operate the instrument over the full spectrum of use, generating their own images and interpreting patterns. A microscopical investigation of material relevant to the student's discipline forms the basis of a course project.
PREREQUISITE: Admission to the graduate program or Permission of the instructor
HOURS OF CREDIT: 3
NOTE: Responsibility for this course rests with the department of Biology.

HB 8350 PRINCIPLES OF POSITIVE YOUTH DEVELOPMENT THROUGH SPORT
(See Kinesiology 4350)

HB 8430 ADVANCED PHYSIOLOGY OF EXERCISE ADAPTION AND PERFORMANCE
This course focuses on factors governing chronic exercise adaptations, acute exercise performance and health. Course content explores concepts such as skeletal muscle repair, genetics of sport performance and the effects of various training modalities (HIIT, resistance etc.). Students will combine theoretical background with applied learning experiences in advanced fitness appraisal methods and techniques. A graduate-level project will be required as defined in consultation with the instructor.
(Cross-level listed with Kinesiology 4430). Credit cannot be received for both KINE 4430 and HB 8430.
PREREQUISITE: Admission to the graduate program in the Faculty of Science.
Three lecture hours, three laboratory hours per week

HB 8810 DIRECTED STUDIES IN HUMAN DEVELOPMENT AND HEALTH
Under the supervision of a faculty member, a graduate student independently pursues an area of interest in depth. The course includes an extensive literature review of the specific discipline, directed research on the topic, or collection and analysis of data. The student may be required to present a written report and/or present a seminar in the area. Topics must not be a part of the student's thesis research although they may be in a complementary area. Course outlines must be approved by the supervisory committee, the department Chair, and the Dean of Science.
PREREQUISITE: Admission in the graduate program in Biology and permission of instructor
HOURS OF CREDIT: 3

HB 8830 EPIDEMIOLOGICAL APPLICATIONS IN PRIMARY HEALTHCARE RESEARCH
This course introduces essential principles of epidemiological applications that are relevant to primary healthcare research. Students will be introduced to the principles of patient oriented research, primary healthcare, and the background of epidemiological applications, as well as the specific applications and computations of sensitivity and specificity, risk estimation, rates and proportions, hypothesis generating and hypothesis evaluation, as well as arithmetic and mathematical modeling. A combination of formal lectures, directed readings, group discussions and interpretation of outcomes from specific analyses using customized "webulators" will be used. Students are expected to prepare written reports and/or present seminars.
PREREQUISITE: Admission to a graduate program in Science and permission of the instructor
HOURS OF CREDIT: 3

HB 8850 BIOINFORMATICS FOR GRADUATE STUDENTS
This course is an introduction to bioinformatics and a practical guide to the analysis of genes and proteins. It will familiarize students with the tools and principles of contemporary bioinformatics. By the end of the course, students

will have a working knowledge at the graduate level of a variety of publicly available databases and computational tools important in bioinformatics, and a grasp of the underlying principles that are adequate for them to evaluate and utilize novel techniques as they arise in the future. In addition to participating in all the lectures and activities of the undergraduate course CS 3220/BIO 3220, graduate students are expected to accomplish a graduate project and attend extra guest lectures specially prepared for graduate students (when the graduate enrolment is 3 or more). The graduate project would be related to the student's research, so the thesis supervisor will be invited to join in the process of choosing and evaluating the graduate project. The graduate project will be worth 30% of the final grade.
Cross-level listed with CS 3220, BIO 3220, and VPM 8850
PREREQUISITE: Admission to the graduate program and permission of the instructor
HOURS OF CREDIT: 3
**NOTE:** No student can be awarded more than one course credit among HB 8850, VPM 8850, CS 3220, and BIO 3220

HB 8900 SEMINAR
(See ESC 8900)

# MOLECULAR AND MACROMOLECULAR SCIENCES (MMS) COURSES

MMS 8000 THESIS

MMS 8050 ADVANCED STUDIES IN NMR SPECTROSCOPY
This course covers the use of Nuclear Magnetic Resonance (NMR) spectrometry used in the determination of structures in Organic and Inorganic Chemistry. Major topics include the theory and use of NMR spectroscopy, in particular the use of 2D experiments and multi-nuclear NMR spectroscopy. Particular emphasis is placed on developing the students' ability to interpret spectra and elucidate the structure of a molecule based on this evidence beyond the undergraduate level, as well as the role NMR has played as a structural tool in the pharmaceutical industry and academia. Students will have a practical/hands-on component in this course.
Cross-level listed with CHEM 4050. Credit cannot be received for both MMS 8050 and CHEM 4050
Restriction: Student must be admitted into a graduate program in Science.
HOURS OF CREDIT: 3

MMS 8090 BIOMATERIALS
This course covers the fundamentals of the synthesis, properties, and biocompatibility of metallic, ceramic, polymeric, and biological materials that come in contact with tissue and biological fluids. Emphasis is placed on using biomaterials for both hard and soft tissue replacement, organ replacement, coatings and adhesives, dental implants, and drug delivery systems. New trends in biomaterials and the recent merging of cell biology and biochemistry with materials is examined.
Cross-level listed with CHEM 4090. Credit cannot be received for both MMS 8090 and CHEM 4090
Restriction: Student must be admitted into a graduate program in Science
HOURS OF CREDIT: 3

MMS 8690 MATERIALS CHEMISTRY
This course discusses current topics in materials chemistry. Topics include the synthesis and characterization of intercalation compounds, conductive polymers and their applications, semiconductors and their applications, defects in inorganic solids, and transport measurements. Students will perform a thorough literature search on a topic in materials science; write a review and a research proposal on the selected topic, followed by in-class presentations.
Cross-level listed with CHEM 4690. Credit cannot be received for both MMS 8690 and CHEM 4690.

PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MMS 8810 DIRECTED STUDIES IN MOLECULAR AND MACROMOLECULAR SCIENCES
This course is a thorough study of a selected topic in Molecular and Macromolecular Sciences. Entry to the course, and the course outline, are subject to the approval of the Supervisory Committee, and the Dean of Science. The course may include directed reading, directed research, and discussion with the instructor. The student may be required to prepare a written report and/or present a seminar in the area. Topics must not be directly related to the student's research project, although they may be in the same discipline.
PREREQUISITE: Admission to the graduate program and permission of the instructor
HOURS OF CREDIT: 3

MMS 8820 ADVANCED TOPICS IN MOLECULAR AND MACROMOLECULAR SCIENCES
This course covers current advances and advanced topics in a discipline of Molecular and Macromolecular Sciences and is a thorough study of specific topics. It is offered to graduate students at the discretion of the Department, and covers areas of specialization not covered in other graduate courses. The course discusses recent advances in an area of interest to the students but which are not part of the students' thesis research directly.
PREREQUISITE: Admission to the graduate program and permission of the instructor
HOURS OF CREDIT: 3
NOTE: Responsibility for this course rests with the department of Chemistry.

MMS 8830 ADVANCED TOPICS IN COMPUTATIONAL CHEMISTRY
This course exercises the application of computational chemistry to structural and reactivity questions in organic and inorganic chemistry. Computational methods discussed include molecular mechanics, ab initio and semi-empirical calculations, and density functional theory. The objective is to gain an understanding of the application of these methods to chemical problems. The current literature is explored to illustrate the use of computational chemistry in research.
PREREQUISITE: Admission to MSc Program
HOURS OF CREDIT: 3
NOTE: Responsibility for this course rests with the department of Chemistry.

MMS 8840 ADVANCED SPECTROSCOPIC STRUCTURE ELUCIDATION
This course covers various forms of spectrometry used in the determination of structures in Organic and Inorganic Chemistry. Major topics include the theory and use of nuclear magnetic resonance (NMR) spectroscopy, in particular the use of 2D experiments; mass spectrometry and infrared spectroscopy. Particular emphasis is placed on developing the students' ability to interpret spectra and elucidate the structure of a molecule based on this evidence. Spectroscopic techniques for the study of transient species are also discussed, including: laser flash photolysis (LFP); laser-induced fluorescence (LIF); and stopped-flow and relaxation methods for fast reaction studies.
PREREQUISITE: Admission to the graduate program
HOURS OF CREDIT: 3
NOTE: Responsibility for this course rests with the department of Chemistry.

MMS 8900 SEMINAR IN MOLECULAR AND MACROMOLECULAR SCIENCES
In this course students attend regular departmental seminars. Students are also required to present a seminar on a topic within their discipline, but unrelated to their research project. Students must register for this course each semester, and receive a grade of "In Progress" until completion of their MSc programs.
PREREQUISITE: Admission to MSc Program in Science
HOURS OF CREDIT: 3
NOTE: Responsibility for this course rests with the department of Chemistry.

# MATHEMATICAL AND COMPUTATIONAL SCIENCES COURSES

MCS 8000 THESIS
Registration of thesis
PREREQUISITE: Admission to MSc program in the Mathematical and Computational Sciences
NOTE: No credit, but registration required.

MCS 8060 CLOUD COMPUTING
This course examines: the critical technology trends that are enabling cloud computing, the architecture and the design of existing deployments, the services and the applications they offer, and the challenges that need to be addressed to help cloud computing to reach its full potential. The format of this course will be a mix of lectures, seminar-style discussions, and student presentations. Graduate students are required to complete an additional project and report. This will be defined in consultation with the instructor to ensure the scope and assessment are sufficiently advanced to warrant graduate level credit.
This course is cross-level listed with CS 4060. Credit cannot be received for both MCS 8060 and CS 4060.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8090 ADVANCED TOPICS IN FINANCIAL MATHEMATICS
This course explores continuous-time models in financial mathematics. Topics include Brownian motion, geometric Brownian motion, quadratic variation, Riemann-Stieltjes and Ito integrals, Ito's formula, replication and risk-neutral pricing under the Black-Scholes economy, Black-Scholes partial differential equation, delta-hedging for multi asset derivatives, and valuation of cross currency options. Graduate students will be required to learn and implement additional computational techniques such as Monte Carlo or numerical solutions of partial differential equations resulting from option pricing problems. Higher expectations for graduate students will be established for assessments, including a graduate level project involving computational techniques.
This course is cross-level listed with AMS 4090. Credit cannot be received for both MCS 8090 and AMS 4090.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8110 ADVANCED STUDIES IN ARTIFICIAL INTELLIGENCE AND AUTOMATED REASONING
This course introduces general problem-solving methods associated with automated reasoning and simulated intelligence. Topics include problem abstraction, state space heuristic search theory, pathfinding, flocking behaviour, knowledge representation, propositional logic, reasoning with uncertainty, machine learning and connectionism. Graduate students are required to complete an additional project and report. This will be defined in consultation with the instructor to ensure the scope and assessment are sufficiently advanced to warrant graduate level credit.
This course is cross-level listed with CS 4110. Credit cannot be received for both MCS 8110 and CS 4110.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8120 MACHINE LEARNING AND DATA MINING
Machine learning is the study of mechanisms for acquiring knowledge from large data sets. This course examines techniques for detecting patterns in sets of uncategorized data. Supervised and unsupervised learning techniques are studied, with particular application to real-world data. A graduate-level project and report will be required with a focus on neural networks and an application of deep learning to a real world domain.
This course is cross-level listed with CS 4120. Credit cannot be received for both MCS 8120 and CS 4120.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8130 USER EXPERIENCE RESEARCH METHODS
This course will provide students with the grounding in human computer interaction/user experience research, providing the skills for both academic research and for careers in user research and interaction design and evaluation.

The aim of the course is to provide the students with a grounding in the principles and practice of the various research methods including: qualitative methods including content analysis, thematic analysis, grounded theory and observational studies; quantitative methods including experimental design and application of statistics to user data; and research governance including the ethical conduct of studies with the need for good data governance.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8240 EXPERIMENTAL DESIGN

This course builds upon the basis of inference to include statistical techniques commonly used in experimental studies. Students will study topics such as analysis of variance models, hypothesis testing in ANOVA models, randomization, and blocking techniques. Graduate students are required to complete an additional project and report. This will be defined in consultation with the instructor to ensure the scope and assessment are sufficiently advanced to warrant graduate level credit.
This course is cross-level listed with Stat 4240. Credit cannot be received for both MCS 8240 and Stat 4240.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8280 GENERALIZED LINEAR MODELS

This course covers the theory, methodology and applications of generalized linear models. Topics include logistic regression, probit regression, binomial regression, Poisson regression, overdispersion, quasi-likelihood, and the exponential family. Students will be required to use standard statistical software to analyze binary and count data. Graduate students will be required to demonstrate mastery of model building and assessment, parameter estimation, inference, and interpretation of findings from generalized linear models in a variety of settings inspired by real-world problems.
This course is cross-level listed with STAT 4280. Credit cannot be received for both MCS 8280 and STAT 4280.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8310 STATISTICAL SIMULATION

This course introduces statistical simulation, and its use as a tool to investigate stochastic phenomena and statistical methods. Topics include the building and validation of stochastic simulation models useful in computing, operations research, engineering and science; related design and estimation problems; variance reduction; and the implementation and the analysis of the results. Graduate students will be required to understand each topic to a greater depth than their undergraduate classmates and will additionally be expected to gain knowledge of Markov Chain Monte Carlo methods. These differentiated expectations will be assessed throughout the term, including a graduate level project on the simulation and applications of Brownian Motion, Stochastic Differential Equations, Markov Chain Monte Carlo methods or other advanced stochastic models or techniques.
This course is cross-level listed with STAT 4110. Credit cannot be received for both MCS 8310 and STAT 4110.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8340 ADVANCED TOPICS IN TIME SERIES

This course includes topics from Time Series Econometrics, including Maximum Likelihood and Least Squares Estimation of ARIMA Models and GARCH Models, Wavelets and Financial Models. Non-stationary Time Series, multivariate Time Series and panel cointegration analysis are also covered. Graduate students must demonstrate their deep understanding of the course material by completing a project in which they develop and assess an appropriate model capable of performing forecasting in a real-world setting.
This course is cross- level listed with STAT 4340. Credit cannot be received for both MCS 8340 and STAT 4340.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8410 STOCHASTIC PROCESSES

This course is an introduction to the branch of probability theory that deals with the analysis of systems that evolve

over time. Topics include random walks, Markov chains, Poisson processes, continuous time Markov chains, birth and death processes, exponential models, and applications of Markov chains. Graduate students will be expected to acquire additional knowledge on discrete time martingales and their applications. In all course assessments, the graduate students will be held to a higher standard, including a graduate level project on Hidden Markov Chains, Brownian Motion, convergence of probability measures or other advanced topics.
This course is cross-level listed with STAT 4410. Credit cannot be received for both MCS 8410 and STAT 4410.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8420 CRYPTOGRAPHY AND CODES

This course is a study of encoding and encryption algorithms, and their applications. Linearcodes, error detection, and error-correcting codes are introduced. Symmetric and asymmetric key encryption algorithms are studied and analyzed. Other topics include confidentiality, message authentication, public and private keys, digital signatures, and security. Graduate students will have more challenging assessments than undergraduates to reflect the higher level of mastery of the material that they are expected to achieve.
This course is cross-level listed with MCS 4420. Credit cannot be received for both MCS 8420 and MCS 4420.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8440 DATA SCIENCE

Data science is an interdisciplinary and emerging field where techniques from several fields are used to solve problems using data. This course provides an overview and hands-on training in data science, where students will learn to combine tools and techniques from computer science, statistics, data visualization and the social sciences. The course will focus on: 1) the process of moving from data collection to product, 2) tools for preparing, manipulating and analyzing data sets (big and small), 3) statistical modelling and machine learning, and 4) real world challenges. Graduate students are required to complete an additional project and report. This will be defined in consultation with the instructor to ensure the scope and assessment are sufficiently advanced to warrant graduate level credit.
This course is cross-level listed with CS 4440. Credit cannot be received for both MCS 8440 and CS 4440.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8520 MEASURE THEORY AND INTEGRATION

A first course in measure theory, covering measure as a generalization of length, outer measure, sigma-algebras, measurability, construction of measures, Lebesgue measure on the real line, measurable functions and the Lebesgue integral. Additional topics may include convergence theorems, product measures and Fubini Theorem. Graduate students will have more challenging assessments than undergraduates to reflect the higher level of mastery of the material that they are expected to achieve.
This course is cross-level listed with MATH 4520. Credit cannot be received for both MCS 8520 and MATH 4520.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8530 FUNCTIONAL ANALYSIS

This first course in functional analysis covers topics like: metric spaces, Banach spaces, function spaces, Hilbert spaces, generalized Fourier series and linear operators. Graduate students will have more challenging assessments than undergraduates to reflect the higher level of mastery of the material that they are expected to achieve.
This course is cross-level listed with MATH 4530. Credit cannot be received for both MCS 8530 and MATH 4530.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8550 DATA ANALYSIS AND INFERENCE

This course is an introduction to data analysis with a focus on regression. Topics include: initial examination of data, correlation, and simple and multiple regression models using least squares. Inference for regression parameters, confidence and prediction intervals, diagnostics and remedial measures interactions and dummy variables, variable

selection, least squares estimation and inference for non-linear regression will also be discussed. Graduate students will be expected to demonstrate a deep understanding of the course concepts by connecting these topics to ongoing research and developing, assessing, and drawing inference from appropriate models to answer open questions through the analysis of complex data sets.

This course is cross- level listed with STAT 4550. Credit cannot be received for both MCS 8550 and STAT 4550.

PREREQUISITE: Admission to a graduate program in Science

HOURS OF CREDIT: 3

MCS 8560 ADVANCED LOSS MODELS

This course is a study of the mathematics of survival models and includes some examples of parametric survival models. Topics include: tabular survival models, estimates from complete and incomplete data samples, parametric survival models, and determining the optimal parameters. Maximum likelihood estimators, derivation and properties, product limit estimators, Kaplan-Meier and Nelson-Aalen, credibility theory: limited fluctuation; Bayesian; Buhlmann; Buhlmann-Straub; empirical Bayes parameter estimation; statistical inference for loss models; maximum likelihood estimation; the effect of policy modifications; and model selection will also be discussed. Students will be expected to develop a thorough understanding through additional case study at a graduate level.

This course is cross-level listed with AMS 4550. Credit cannot be received for both MCS 8560 and AMS 4550.

PREREQUISITE: Admission to a graduate program in Science

HOURS OF CREDIT: 3

MCS 8610 ADVANCED PREDICTIVE ANALYTICS

This course provides students with the ability to employ selected analytic techniques to solve business problems and effectively communicate the solution. A thorough knowledge of probability, mathematical statistics, selected models and methods for analyzing data is assumed. This course covers topics such as predictive model building process in R; problem definition, data visualization, exploratory data analysis, identification of data issues and resolution, and initial model selection; model selection; model validation; communication of results and uncertainties; sample project and report. A particular focus will be placed on communication of technical results for business applications, data exploration and feature selection, and model selection and construction. Graduate students are required to complete an additional project and report. This will be defined in consultation with the instructor to ensure the scope and assessment are sufficiently advanced to warrant graduate level credit. This course is cross-level listed with AMS 4610. Credit cannot be received for both MCS 8610 and AMS 4610.

PREREQUISITE: Admission to a graduate program in Science

HOURS OF CREDIT: 3

MCS 8620 RING AND FIELD THEORY

This course covers advanced algebraic structures. Topics including: polynomial rings, matrix rings, ideals and homomorphisms, quotient rings, Euclidean domains, principal ideal domains, unique factorization domains, introduction to module theory, basic theory of field extensions, splitting fields and algebraic closures, finite fields, introduction to Galois theory. Graduate students will have more challenging assessments than undergraduates to reflect the higher level of mastery of the material that they are expected to achieve.

This course is cross-level listed with MATH 4620. Credit cannot be received for both MCS 8620 and MATH 4620.

PREREQUISITE: Admission to a graduate program in Science

HOURS OF CREDIT: 3

MCS 8660 DATA VISUALIZATION AND MINING

This course introduces students to the statistical methods involved in visualization of high dimensional data, including interactive methods directed at exploration and assessment of structure and dependencies in data. Topics include methods for finding groups in data including cluster analysis, dimension reduction methods including multi-dimensional scaling, pattern recognition, and smoothing techniques. Graduate students are required to complete an additional project and report. This will be defined in consultation with the instructor to ensure the scope and assessment are sufficiently advanced to warrant graduate level credit.

This course is cross-level listed with STAT 4660. Credit cannot be received for both MCS 8660 and STAT 4660.

PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8680 NONLINEAR OPTIMIZATION

This course is a study of unconstrained optimization, optimality conditions (necessary, sufficient and Karush-Kuhn-Tucker), penalty functions, convex functions, and convex programming. Upon completion, students should be able to formulate a variety of advanced continuous optimization problems; determine the appropriate solution technique or algorithm for a given problem; implement relevant algorithms and analyze their effectiveness. In addition, students should demonstrate a deep understanding of the mathematical theory behind algorithms and other solution techniques. This course is cross-level listed with AMS 4680. Credit cannot be received for both MCS 8680 and AMS 4680.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8710 PARTIAL DIFFERENTIAL EQUATIONS

This course is an introduction to the theory and application of partial differential equations. Topics include: first-order equations and characteristic curves; classification of second-order equations as parabolic, hyperbolic or elliptic; Laplace, wave and diffusion equations, and their physical origins; solution using Fourier series; and separation of variables. Graduate students are required to complete an additional project and report. This will be defined in consultation with the instructor to ensure the scope and assessment are sufficiently advanced to warrant graduate level credit.
This course is cross-level listed with MATH 4710. Credit cannot be received for both MCS 8710 and MATH 4710.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8720 DYNAMICAL SYSTEMS

This course is a study of the long-term qualitative behaviour of solutions of systems of differential or difference equations. Topics include: non-linear systems, linearization, numerical and graphical methods, equilibria, phase space, stability, bifurcations, strange attractors, and chaos. Applications to physics, biology and other sciences are studied. Graduate students are required to complete an additional project and report. This will be defined in consultation with the instructor to ensure the scope and assessment are sufficiently advanced to warrant graduate level credit.
This course is cross-level listed with MATH 4720. Credit cannot be received for both MCS 8720 and MATH 4720.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8740 MULTIVARIATE ANALYSIS

This course deals with the statistics of observation and analysis of more than one output variable. Topics include estimation and hypothesis testing for multivariate normal data, principal component analysis and factor analysis, discriminant analysis, cluster analysis, and correspondence analysis. Graduate students will be required to demonstrate mastery of the course topics through appropriate visualization, analysis, and interpretation of complex data sets selected to answer novel questions. This course is cross-level listed with Stat 4740. Credit cannot be received for both MCS 8740 and Stat 4740.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8810 SOFTWARE ENGINEERING

This course emphasizes the theory, methods and tools employed in developing medium to large-scale software which is usable, efficient, maintainable, and dependable. Project management is a major focus. Topics include traditional and agile process models, project costing, scheduling, team organization and management, requirements modelling/specification, software design, software verification and testing, and re-engineering. Graduate students are required to complete an additional project and report. This will be defined in consultation with the instructor to ensure the scope and assessment are sufficiently advanced to warrant graduate level credit.
This course is cross-level listed with CS 4810. Credit cannot be received for both MCS 8810 and CS 4810.

PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8820 ADVANCED TOPICS IN THE MATHEMATICAL AND COMPUTATIONAL SCIENCES

This course covers current advances and advanced topics in the Mathematical and Computational Sciences and is a thorough study of specific topics. It is offered to graduate students at the discretion of the School and covers areas of specialization not covered in other graduate courses. The course discusses recent advances in an area that is of interest to the students, but not directly related to the students' thesis research.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8900 SEMINAR IN THE MATHEMATICAL AND COMPUTATIONAL SCIENCES

Weekly seminars on a broad array of topics in the Mathematical and Computational Sciences, as well as instructional seminars on writing and presentation skills. Students are required to give semi-annual progress reports on their research project. Students are also required to research and present a seminar on a topic within their discipline, but unrelated to their own research project. Students are expected to participate in question-and-answer sessions that follow, and contribute to the general discourse. Students must register for this course each semester and receive a grade of "In Progress" until completion of their MSc program.
PREREQUISITE: Admission to MSc program in the Mathematical and Computational Sciences
HOURS OF CREDIT: 3

MCS 8910 DIRECTED STUDIES IN MATHEMATICAL AND COMPUTATIONAL SCIENCES

This course is a thorough study of a selected topic in the Mathematical and Computational Sciences. Entry to the course, and the course outline, are subject to the approval of the Supervisory Committee, and the Dean of Science. The course may include directed reading, directed research, and discussion with the instructor. The student may be required to prepare a written report and/or present a seminar in the area. Topics must not be directly related to the student's research project, although they may be in the same discipline.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MCS 8920 ADVANCED MATHEMATICAL AND COMPUTATIONAL MODELLING

Students will work in groups to formulate mathematical representations of real-world problems; solve the problems using a variety of advanced techniques from mathematics, statistics and computer science; implement and test their solution using the appropriate software; collect and analyze relevant data. Problems may come from science, business, or other areas depending on class interest. Students will give regular written and oral updates on their progress. A final report and presentation will include a review of relevant literature, analysis and solution of the assigned problems, and appropriate data visualizations.
PREREQUISITE: Admission to MSc program in the Mathematical and Computational Sciences
HOURS OF CREDIT: 3

## Faculty of Engineering

# SUSTAINABLE DESIGN ENGINEERING (SDE) COURSES

SDE 8000 THESIS
Registration of thesis
PREREQUISITE: Admission to the School of Sustainable Design Engineering
NOTE: No credit, but registration required.

SDE 8020 QUALITY CONTROL AND PROJECT MANAGEMENT

This course is an introduction to the most widely accepted project management practices in the workforce today. The

student will learn the industrially accepted techniques associated with the management of time, cost, risk, and scope in order to achieve total project stakeholder satisfaction. The goal in this course is to prepare students with the most efficient and effective project management practices by applying these techniques to their graduate research work, and in so doing greatly increase their likelihood of managing successful projects during their careers. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4020; credit cannot be received for both courses
PREREQUISITES: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

8021 CONTEMPORARY TOPICS IN ENGINEERING MANAGEMENT

This graduate-level course is an introduction to the most widely accepted engineering management practices in the workforce today. Through lectures, case studies, guest speakers, and facilitated discussion, students will develop managerial knowledge and skills and be exposed to a spectrum of corporate activities in the engineering environment. Topics presented in this course include strategic management of research and development, organizational management, knowledge, risk and IP management, new product development, globalization, ethics, project management in a technology-based organization. This course will focus on "management for future engineering leaders" and examine national guidelines, practice engineering team dynamics, apply quantitative quality and supply chain concepts, and present financial/accounting basics for engineers. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4021; credit cannot be received for both courses.
PREREQUISITES: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8030 CONTEMPORARY TOPICS IN SUSTAINABLE DESIGN ENGINEERING

In this course students will be exposed to and examine the concepts underlying sustainable design engineering as they pertain to engineering practice and in particular engineering research and the development of new technologies. Sustainable design engineering can be defined as an engineering design process which considers not only the key performance indicators and functional characteristics of the system being developed but also the environmental, social and economic context and impacts of the system. Recent advances in sustainability research have focused on the complex interactions between these areas, evolving from "green engineering" to a full consideration of sustainability. In order to develop sustainable solutions, engineers and researchers must be able to critically evaluate their work in this context. To this end, students will examine case studies and relevant readings on such topics as sustainability indicators, techno-economic and life cycle assessment, stakeholder engagement, real time technology assessment, engineering justice, and design for sustainability. While approaches for addressing the specific areas of environmental, social and economic sustainability will be covered, the focus of the course will be on the interactions between these areas. A key outcome of this course will be a paper critically examining the student's research topic from the perspective of sustainable design engineering. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4030; credit cannot be received for both courses.
PREREQUISITES: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8031 CONTEMPORARY TOPICS IN USER-CENTRED ENGINEERING DESIGN

User-centred design offers a powerful and systematic approach to understanding users and their needs and delivering effective design solutions in many domains including engineering, technology and health sciences. This course will introduce students to a variety of principles, practices and research methods for designing, developing and evaluating products, systems and solutions based on the users' needs, and context. Students will learn human factors, ergonomics, cognitive and perceptual psychology principles for designing products, information displays and complex systems. Students will be exposed to various subjective and objective metrics and methods for evaluations and usability studies. Students will also be introduced to apply user-centred design for developing sustainable products and systems. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4031; credit cannot be received for both courses.

PREREQUISITES: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8040 DESIGN OF EXPERIMENTS

This course focuses on the design, implementation, and analysis of engineering, scientific, and computer-based experiments. The course will examine the proper and scientific approach to experimentation, modeling, simulation, and analysis of data. Various designs are discussed and their respective advantages and disadvantages are noted. Factorial designs and sensitivity analysis will be studied in detail because of its relevance to various industries. Use of software for designing and analyzing experiments will also be used. For experiments that involved mainly physical quantities and natural phenomena, techniques of dimensional analysis will also be introduced. Graduate-level project will be required as defined in consultation with the instructor.

Cross-level listed with ENGN-4040; credit cannot be received for both courses.

PREREQUISITES: Admission to the graduate program in Faculty of Sustainable Design Engineering

HOURS OF CREDIT: 3

SDE 8050 ENGINEERING RESEARCH METHODS & EXPERIMENT DESIGN

This course will introduce students to the elements of a research project and will focus on quantitative research methodologies. Students will practice the planning, implementation, analysis, and documentation for a research project of their own design. Topics will include: performing a literature review, developing a hypothesis, creating a research plan, collecting data, analyzing the results, and compiling a research report. Students will use tools for quantitative data analysis and will explore reliability, validation, and verification concepts. Students will report findings in a technical presentation. The course encourages students to develop their research question and perform a sample experiment to apply lessons learned to their main research topic. Intellectual property rights and engineering ethics topics will be explored. Graduate-level project will be required as defined in consultation with the instructor.

Cross-level listed with ENGN-4050; credit cannot be received for both courses.

PREREQUISITE: Admission to the graduate program in Faculty of Sustainable Design Engineering

HOURS OF CREDIT: 3

SDE 8060 MODELING, CONTROL, AND DESIGN OF ENERGY SYSTEMS

This course focuses on the understanding of the physical processes underlying the energy conversion process from wind and solar energy. Students will have an advanced knowledge of aerodynamics and structural dynamics, and they will understand the main strategies used for controlling these machines over their complete operating range. A specific goal of the course is to provide students with a multidisciplinary vision on the physics of energy systems, and an understanding of the methods used for their modeling and simulation. A particular emphasis will be placed on design, and on the effects of design choices on the cost of energy. Graduate-level project will be required as defined in consultation with the instructor.

Cross-level listed with ENGN-4060; credit cannot be received for both courses.

PREREQUISITES: Admission to the graduate program in Faculty of Sustainable Design Engineering

HOURS OF CREDIT: 3

SDE 8061 OPTIMIZATION IN ENERGY INFRASTRUCTURE

The course aims to provide the knowledge about the application of various optimization methods in designing energy infrastructure. The course starts with the introduction to various optimization algorithms. Thereafter, the integration of energy modeling and simulation with optimization algorithms will be demonstrated. This course will also cover the optimization of distributed energy systems using single and multi-objective optimization methods. Several minor projects will be introduced to formulate the energy system optimization problem deciding design variables, objectives, and constraints. Graduate-level project will be required as defined in consultation with the instructor.

Cross-level listed with ENGN-4061; credit cannot be received for both courses.

PREREQUISITES: Admission to the graduate program in Faculty of Sustainable Design Engineering

HOURS OF CREDIT: 3

SDE 8062 SOLAR BUILDINGS AND NEIGHBORHOODS

The course is aimed to discuss the design considerations in designing solar buildings and neighborhoods. The course will start with the historical background of solar neighborhoods in modern and ancient history. Thereafter, passive solar design considerations in various small and large scale buildings will be discussed. Principles of solar design such as building site setting, building shape, building envelopes, active and passive based heating and cooling techniques will be introduced. The active electrical and thermal energy generation and storage strategies will be discussed. Energy modeling and simulation tools used for the assessment of solar access of various building will be demonstrated. Various case studies related to solar buildings and neighborhood will be taken for assignments. For the term project, incorporation of solar strategies for modifying existing Canadian buildings and neighborhoods will be assigned to groups of students. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4062; credit cannot be received for both courses.
PREREQUISITES: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8063 CONTEMPORARY TOPICS IN SUSTAINABLE ENERGY

This broadly applicable course discusses global energy usage and exposes students to current trends in local and global sustainable energy initiatives (i.e., energy generation and storage) and applications. Present and future global energy consumption and related CO2 emissions are considered and discussed. Students will be exposed to and analyze case studies as well as develop and design their own globally relevant solution concepts. Students will ultimately gain an enhanced, quantitative appreciation for the challenges and opportunities related to global energy system decarbonization. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4063; credit cannot be received for both courses.
PREREQUISITES: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8070 NOVEL ENGINEERED MATERIALS FOR SUSTAINABLE APPLICATIONS

This course is a graduate-level examination of the properties and processing of novel, engineered materials for sustainable applications. Fundamental concepts of solid-state diffusion, phase transformations, amorphous-to-crystalline kinetics, rapid solidification – for nuclear energy, more electric generation, renewable energy systems, additive manufacturing, modeling and simulation of the nanoscale will be discussed. As well, the relationships between the performance of electrical, optical, and magnetic devices and the microstructural and defect characteristics of the materials from which they are constructed will be explored. Focusing on functional materials for emerging technologies and emphasizing a device-design approach, applications will center around current research in the Faculty of Sustainable Design Engineering. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4070; credit cannot be received for both courses.
PREREQUISITES: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8080 INDUSTRIAL MACHINE VISION

This course focuses on computer vision with an emphasis on techniques for automated inspection, object recognition, mechanical metrology, and robotics. Image processing courses typically focus for image enhancement, restoration, filtering, smoothing, etc. These topics will be covered to a certain degree but the main focus will be on image segmentation, feature extraction, morphological operators, recognition and photogrammetry. Issues related to the efficient software implementation of these techniques for real-time applications will also be addressed. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4080; credit cannot be received for both courses.
PREREQUISITES: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8081 MODERN MECHATRONIC SYSTEMS

This course emphasizes how the abstract concepts of control theory and advanced design tools are used pragmatically

in engineering practice in the mechatronics field. This course explores current topics of modern mechatronics, from the application of complex systems through dimensionality reduction, machine learning, and dynamical systems modelling to innovative methods and algorithms such as augmented reality, medical image analysis, and automated mapping of environments. Above all, this course is designed to entice students to think, ask questions of existing theory, and understand the essence of mechatronics systems. To this end, students will develop and implement practical, hands-on-with-hardware applications of the control system analysis and design principles that are the subject matter of their research. The findings and results of this project will be presented in the format of a manuscript that incorporates the research methodology, their final product, and critical thinking over the mechatronic topic. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4081; credit cannot be received for both courses.
PREREQUISITES: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8100 BIOFUEL AND BIOMASS TECHNOLOGY
This course focuses on advanced concepts in understanding biofuels and bioenergy systems, renewable feedstocks, their production, availability and attributes for biofuel/bioenergy production, types of biomass derived fuels and energy, thermochemical conversion of biomass to heat, power and fuel, biochemical conversion of biomass to fuel environmental aspects of biofuel production, economics and life-cycle analysis of biofuel, and value adding of biofuel residues. Students will analyze, as well as prepare, case studies on biofuel production.
Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4100; credit cannot be received for both courses.
PREREQUISITE: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8101 ADVANCES IN BIORESOURCE ENGINEERING
The quest for food security, renewable energy, climate change and demand for sustainable fuels has increased focus on biomass conversion and technological interventions to cope with these challenges. This course covers advanced topics in bioresource engineering to acquire an understanding of sustainability challenges in bioresource sector and propose optimal climate smart solutions by implementing technologies and processes. The course is delivered in three complementary modules: i) deep learning and artificial intelligence for sustainable food production, ii) biofuels and biomaterials, and iii) the design of biomass conversion reactors. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4101; credit cannot be received for both courses.
PREREQUISITES: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8310 ADVANCED FABRICATION TECHNIQUES AND COMPUTER-INTEGRATED MANUFACTURING
This course concentrates on manufacturing knowledge with a focus on advanced fabrication techniques (AFT) and Computer Integrated Manufacturing (CIM). Students will expand their knowledge of traditional processes including CAD/CAM, forming, welding, milling, etc. leading into innovative advanced fabrication techniques in additive and precision manufacturing, next generation electronics, robotics and smart automation (CIM), and sustainable and green manufacturing modeling and simulation in the manufacturing process developed through lectures and labs. Integration of CIM into supply chain design and management is emphasized based on synergistic application of mechatronics approach and philosophy. Graduate-level project will be required as defined in consultation with the instructor. This course is not eligible for the PhD-SDE program.
Cross-level listed with ENGN 4310; credit cannot be received for both courses.
PREREQUISITES: Admission to the MSc SDE program and permission of the instructor
HOURS OF CREDIT: 3
Three hours of lecture and three hours of lab per week.

SDE 8320 CONTROL SYSTEM DESIGN

This course will provide students with an overview of system modelling and control methodologies of single/multiple input/output systems, e.g., energy transport control, reactor control, heat exchanger control, power production, and mechatronic systems. Students will learn classical control methods e.g., feedforward, feedbacks, cascade, decoupling to modern control methods, LQR, predictive control, optimal and robust control. Students will be equipped with knowledge and skills for analyzing stability, controllability and observability of state-space representation modelled systems. Graduate-level project will be required as defined in consultation with the instructor. This course is not eligible for the PhD-SDE program.

Cross-level listed with ENGN 4320; credit cannot be received for both courses.

PREREQUISITES: Admission to the MSc SDE program and permission of the instructor

Three hours of lecture and three hours of lab per week.

SDE 8330 INNOVATIONS IN BIOMEDICAL ENGINEERING

This course provides an overview of the subdisciplines that are included in field of biomedical engineering. Through a hands-on approach, the course introduces topics including biotransport, bioelectrical phenomena, bioinstrumentation, biomechanics, diagnostic devices, medical imaging, rehabilitation, biomaterials, tissue engineering, biosensors, lab-on-a-chip and micro- and nano-technology. The course also introduces the basics of medical device regulations and ethics of medical instrumentation. Students will gain an appreciation for the collaborative, interdisciplinary nature of engineering in medicine and its potential impact on society.

Graduate-level project will be required as defined in consultation with the instructor. This course is not eligible for the PhD-SDE program.

Cross-level listed with ENGN 4330; credit cannot be received for both courses.

PREREQUISITES: Admission to the MSc SDE program and permission of the instructor

Three hours of lecture and three hours of lab per week.

SDE 8350 ADVANCED ROBOTIC DYNAMICS AND CONTROL

This course advances the fundamentals of robotics through exposure to in-depth knowledge and understanding of kinematics, dynamics, control and trajectory with applications to autonomous vehicles, automated manufacturing and processing and mobile robotics. Areas of interest include: position transformation and control, rigid body motion, kinematic control, compliance and force control. Graduate-level project will be required as defined in consultation with the instructor. This course is not eligible for the PhD-SDE program.

Cross-level listed with ENGN 4350; credit cannot be received for both courses.

PREREQUISITES: Admission to the MSc SDE program and permission of the instructor

Three hours of lecture and three hours of lab per week

SDE 8370 FLUID POWER CONTROL

This course covers the analysis and design of basic hydraulic and pneumatic circuits and systems. Topics include a review of the fundamentals of fluid mechanics including flow through valves, fittings, and pipe; classification of hydrostatic pumps and motors; control valves; hydraulic accumulators; sizing of practical hydraulic circuits; thermal and energy considerations; electrohydraulic control and modeling of hydraulic control systems. The latter part of the course focuses on pneumatic systems including pneumatic cylinders and motors, control valves, and compressor technology. The application of Programmable Logic Controls (PLCs) to industrial automation and the sequential control of pneumatic actuators is also addressed. Graduate-level project will be required as defined in consultation with the instructor. This course is not eligible for the PhD-SDE program.

Cross-level listed with ENGN 4370; credit cannot be received for both courses.

PREREQUISITES: Admission to the MSc SDE program and permission of the instructor

Three hours of lecture and three hours of lab per week

SDE 8410 MACRO ENERGY SYSTEMS

This course covers methods for analyzing energy supply, conversion processes, and end-use at the system level. Aspects considered include the dynamics of energy supply and demand, efficiencies of energy conversion, characteristics of energy currencies, and energy needs across different sectors. Students will characterize methods of delivering energy services such as heat, light, industrial power and transportation. Energy analysis will be introduced and used to build a quantitative framework for integrating techno-economic analysis of energy system components, with emphasis on elements such as fossil fuels and nuclear power. Students will gain an enhanced, quantitative appreciation for the sustainability, emissions, cost and energy intensity aspects of energy services delivery. Graduate-level project will be required as defined in consultation with the instructor. This course is not eligible for the PhD-SDE program.
Cross-level listed with ENGN 4410; credit cannot be received for both courses.
PREREQUISITES: Admission to the MSc SDE program and permission of the instructor
Three hours of lecture and three hours of lab per week

SDE 8440 ADVANCED ENERGY STORAGE
This course considers advanced technical analysis of energy storage systems. A comprehensive overview of all industrially relevant energy storage systems is reviewed and emphasis is placed on promising energy storage technologies of the future. Chemical, thermal and kinetic storage technologies will be discussed in detail. Graduate-level project will be required as defined in consultation with the instructor. This course is not eligible for the PhD-SDE program.
Cross-level listed with ENGN 4440; credit cannot be received for both courses.
PREREQUISITES: Admission to the MSc SDE program and permission of the instructor
Three hours of lecture and three hours of lab per week

SDE 8450 FLUID LOADS ON ENERGY STRUCTURES
This course is an introduction to the loads applied on structures from wind, waves, and currents, and their heightened relevance to structures designed for energy conversion. Phenomena to be discussed include lift and drag, boundary layers, vortex-induced vibrations, wakes, hydrostatic loading, and water waves. A selection of engineering methods will be introduced and brought to bear on these topics, such as potential flow theory, blade-element theory, Airy wave theory and Morison's equation. Dimensional analysis will be introduced to characterize flow problems. Design implications will be discussed for a selection of relevant energy conversion structures such as aircraft wings, wind turbines, breakwaters, marine vessels, and offshore energy platforms. Graduate-level project will be required as defined in consultation with the instructor. This course is not eligible for the PhD-SDE program.
Cross-level listed with ENGN 4450; credit cannot be received for both courses.
PREREQUISITES: Admission to the MSc SDE program and permission of the instructor
Three hours of lecture and three hours of lab per week

SDE 8470 MICRO GRIDS
This course focuses on the concept, operation and optimization of renewable-energy-based micro-grids. Concepts introduced and considered include renewable energy resources, integration technologies, grid-connected operation, islanded grid operation, energy storage integration and the optimal dimensioning and mixing of multiple energy sources where some are stochastic in nature and some are dispatchable. Existing and future energy storage technologies will be also be discussed. This course is based on energy flow analysis and
makes extensive use of software simulation tools. Students will develop a framework for performing techno-economic assessments of micro-grid architectures and designs. A strong background in electrical power systems is not necessarily required. Graduate-level project will be required as defined in consultation with the instructor. This course is not eligible for the PhD-SDE program.
Cross-level listed with ENGN 4470; credit cannot be received for both courses.
PREREQUISITES: Admission to the MSc SDE program and permission of the instructor
Three hours of lecture and three hours of lab per week

SDE 8510 GEOINFORMATICS IN BIORESOURCES

This course covers the theory and practice of geoinformatics and their applications to problems in bioresources using digital mapping and spatial analysis. Hands on laboratories will provide students with an experience to collect georeferenced data using differential global positioning system, followed by mapping and analysis in geographical information system. Topics include datums, map projections and transformations, vector and raster data, geo-spatial analysis, geo-statistics and interpolation techniques. This course will also
cover the fundamentals of remote sensing, data collection with sensors, and spatial and temporal aspects of the bio-resources attributes. Graduate-level project will be required as defined in consultation with the instructor. This course is not eligible for the PhD-SDE program.

Cross-level listed with ENGN 4510; credit cannot be received for both courses.

PREREQUISITES: Admission to the MSc SDE program and permission of the instructor

Three hours of lecture and three hours of lab per week

SDE 8530 FUNDAMENTALS OF AGRICULTURE MACHINERY

This course highlights the fundamentals of mechanized agriculture machinery from soil preparation, planting, and crop management to mechanical harvesting. The machines and their unit operation are analyzed with respect functions, work rates, material flow and power usage. The machine performance relating to work quality and environmental effects will also be evaluated. The labs will emphasize on safety, basic maintenance, adjustment, calibrations of equipment and performance testing. This course also covers the variable rate applicators for site-specific application of inputs, auto guidance system, data acquisition and management for intelligent decision making for machines, and precision agriculture technologies. Graduate-level project will be required as defined in consultation with the instructor. This course is not eligible for the PhD-SDE program.

Cross-level listed with ENGN 4530; credit cannot be received for both courses.

PREREQUISITES: Admission to the MSc SDE program and permission of the instructor

Three hours of lecture and three hours of lab per week

SDE 8550 CHEMICAL AND BIOLOGICAL PROCESSES

Processes used in the chemical and biological industries, which emphasize underlying physical, chemical, and biological principles, will be introduced. By carrying out the mass and energy balances, students will conduct design and economic assessment of major chemical and biological engineering processes. Introduction to modelling of chemical processes will be covered in this course. Graduate-level project will be required as defined in consultation with the instructor. This course is not eligible for the PhD-SDE program.

Cross-level listed with ENGN 4550; credit cannot be received for both courses.

PREREQUISITES: Admission to the MSc SDE program and permission of the instructor

Three hours of lecture and three hours of lab per week

SDE 8810 DIRECTED STUDIES IN SUSTAINABLE DESIGN ENGINEERING

Under the supervision of a faculty member, a graduate student independently pursues an area of interest in depth. The course includes an extensive literature review of the specific discipline, directed research on the topic, or collection and analysis of data. The student may be required to present a written report and/or present a seminar in the area. Topics must not be a part of the student's thesis research although they may be in a complementary area. Course outlines must be approved by the supervisory committee, the department Chair, and the Dean of Science.

PREREQUISITE: Admission to the graduate program in Faculty of Sustainable Design Engineering and permission of supervisor

HOURS OF CREDIT: 3

SDE 8830 BIOMEDICAL SIGNAL PROCESSING

This course is an introduction to the basics of viewing, processing, and analyzing of biosignals, or signals originating from living beings. Biosignals may be characterized as bioelectrical signals which can be composed of both electrical

and non-electrical parts. Topics include both linear and nonlinear systems, signal conditioning or filtering, improving signal quality (signal-to-noise ratio) through averaging techniques, and signal representations in both the time and frequency domains. Graduate-level project will be required as defined in consultation with the instructor. This course is not eligible for the PhD-SDE program.
Cross-level listed with ENGN 4830; credit cannot be received for both courses.
PREREQUISITES: Admission to the MSc SDE program and permission of the instructor
Three lecture hours and three lab hours per week

SDE 8840 SUSTAINABLE TECHNOLOGY DEVELOPMENT AND COMMERCIALIZATION
This course engages students in technology development and commercialization. Teams of students work closely as startup companies to develop innovative and sustainable solutions to meet global challenges. Teams will be supported by instructors and industry mentors and will have access to dedicated incubator space, lab equipment and manufacturing facilities to complete their projects. Students further develop their entrepreneurial, professional and technical skills through completing the necessary steps to commercialize their new innovative technologies and products. The course will focus on learning and applying various aspects of validation, incubation and business strategy development including lean startup, design for commercialization, design for certification, manufacturing and distribution planning, investor relations, business growth planning and corporate sustainability. Graduate-level project will be required as defined in consultation with the instructor. This course is not eligible for the PhD-SDE program.
Cross-level listed with ENGN 4840; credit cannot be received for both courses.
PREREQUISITE: Admission to the MSc SDE graduate program and permission of the instructor
Three lecture hours per week

SDE 8900 SEMINAR
In this course students attend seminars on current topics in their research area of Sustainable Design Engineering and are expected to be seminar presenters. Techniques in preparing scientific communication (oral presentations and poster displays) are also covered.
PREREQUISITE: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

## FACULTY OF VETERINARY MEDICINE COURSES

Biomedical Sciences
Companion Animals
Health Management
Pathology & Microbiology

# BIOMEDICAL SCIENCES COURSES

VBS 8010 ELECTRON MICROSCOPY: PRINCIPLES, TECHNIQUES AND ULTRASTRUCTURAL ANALYSIS
This laboratory-oriented course introduces students to the principles and procedures required for the examination of structures with the transmission electron microscope (TEM) and scanning electron microscope (SEM) and the interpretation/analysis of ultrastructural features of cells and tissues.
PREREQUISITE: Permission of instructor.
HOURS OF CREDIT: 4
LECTURES: 3 hours
LABORATORIES: 4 hours

VBS 8030 PRINCIPLES OF BIOMEDICAL RESEARCH AND PROFESSIONAL SKILLS

This course provides graduate students in a biomedical field with general knowledge and principles of biomedical research and associated professional skills for various career paths. The lectures and tutorials cover topics like the scientific approach, experimental design, scientific writing, intellectual property, research ethics, preparing seminars, grant writing and other professional skills.

LECTURES/TUTORIALS: 3 hours

HOURS OF CREDIT: 3

VBS 8170 CURRENT TOPICS IN MARINE BIOTECHNOLOGY

This course deals with advanced topics in Marine Biotechnology. Topics include: marine microbiology, natural products biosynthesis, isolation and characterization of bioactive natural products, heterologous expression of biosynthetic genes, drug development, chemical ecology. The course will meet for three contact hours per week and will involve in-depth discussions of the relevant current literature.

PREREQUISITE: Chemistry 2410/2420 OR 2430 and permission of instructor; a course in biochemistry would be an asset but is not required.

LECTURE: 3 hours

LAB/TUTORIAL: 0

HOURS OF CREDIT: 3

VBS 8230 FUNDAMENTALS OF DEVELOPMENTAL BIOLOGY

This course is designed to enhance student knowledge of the basic concepts in developmental biology. Early development of vertebrates is discussed with emphasis on experimental and molecular analysis of developmental mechanisms.

HOURS OF CREDIT: 3

TUTORIAL: 3 hours

VBS 8240 ADVANCED TOPICS IN DEVELOPMENTAL BIOLOGY

This course focuses on recent advances in developmental biology. Topics are selected from the recent literature according to student interests and may include embryonic induction, regulation of morphogenesis and differentiation, mechanisms of regional specification and pattern formation.

PREREQUISITES: VBS 8230 or permission of the instructor

HOURS OF CREDIT: 2

TUTORIAL: 2 hours

VBS 8450 ADVANCED ENVIRONMENTAL TOXICOLOGY

This course provides in-depth analysis of environmental impacts of the major classes of contaminants including methodologies for environmental impacts assessment and monitoring. Effects of environmental contaminants are examined at the ecosystem, organismal, cellular, biochemical, and molecular levels. Additional emphasis is placed on understanding the fate of contaminants of concern in aquatic and terrestrial environments, environmental chemistry, biogeochemical cycles, and exposure and uptake pathways by organisms. The course consists of lectures, discussions of peer- reviewed literature, case studies, presentations by students, and laboratories.

PREREQUISITE: Permission of the instructor

LECTURE/LAB: 3

HOURS OF CREDIT: 3

VBS 8520 INTRODUCTION TO NEUROSCIENCE

This is a lecture/discussion course with supplemental laboratories and readings. Topics include introductions to neuroanatomy, neurophysiology and neuropharmacology of mammalian systems including current concepts in neuronal processing and integration.

PREREQUISITE: Undergraduate anatomy, physiology and pharmacology or equivalent and permission of instructor

HOURS OF CREDIT: 3
LECTURES: 1 hour
TUTORIALS: 2 hours

VBS 8630 PRINCIPLES OF CELL PHYSIOLOGY AND PHARMACOLOGY
This advanced course on pharmacological principles is based on an understanding of cell physiology. The course covers membrane properties and principles of receptor function relevant to cell physiology and pharmacology and includes cellular, biochemical, and molecular aspects of drug actions. Students present and discuss weekly readings.
PREREQUISITES: Undergraduate biochemistry and physiology and permission of instructor
HOURS OF CREDIT: 3
LECTURE: 1 hour
TUTORIAL: 2 hours

VBS 8760 BIOCHEMICAL TOXICOLOGY
This course provides students with an understanding of the chemical and biochemical basis of toxicology. The principles of toxicology are the general focus of the course, but system specific aspects are covered with an emphasis on mechanisms of toxicity. The course includes lectures, seminars and student presentations.
PREREQUISITES: A course on Cellular Basis of Physiology and Pharmacology or an undergraduate course in pharmacology or toxicology that is approved by the instructor
HOURS OF CREDIT: 3
LECTURE: 1.5 hours
TUTORIAL: 1.5 hours

VBS 8810-8820 DIRECTED STUDIES
This course is a thorough study of a selected problem or topic in the discipline. The course may include directed reading, directed research, or collection and analysis of data. The student will prepare a written report and present a seminar on the topic.
PREREQUISITE: Permission of instructor
HOURS OF CREDIT: 1-3

VBS 8900 SEMINAR
In this course students attend and present annual seminars on topics in their discipline, are evaluated on their seminars, and provide constructive criticism to others giving seminars in the course.
PREREQUISITE: Admission to Master of Science program
HOURS OF CREDIT: 1

VBS 8920 ADVANCES IN FISH PHYSIOLOGY
This is an advanced course covering a range of selected topics on fish form and function. Interaction of fish with their ecosystems is emphasized. Students are actively involved by presenting and discussing readings provided weekly. Each student presents a formal seminar on a selected topic at the conclusion of the course.
PREREQUISITE: Undergraduate courses in animal physiology (i.e. Bio 4020 or VBS 1210 and 1220, or equivalent) and permission of the instructor
HOURS OF CREDIT: 3
LECTURES: 1 hour

VBS 9900 SEMINAR
This is a seminar course in which students attend and present annual seminars on topics in their discipline, are evaluated on their seminars, and provide constructive criticism to others giving seminars in the course.
PREREQUISITE: Admission to PhD program
HOURS OF CREDIT: 1

# COMPANION ANIMALS COURSES

VCA 8110 ADVANCED MEDICINE OF URINARY, ENDOCRINE AND METABOLIC/ELECTROLYTE DISORDERS

This course is a detailed study of the physiology, pathophysiology, diagnosis, and management of urinary, endocrine and metabolic/electrolyte disorders of companion animals. Areas of current interest or controversy, as well as recent advances in knowledge and management are emphasized. Requirements for the course include critical evaluation of current literature and presentation of seminars on selected topics.

PREREQUISITE: Undergraduate courses in physiology, pathophysiology and medicine and permission of the instructor

HOURS OF CREDIT: 2

LECTURES: 2 hours

VCA 8120 CLINICS IN SMALL ANIMAL INTERNAL MEDICINE I

This course is given in the fall or winter and provides initial training in small animal internal medicine. Students interview owners, carry out physical examinations, perform diagnostic procedures, interpret diagnostic tests and diagnose and treat canine and feline patients under the close supervision of small animal medicine faculty. Although students will have primary case responsibility, it is expected that they will consult frequently with small animal medicine faculty and have close supervision when performing clinical or diagnostic procedures. Topics discussed in rounds include those related to preventive medicine, nutrition, gastroenterology, nephrology, urology, oncology, cardiology, neurology, pulmonology, infectious disease, emergency medicine and critical care, endocrinology, hematology and immunology. Students enrolled in this course are expected to participate in emergency duty.

PREREQUISITE: DVM or equivalent degree and successful admission into a small animal medicine residency training program in the Department of Companion Animals, AVC.

HOURS OF CREDIT: 3 (Credits based on at least 6 to 7 hours/week of teaching rounds/seminars)

VCA 8130 CLINICS IN SMALL ANIMAL INTERNAL MEDICINE II

This course is given in the fall or winter and provides further training in small animal internal medicine. Students interview owners, carry out physical examinations, perform diagnostic procedures, interpret diagnostic tests and diagnose and treat canine and feline patients under the close supervision of small animal medicine faculty. Students will have primary case responsibility and will consult often with small animal medicine faculty. Students will be supervised as required when performing clinical or diagnostic procedures. Topics discussed in rounds include those related to preventive medicine, nutrition, gastroenterology, nephrology, urology, oncology, cardiology, neurology, pulmonology, infectious disease, emergency medicine and critical care, endocrinology, hematology and immunology. Students enrolled in this course are expected to participate in emergency duty.

PREREQUISITE: DVM or equivalent degree and successful completion of Clinics in Small Animal Internal Medicine I

HOURS OF CREDIT: 3 (Credits based on at least 6 to 7 hours/week of teaching rounds/seminars)

VCA 8135 RECENT ADVANCES IN SMALL ANIMAL MEDICINE

This is a lecture/seminar course designed to review recent advances in internal medicine and the physiologic mechanisms underlying health and disease of small animals, at a level appropriate for an internal medicine MSc/MVSc-Residency program. The course will involve in-depth discussions of the relevant current literature or recently published texts. Considerable out-of-class preparation is required.

PREREQUISITES: DVM or equivalent, and permission of the instructor

HOURS OF CREDIT: 3

LECTURE/SEMINAR: 1 hour

VCA 8140 CLINICS IN ADVANCED SMALL ANIMAL INTERNAL MEDICINE I

This course is given in the fall or winter and provides advanced training in small animal internal medicine. Students interview owners, carry out physical examinations, perform diagnostic procedures, interpret diagnostic tests and diagnose and treat canine and feline patients under the supervision of small animal medicine faculty. Students will have primary case responsibility and consult with small animal medicine faculty on an as needed basis. Students will be supervised as required when performing

clinical or diagnostic procedures. Students will also be required to supervise teaching rounds on an occasional basis. Topics discussed in rounds include those related to preventive medicine, nutrition, gastroenterology, nephrology, urology, oncology, cardiology, neurology, pulmonology, infectious disease, emergency medicine and critical care, endocrinology, hematology and immunology. Students enrolled in this course are expected to participate in emergency duty.
PREREQUISITE: DVM or equivalent degree and successful completion of Clinics in Small Animal Internal Medicine I & II
HOURS OF CREDIT: 3 (Credits based on at least 6 to 7 hours/week of teaching rounds/seminars)

VCA 8150 CLINICS IN ADVANCED SMALL ANIMAL INTERNAL MEDICINE II
This course is given in the fall or winter and provides advanced training in small animal internal medicine. Students interview owners, carry out physical examinations, perform diagnostic procedures, interpret diagnostic tests and diagnose and treat canine and feline patients under the supervision of small animal medicine faculty. Students will have primary case responsibility and consult with small animal medicine faculty on an as needed basis. Students will be supervised as required when performing clinical or diagnostic procedures. Students will also be required to supervise teaching rounds on an occasional basis. Topics discussed in rounds include those related to preventive medicine, nutrition, gastroenterology, nephrology, urology, oncology, cardiology, neurology, pulmonology, infectious disease, emergency medicine and critical care, endocrinology, hematology and immunology. Students enrolled in this course are expected to participate in emergency duty.
PREREQUISITE: DVM or equivalent degree and successful completion of Clinics in Small Animal Internal Medicine I & II
HOURS OF CREDIT: 3 (Credits based on at least 6 to 7 hours/week of teaching rounds/seminars)
LECTURES: 2 hours

VCA 8160 ADVANCED SURGERY OF THE MUSCULOSKELETAL SYSTEM
This course provides advanced training in small animal surgery, including the pathophysiology of advanced musculoskeletal diseases of companion animals and advanced surgical treatments. Topics include fracture management, juvenile orthopaedic disease, osteoarthritis and management, joint replacement, ligament and tendon injuries, immune mediated muscular and joint diseases, orthopaedic surgical instrumentation, and biomaterials used in orthopaedic implants. Students use refereed journal articles and approved textbooks, and practise advanced surgical procedures using cadavers and models in the laboratory component.
PREREQUISITE: DVM or equivalent degree and permission of the instructor
HOURS OF CREDIT: 3 (credits based on 3 hours of classroom instruction per week and 9 hours of laboratory time)

VCA 8170 ADVANCED SURGERY OF THE NERVOUS SYSTEM AND REHABILITATION
This course provides advanced training in small animal surgery. Students are instructed in pathophysiology of advanced neurologic diseases of companion animals and advanced surgical and conservative treatment of these conditions. Topics include spinal fracture management, intervertebral disc disease, intracranial disease, immune mediated and infectious neurological diseases, neurological surgical instrumentation, and biomaterials used in neurosurgery. Students also discuss techniques and current theory regarding rehabilitation of neurologic animals and animals with musculoskeletal disease. Students use refereed journal articles and approved textbooks, and practise advanced surgical procedures using cadavers and models in the laboratory component.
PREREQUISITE: DVM or equivalent degree and permission of the instructor
HOURS OF CREDIT: 3 (credits based on 3 hours of classroom instruction per week and 9 hours of laboratory time)

VCA 8180 ADVANCED SURGERY OF THE CARDIOTHORACIC SYSTEM
This course provides advanced training in small animal surgery. Students are instructed in advanced surgical management of diseases involving the cardiovascular system, respiratory system, and thoracic cavity. Topics include pathophysiology of surgical diseases involving the cardiovascular system, respiratory system, and thoracic cavity; advanced surgical techniques to treat these diseases; and post-operative care and prognosis. Diseases covered include patent ductus arteriosus, pulmonary neoplasia, thoracic wall neoplasia and trauma, brachycephalic airway syndrome, laryngeal paralysis, and tracheal collapse. Students use refereed journal articles and approved textbooks, and practise advanced surgical procedures using cadavers and

models in the laboratory component.
PREREQUISITE: DVM or equivalent degree and permission of the instructor
HOURS OF CREDIT: 3 (credits based on 3 hours of classroom instruction per week and 9 hours of laboratory time)

VCA 8190 ADVANCED SURGERY OF THE UROGENITAL SYSTEM
This course provides advanced training in small animal surgery. Students are instructed in the pathophysiology of diseases of the urogenital system and surgical treatment of these diseases. Topics include pre-operative management of patients with renal insufficiency, and indications and surgical methods for diseases involving the kidneys, ureter, urinary bladder, urethra, and the male and female reproductive systems. Specific techniques for diagnostics are discussed, as well as specific instrumentation and biomaterials for treating diseases involving the urogenital system. Students use refereed journal articles and approved textbooks, and practise advanced surgical procedures using cadavers and models in the laboratory component.
PREREQUISITE: DVM or equivalent degree and permission of the instructor
HOURS OF CREDIT: 3 (credits based on 3 hours of classroom instruction per week and 9 hours of laboratory time)

VCA 8210 ADVANCED MEDICINE OF RESPIRATORY AND CARDIOVASCULAR DISORDERS AND CRITICAL CARE
This course is a detailed study of the physiology, pathophysiology, diagnosis, and management of respiratory and cardiovascular disorders of companion animals. Issues in critical care medicine are included. Areas of current interest or controversy, as well as recent advances in knowledge and management are emphasized. Requirements for the course include critical evaluation of current literature and presentation of seminars on selected topics.
PREREQUISITE: Undergraduate courses in physiology, pathophysiology and medicine and permission of the instructor
HOURS OF CREDIT: 2
LECTURES: 2 hours

VCA 8220 ADVANCED SURGERY OF THE GASTROINTESTINAL AND ENDOCRINE SYSTEMS
This course provides advanced training in small animal surgery. Students are instructed in the pathophysiology of diseases of the gastrointestinal and endocrine systems and surgical treatment of these diseases. Topics include gastric dilation volvulus; intestinal and gastric foreign bodies; intestinal and gastric neoplasia; persistent right aortic arch; abdominal wall and diaphragmatic hernias; diseases of the liver and gallbladder; diseases of the colon, thyroid, and parathyroid; and adrenal disease. Specific techniques for diagnostics are discussed, as well as specific instrumentation and biomaterials for treating diseases involving the gastrointestinal system. Students use refereed journal articles and approved textbooks, and practise advanced surgical procedures using cadavers and models in the laboratory component.
PREREQUISITE: DVM or equivalent degree and permission of the instructor
HOURS OF CREDIT: 3 (credits based on 3 hours of classroom instruction per week and 9 hours of laboratory time)

VCA 8222 CLINICS IN SMALL ANIMAL SURGERY I
This course is given in any academic semester based on student enrolment and provides initial training in small animal surgery. Students diagnose and treat canine and feline patients under the close supervision of small animal surgery faculty. Although students will have primary case responsibility, it is expected that they will consult frequently with small animal surgery faculty and have close supervision when performing diagnostic or surgical procedures. Topics discussed in rounds include those related to orthopedic, neurologic, oncologic and general soft tissue surgery with regards to pathophysiology of disease, diagnostic evaluation, surgical anatomy, surgical procedures and postoperative management. Students enrolled in this course are expected to participate in emergency duty.
PREREQUISITE: DVM or equivalent degree, acceptance as a graduate student in a clinical discipline, permission of instructor
HOURS OF CREDIT: 3 (Credits based on at least 6 to 7 hours/week of teaching rounds/seminars)
VCA 8223 CLINICS IN SMALL ANIMAL SURGERY II
This course is given in any academic semester based on student enrolment and provides further training in small animal surgery. Students diagnose and treat canine and feline patients under the close supervision of small animal

surgery faculty. Although students will have primary case responsibility, it is expected that they will consult frequently with small animal surgery faculty and have close supervision when performing diagnostic or surgical procedures. Topics discussed in rounds include those related to orthopedic, neurologic, oncologic and general soft tissue surgery with regards to pathophysiology of disease, diagnostic evaluation, surgical anatomy, surgical procedures and postoperative management. Students enrolled in this course are expected to participate in emergency duty.
PREREQUISITE: DVM or equivalent degree and successful completion of VCA 8222
HOURS OF CREDIT: 3 (Credits based on at least 6 to 7 hours/week of teaching rounds/seminars)

VCA 8224 CLINICS IN ADVANCED SMALL ANIMAL SURGERY I
This course is given in any academic semester based on student enrolment and provides advanced training in small animal surgery. Students interview owners, carry out physical examinations, perform diagnostic procedures, interpret diagnostic tests and diagnose and treat canine and feline patients under the supervision of small animal surgery faculty. Students will have primary case responsibility and consult with small animal surgery faculty on an as needed basis. Students will be supervised as required when performing diagnostic or surgical procedures. Students will also be required to supervise teaching rounds on an occasional basis. Topics discussed in rounds include those related to orthopedic, neurologic, oncologic and general soft tissue surgery with regards to pathophysiology of disease, diagnostic evaluation, surgical anatomy, surgical procedures and postoperative management. Students enrolled in this course are expected to participate in emergency duty.
PREREQUISITE: DVM or equivalent degree and successful completion of VCA 8222 and VCA 8223
HOURS OF CREDIT: 3 (Credits based on at least 6 to 7 hours/week of teaching rounds/seminars)

VCA 8225 CLINICS IN ADVANCED SMALL ANIMAL SURGERY II
This course is given in any academic semester based on student enrolment and provides further advanced training in small animal surgery. Students interview owners, carry out physical examinations, perform diagnostic procedures, interpret diagnostic tests and diagnose and treat canine and feline patients under the supervision of small animal surgery faculty. Students will have primary case responsibility and consult with small animal surgery faculty on an as needed basis. Students will be supervised as required when performing diagnostic or surgical procedures. Students will also be required to supervise teaching rounds on an occasional basis. Topics discussed in rounds include those related to orthopedic, neurologic, oncologic and general soft tissue surgery with regards to pathophysiology of disease, diagnostic evaluation, surgical anatomy, surgical procedures and postoperative management. Students enrolled in this course are expected to participate in emergency duty.
PREREQUISITE: DVM or equivalent degree and successful completion of VCA 8224
HOURS OF CREDIT: 3 (Credits based on at least 6 to 7 hours/week of teaching rounds/seminars)

VCA 8230 ADVANCED SURGICAL BIOLOGY, WOUND MANAGEMENT, AND EAR DISEASE
This course provides advanced training in small animal surgery. Students are instructed in advanced surgical pathophysiology of wounds and ear diseases, as well as advanced concepts regarding biomaterials, asepsis, and critical care for trauma and post-operative patients. Topics include wound healing and grafting, methods of sterilization and pathophysiology of shock, use of blood transfusion medicine antibiotics in surgical patients, and general surgical techniques. Students use refereed journal articles and approved textbooks, and practise advanced surgical procedures using cadavers and models in the laboratory component.
PREREQUISITE: DVM or equivalent degree and permission of the instructor
HOURS OF CREDIT: 3 (credits based on 3 hours of classroom instruction per week and 9 hours of laboratory time)

VCA 8240 ADVANCED MEDICINE OF NEUROMUSCULAR, JOINT, HEMATOPOIETIC, AND IMMUNE MEDIATED DISORDERS AND ONCOLOGY
This course is a detailed study of the physiology, pathophysiology, diagnosis, and management of neuromuscular, joint, hematopoietic, and immune mediated disorders of companion animals. Issues in medical oncology are included. Areas of current interest or controversy, as well as recent advances in knowledge and management, are emphasized. Requirements for the course include critical evaluation of current literature and presentation of seminars on selected topics.
PREREQUISITE: Undergraduate courses in physiology, pathophysiology, and medicine and permission of the instructor

HOURS OF CREDIT: 2
LECTURES: 2 hours

VCA 8250 CLINICS IN COMPANION ANIMAL SPECIALTY SERVICE
This course provides advanced training in companion animal available specialty services and is offered in any academic semester based on student enrolment. Under close supervision of diplomates (ACVAA, ACVIM – cardiology, ACVD, ACVR, other), students spend 4 weeks in specialty services at AVC. Using the problem-oriented approach, students examine patients, perform diagnostic procedures, interpret diagnostic tests, and anesthetize companion animal patients. Topics discussed in rounds include diagnostic and procedural techniques, anatomy, physiology, pharmacology, pathophysiology specific to the specialty service. Students receive formal mid-course and final evaluations. This course is graded Pass/Fail.
PREREQUISITE: DVM or equivalent degree, acceptance as a graduate student in a clinical discipline, permission of instructor
HOURS OF CREDIT: 1

VCA 8260 COMPANION ANIMAL CLINICAL PRACTICE I
This course provides advanced training in companion animal internal medicine, surgery, and companion animal community practice and is offered in any academic semester based on student enrolment. Under close supervision of diplomates (ACVIM, ACVS), students spend 8 weeks in companion animal clinical services at the AVC. Using the problem-oriented approach, students examine patients, perform diagnostic procedures, interpret diagnostic tests, and diagnose and treat companion animal patients. Topics discussed in rounds include surgical techniques, surgical anatomy, preventive medicine, infectious disease, diseases affecting performance, pharmacology, etc. Students receive formal mid-course and final evaluations. This course is graded Pass/Fail.
PREREQUISITE: DVM or equivalent degree, acceptance as a graduate student in a clinical discipline, permission of instructor
HOURS OF CREDIT: 2

VCA 8270 COMPANION ANIMAL CLINICAL PRACTICE II
This course provides additional advanced training in companion animal internal medicine, surgery, and companion animal community practice and is offered in any academic semester based on student enrolment. Under close supervision of diplomates (ACVIM, ACVS), students spend 12 weeks in companion animal clinical services at the AVC. Using the problem-oriented approach, students examine patients, perform diagnostic procedures, interpret diagnostic tests, and diagnose and treat companion animal patients. Topics discussed in rounds include surgical techniques, surgical anatomy, preventive medicine, infectious disease, diseases affecting performance, pharmacology, etc. Students receive formal mid-course and final evaluations. This course is graded Pass/Fail.
PREREQUISITE: DVM or equivalent degree, acceptance as a graduate student in a clinical discipline, permission of instructor
HOURS OF CREDIT: 3

VCA 8280 COMPANION ANIMAL CLINICAL PRACTICE III
This course provides additional advanced training in companion animal internal medicine, surgery, and companion animal community practice and is offered in any academic semester based on student enrolment. Under close supervision of diplomates (ACVIM, ACVS), students spend 12 weeks in companion animal clinical services at the AVC. Using the problem-oriented approach, students examine patients, perform diagnostic procedures, interpret diagnostic tests, and diagnose and treat companion animal patients. Topics discussed in rounds include surgical techniques, surgical anatomy, preventive medicine, infectious disease, diseases affecting performance, pharmacology, etc. Students receive formal mid-course and final evaluations. This course is graded Pass/Fail.
PREREQUISITE: DVM or equivalent degree, acceptance as a graduate student in a clinical discipline, permission of instructor
HOURS OF CREDIT: 3

VCA 8290 COMPANION ANIMAL TRIAGE AND EMERGENCY CARE
This course provides training in companion animal triage and emergency care and is offered in any academic semester based

on student enrolment. Under close supervision of diplomates (ACVIM, ACVS, AVCAA, ACVR), students spend 12 weeks in companion animal triage services at the AVC. Using the problem-oriented approach, students examine patients, perform diagnostic procedures, interpret diagnostic tests, and diagnose and treat companion animal patients in need of emergency and critical care. Students receive formal mid-course and final evaluations. This course is graded Pass/Fail.
PREREQUISITE: DVM or equivalent degree, acceptance as a graduate student in a clinical discipline, permission of instructor
HOURS OF CREDIT: 3

VCA 8310 ADVANCED MEDICINE OF GASTROINTESTINAL HEPATOBILIARY PANCREATIC AND INFECTIOUS DISORDERS AND NUTRITION
This course is a detailed study of the physiology, pathophysiology, diagnosis, and management of gastrointestinal, hepatobiliary, pancreatic and infectious disorders of companion animals. Issues in nutritional management of disease are included. Areas of current interest or controversy, as well as recent advances in knowledge and management are emphasized. Requirements for the course include critical evaluation of current literature and presentation of seminars on selected topics.
PREREQUISITE: Undergraduate courses in physiology, pathophysiology and medicine and permission of the instructor
HOURS OF CREDIT: 2
LECTURES: 2 hours

VCA 8320 ADVANCED COMPANION ANIMAL TOPICS
This fall semester lecture/seminar course reviews recent advances in companion animal internal medicine, surgery, and radiology at a level appropriate for interns. The course meets two times a week and includes a mix of instructor- and student-directed in-depth discussions of complicated clinical cases and relevant current literature in companion animal medicine, surgery and radiology. Students are evaluated on their case/paper selection, critical reading skills, presentation skills, and participation in discussions. Considerable out-of-class preparation is required. Students receive formal mid-course and final evaluations. This course is graded Pass/Fail.
PREREQUISITE: DVM or equivalent degree, acceptance as a graduate student in a clinical discipline, permission of instructor
HOURS OF CREDIT: 2
VCA 8330 CLINICAL CASE PRESENTATION AND PROJECT REPORT
In this course students present a seminar to the AVC community during the Clinical Conference course on a clinical case relevant to their discipline. Students must also attend presentations by others in this course. In addition, they must submit a written report on a topic of their choice (clinical case report, clinical investigation, prospective or retrospective case study, literature review, etc.) approved by their supervisor prior to the conclusion of their program. The report should make a contribution to the body of knowledge in the candidate's field. Publication in a refereed journal is encouraged but not required. Students are assessed utilizing standardized rubrics for the two course components. This course is graded Pass/Fail.
PREREQUISITE: DVM or equivalent degree, acceptance as a graduate student in a clinical discipline, permission of instructor
HOURS OF CREDIT: 2
VCA 8333 RECENT ADVANCES IN ZOOLOGICAL MEDICINE I
This is a lecture/seminar course designed to review recent advances in zoological medicine and the physiologic mechanisms underlying health and disease of zoo, exotics, and wildlife species, at a level appropriate for a zoological medicine MSc/MVSc or Residency program. The course will meet for one contact hour per week for the fall and winter semesters, and the first summer session, and will involve in-depth discussions of the relevant current literature or recently published texts. Considerable out-of-class preparation is required.
This course is graded Pass/Fail.
PREREQUISITE: DVM or equivalent degree and permission of instructor
HOURS OF CREDIT: 1
LECTURE/SEMINAR: 1 hour per week
VCA 8334 RECENT ADVANCES IN ZOOLOGICAL MEDICINE II
This is an advanced lecture/seminar course designed to review recent advances in zoological medicine and the physiologic mechanisms underlying health and disease of zoo, exotics, and wildlife species, at a level appropriate for a

zoological medicine MSc/MVSc or Residency program. The course will meet for one contact hour per week for the fall and winter semesters, and the first summer session, and will involve in-depth discussions of the relevant current literature or recently published texts. This course will build upon material covered in VCA 8333 Recent Advances in Zoological Medicine I and is directed at preparation for the American College of Zoological Medicine board exam. Considerable out-of-class preparation is required.
This course is graded Pass/Fail.
PREREQUISITE: DVM, or equivalent degree, VCA 8333, permission of instructor
HOURS OF CREDIT: 3
LECTURE/SEMINAR: 1 hour per week

VCA 8335 TOPICS IN VETERINARY DIAGNOSTIC IMAGING I
This course is given in any academic semester based on student enrolment and provides students with opportunities to further their professional & research-related skills. Students in this course will provide one lecture pertaining to veterinary diagnostic imaging during the regular Grand Rounds lecture series. An additional special topics lecture related to veterinary diagnostic imaging will be performed for the diagnostic imaging faculty. The student will have an opportunity to receive critical feedback on presentation skills. This course is the first of a series based on gradual increasing case load required over multiple semesters. The student will also engage in scientific writing activity, with the support of a diagnostic imaging faculty, and will produce a manuscript for publication in a peer-reviewed journal. (one per series of courses).
PREREQUISITE: DVM or equivalent degree and permission of instructor
HOURS OF CREDIT: 1
Note: Intended for graduate students in a clinical discipline.
VCA 8336 TOPICS IN VETERINARY DIAGNOSTIC IMAGING II
This course is given in any academic semester based on student enrolment and provides students with opportunities to further their professional & research-related skills. Students in this course will provide one lecture pertaining to veterinary diagnostic imaging during the regular Grand Rounds lecture series. An additional special topics lecture related to veterinary diagnostic imaging will be performed for the diagnostic imaging faculty. The student will have an opportunity to receive critical feedback on presentation skills. This course is part of a series based on gradual accumulation of case material required over multiple semesters. The student will also engage in scientific writing activity, with the support of a diagnostic imaging faculty, and will produce a manuscript for publication in a peer-reviewed journal at the conclusion of the course series.
PREREQUISITE: DVM or equivalent degree and VCA 8335 and permission of instructor
HOURS OF CREDIT: 1
Note: Intended for graduate students in a clinical discipline.

VCA 8337 TOPICS IN VETERINARY DIAGNOSTIC IMAGING III
This course is given in any academic semester based on student enrolment and provides students with opportunities to further their professional & research-related skills. Students in this course will provide one lecture pertaining to veterinary diagnostic imaging during the regular Grand Rounds lecture series. An additional special topics lecture related to veterinary diagnostic imaging will be performed for the diagnostic imaging faculty. The student will have an opportunity to receive critical feedback on presentation skills. This course is part of a series based on gradual accumulation of case material required over multiple semesters. The student will also engage in scientific writing activity, with the support of a diagnostic imaging faculty, and will produce a manuscript for publication in a peer-reviewed journal at the conclusion of the course series.
PREREQUISITE: DVM or equivalent degree and VCA 8336 and permission of instructor
HOURS OF CREDIT: 1
Note: Intended for graduate students in a clinical discipline.
VCA 8338 TOPICS IN VETERINARY DIAGNOSTIC IMAGING IV

This course is given in any academic semester based on student enrolment and provides students with opportunities to further their professional & research-related skills. Students in this course will provide one lecture pertaining to veterinary diagnostic imaging during the regular Grand Rounds lecture series. An additional special topics lecture related to veterinary diagnostic imaging will be performed for the diagnostic imaging faculty. The student will have an opportunity to receive critical feedback on presentation skills. This course is part of a series based on gradual accumulation of case material required over multiple semesters. The student will also engage in scientific writing activity, with the support of a diagnostic imaging faculty, and will produce a manuscript for publication in a peer-reviewed journal at the conclusion of the course series.
PREREQUISITE: DVM or equivalent degree and VCA 8337 and permission of instructor
HOURS OF CREDIT: 1
Note: Intended for graduate students in a clinical discipline.

VCA 8410 GRADUATE ANAESTHESIOLOGY I: APPLIED PHYSIOLOGY

This course is a detailed study of the physiology and pathophysiology of different body systems as they relate to the clinical practice of veterinary anaesthesiology. Reviewed are neural, cardiovascular, respiratory, gastrointestinal, hepatic, renal, and neuromuscular physiology, as well as body fluid composition and haemostasis. This course emphasizes clinically relevant aspects of the physiology and pathophysiology of different body systems and relates these aspects to the anaesthetic management of both small and large animals. The course is taught in a two-hour weekly seminar format using videoconference links between anaesthesiology faculty and graduate students at the Atlantic Veterinary College and other Canadian veterinary colleges.
PREREQUISITE: DVM or equivalent degree and permission of the instructor
LECTURES: 2 hours
HOURS OF CREDIT: 2

VCA 8420 GRADUATE ANAESTHESIOLOGY II: APPLIED PHARMACOLOGY

This course is a detailed study of the pharmacology of different classes of anaesthetic and analgesic drugs as they relate to the clinical practice of veterinary anaesthesiology. Reviewed are the pharmacokinetics and pharmacodynamics of sedatives, analgesics, injectable and inhalant anaesthetics, local anaesthetics, and muscle relaxants, as well as autonomic and anti-inflammatory drugs. This course emphasizes clinically relevant aspects of the pharmacology of different classes of anaesthetic and analgesic drugs and relate these aspects to the anaesthetic management of both small and large animals. The course is taught in a two-hour weekly seminar format using videoconference links between anaesthesiology faculty and graduate students at the Atlantic Veterinary College and other Canadian veterinary colleges.
PREREQUISITE: DVM or equivalent degree
LECTURES: 2 hours
HOURS OF CREDIT: 2

VCA 8425 ZOOLOGICAL CLINICAL MEDICINE I

This course provides advanced training in zoological medicine and is offered in any academic semester based on student enrolment. Under close supervision of a DACZM diplomate, students spend 8 weeks in zoo, exotic, and wildlife clinical services at the AVC. Students may spend some of this time under the supervision of other diplomates (ACVIM, ACVS) learning complimentary and comparative medicine in other companion animals. Using the problem-oriented approach, students examine patients, perform diagnostic procedures, interpret diagnostic tests, and diagnose and treat patients. Topics discussed in rounds include medical and surgical techniques, anatomy, preventive medicine, infectious disease, husbandry, pharmacology, etc.
This course is graded Pass/Fail.
PREREQUISITE: DVM, or equivalent, and permission of the instructor.
HOURS OF CREDIT: 2
NOTE: Clinical rotation for interns.

VCA 8426 ZOOLOGICAL CLINICAL MEDICINE II

This course provides advanced training in zoological medicine & is offered in any academic semester based on student enrolment. Under close supervision of a DACZM diplomate, students spend 12 weeks in zoo, exotic & wildlife clinical

services at the AVC. Students may spend some of this time under the supervision of other diplomates (ACVIM, ACVS) learning complimentary & comparative medicine in other companion animals. Using the problem-oriented approach, students examine patients, perform diagnostic procedures, interpret diagnostic tests & diagnose and treat patients. Topics discussed in rounds include medical & surgical techniques, anatomy, preventive medicine, infectious disease, husbandry, pharmacology, etc. This course will be offered in a different semester than ZCM I & ZCM III and will provide exposure to, and training on, different species and clinical presentations based on seasonal and time of year differences.
This course is graded Pass/Fail.
PREREQUISITE: DVM, or equivalent, and permission of the instructor.
HOURS OF CREDIT: 3
NOTE: Clinical rotation for interns.

VCA 8427 ZOOLOGICAL CLINICAL MEDICINE III

This course provides advanced training in zoological medicine & is offered in any academic semester based on student enrolment. Under close supervision of a DACZM diplomate, students spend 12 weeks in zoo, exotic & wildlife clinical services at the AVC. Students may spend some of this time under the supervision of other diplomates (ACVIM, ACVS) learning complimentary & comparative medicine in other companion animals. Using the problem-oriented approach, students examine patients, perform diagnostic procedures, interpret diagnostic tests & diagnose and treat patients. Topics discussed in rounds include medical & surgical techniques, anatomy, preventive medicine, infectious disease, husbandry, pharmacology, etc. This course will be offered in a different semester than ZCM I & ZCM II and will provide exposure to, and training on, different species and clinical presentations based on seasonal and time of year differences.
This course is graded Pass/Fail.
PREREQUISITE: DVM, or equivalent, and permission of the instructor.
HOURS OF CREDIT: 3
NOTE: Clinical rotation for interns.

VCA 8430 GRADUATE ANAESTHESIOLOGY III: CLINICAL ANESTHESIOLOGY

This course is a detailed study of the anaesthetic management of patients with disease of different body systems, as well as selected patients and procedures. This course emphasizes clinically relevant aspects of the pathophysiology of different disease processes in both small and large animals. The course is taught in a two-hour weekly seminar format using videoconference links between anaesthesiology faculty and graduate students at the Atlantic Veterinary College and other Canadian veterinary colleges.
PREREQUISITE: DVM or equivalent degree and permission of the instructor
LECTURES: 2 hours
HOURS OF CREDIT: 2

VCA 8440 CLINICS IN DIAGNOSTIC IMAGING I

This course provides initial training in veterinary diagnostic imaging. Students will observe, perform, and dictate routine diagnostic imaging studies with particular emphasis given to routine radiography and ultrasonography. Dictation will be supervised by faculty. Students will evaluate appropriateness of diagnostic imaging clinical studies on an individual case basis. They will provide quality assurance of examinations with guidance by the diagnostic imaging faculty. Topics discussed: Positioning and quality control of routine radiographic small, large, and exotic imaging studies; proper dictation techniques, ultrasonographic applications, techniques, and interpretation principles; radiation safety. Students will be expected to provide some emergency duty for the diagnostic imaging service.
PREREQUISITE: DVM or equivalent degree and permission of the instructor
HOURS OF CREDIT: 3

VCA 8450 CLINICS IN DIAGNOSTIC IMAGING II

This course provides continued training in veterinary diagnostic imaging. Students will perform and dictate routine diagnostic imaging studies with particular emphasis given to routine radiography and ultrasonography. This course also serves as an introduction to Computed Tomography, Magnetic Resonance Imaging, and Nuclear Scintigraphy. Students will observe, perform, and dictate studies in these modalities. Dictation will be supervised by faculty. Students will evaluate appropriateness of diagnostic imaging clinical studies on an individual case basis. They will provide quality assurance of all modalities with guidance by the diagnostic imaging faculty. Topics discussed: Positioning and quality control of Computed Tomography, Magnetic Resonance Imaging, and Nuclear Scintigraphy; proper dictation techniques, Computed Tomography, Magnetic Resonance Imaging, and Nuclear Scintigraphy applications, techniques and interpretation principles; imaging artifacts, special procedures. Students will be expected to provide some emergency duty for the diagnostic imaging service.
PREREQUISITE: DVM or equivalent degree and VCA 8440
HOURS OF CREDIT: 3

VCA 8452 CLINICS IN DIAGNOSTIC IMAGING III
This course is given in any academic semester based on student enrolment & provides training in clinical veterinary diagnostic imaging. Students in this course will work under the direction of the radiologist on clinical duty, developing interpretation skills in diagnostic radiography of the thorax, abdomen & musculoskeletal systems. The student will also be introduced to diagnostic ultrasound and will learn basic skills of abdominal ultrasonography. Report writing skills will also be emphasized. Students will participate in Journal Club/Chapter Reading activities, as well as rounds with clinical year undergraduate veterinary students. Specified non-clinical weeks will support the development of clinical skills. After hours duties may be expected.
PREREQUISITE: DVM or equivalent degree and VCA 8450 and permission of the instructor
HOURS OF CREDIT: 3 (Credits based on at least 6 to 7 hours/week of teaching rounds/seminars).
Note: Intended for graduate students in a clinical discipline.

VCA 8453 CLINICS IN DIAGNOSTIC IMAGING IV
This course is given in any academic semester based on student enrolment and provides further training in clinical veterinary diagnostic imaging. Students in this course will work under the direction of the radiologist on clinical duty, further developing their interpretation skills in diagnostic radiography. The student will continue to perform preliminary diagnostic ultrasound studies of the abdomen and will be introduced to other studies including thoracic and musculoskeletal ultrasonography. Report writing skills will continue to be emphasized. Students will participate in Journal Club/Chapter Reading activities, as well as rounds with clinical year undergraduate veterinary students. Specified non-clinical weeks will support the development of clinical skills. After hours duties may be expected.
PREREQUISITE: DVM or equivalent degree and VCA 8452 and permission of the instructor
HOURS OF CREDIT: 3 (Credits based on at least 6 to 7 hours/week of teaching rounds/seminars).
Note: Intended for graduate students in a clinical discipline.

VCA 8460 ALTERNATIVE IMAGING – TECHNIQUES AND APPLICATIONS
This course is a detailed study of alternative imaging techniques used in veterinary medicine. Topics included: Ultrasonography, Computed Tomography, Magnetic Resonance Imaging, Nuclear Scintigraphy to include methods of image formation and display, imaging principles, with particular emphasis given to clinical applications (indications, equipment/instrumentation, common artifacts, scanning protocols, principles of interpretation, and appearance of various diseases with the various modalities).
PREREQUISITE: DVM or equivalent degree and permission of the instructor
HOURS OF CREDIT: 3
LECTURES: 2 hours

VCA 8470 MINIMALLY INVASIVE & INTERVENTIONAL SURGERY
This course provides advanced training in small animal minimally invasive and interventional surgery. Students are instructed in the pathophysiology of surgical diseases of the musculoskeletal system, respiratory, vascular, gastrointestinal, endocrine, and urogenital systems in relation to minimally invasive and interventional techniques. Preoperative diagnostic evaluation, surgical techniques and postoperative case management will be discussed in

relation to the pathophysiology of disease. Students will be expected to use refereed journal articles and approved textbooks throughout this course. Advanced surgical procedures will be performed using cadavers and models in the laboratory component.
PREREQUISITE: DVM or equivalent degree and permission of the instructor
HOURS OF CREDIT: 3 (Credits based on 3 hours of classroom/clinical instruction per week and 9 hours of laboratory time).

VCA 8510 ANATOMY AND PHYSICS OF DIAGNOSTIC IMAGING
This course will provide the student with an in-depth review of radiographic, ultrasonographic and cross-sectional anatomy, as well as basic physics uses in diagnostic imaging. Topics presented include: current anatomic nomenclature, radiographic anatomy of the axial and appendicular musculoskeletal system, cardiovascular system, nervous system, digestive system and urogenital system, as well as athrology, comparative anatomy, and embryology. All of the aforementioned topics will be in regards to radiographic, sonographic, and cross-sectional anatomy. Production and physical properties of X-rays, equipment and accessories, darkroom, computed and digital radiography, radiographic quality, artifacts, and technique chart formation.
PREREQUISITE: Undergraduate courses in anatomy and permission of the instructor
HOURS OF CREDIT: 2
LECTURES: 3 hours

VCA 8520 CLINICS IN ADVANCED DIAGNOSTIC IMAGING I
This course provides advanced training in all currently used diagnostic imaging modalities. The student will be expected to provide quality assurance of all imaging examinations with guidance from faculty as needed. The student will dictate most imaging studies in consultation with the imaging faculty. Topics discussed: interpretation of various disease processes diagnosed by any imaging modality. Students will be expected to provide some emergency duty for the diagnostic imaging service.
PREREQUISITE: DVM or equivalent degree and VCA 8440 and 8450
HOURS OF CREDIT: 3

VCA 8530 CLINICS IN ADVANCED DIAGNOSTIC IMAGING II
This course provides continued advanced training in all currently used diagnostic imaging modalities. The student will be expected to provide quality assurance of all imaging examinations. The student will dictate most imaging studies in consultation with the imaging faculty. Topics discussed: in-depth discussions of various disease processes diagnosed by any imaging modality. Students will be expected to provide some emergency duty for the diagnostic imaging service.
PREREQUISITE: DVM or equivalent degree and VCA 8520
HOURS OF CREDIT: 3

VCA 8532 CLINICS IN ADVANCED DIAGNOSTIC IMAGING III
This course is given in any academic semester based on student enrolment and provides further training in clinical veterinary diagnostic imaging. Students in this course will work under the clinical duty radiologist, further developing their interpretation skills in diagnostic radiography, as well as ultrasound skills. The student may assist with special procedures cases, if applicable. Progression in report writing skills will be expected. Students will be introduced to computed tomography in this course. Regular participation in Journal Club/Chapter Reading activities is expected, as is participation in rounds with clinical year undergraduate veterinary students. Specified non-clinical weeks will support the development of clinical skills. After hours duties may be expected.
PREREQUISITE: DVM or equivalent degree and VCA 8530 and permission of instructor
HOURS OF CREDIT: 3 (Credits based on at least 6 to 7 hours/week of teaching rounds/seminars)

VCA 8533 CLINICS IN ADVANCED DIAGNOSTIC IMAGING IV
This course is given in any academic semester based on student enrolment and provides more advanced training in

clinical veterinary diagnostic imaging. Students in this course will work under the clinical duty radiologist, further developing their interpretation and technical skills in diagnostic radiography, diagnostic ultrasound, special procedures and computed tomography. Progression in report writing skills will be expected. Students will be introduced to magnetic resonance imaging in this course. Regular participation in Journal Club/Chapter Reading activities is expected, as is participation in rounds with clinical year undergraduate veterinary students. Specified non-clinical weeks will support the development of clinical skills. After hours duties may be expected.
PREREQUISITE: DVM or equivalent degree and VCA 8532 and permission of instructor
HOURS OF CREDIT: 3 (Credits based on at least 6 to 7 hours/week of teaching rounds/seminars)

VCA 8540 DIAGNOSTIC IMAGING – SPECIAL PROCEDURES

This course will provide the student with alternative imaging methods and diagnostic tests that may complement or supercede plain film radiography. Indications, contra- indications, technical aspects, standard imaging protocols (including positioning), and principles of interpretation of various imaging studies will be presented. Specific topics presented include: contrast media, esophagography, upper GI series, gastrography, colonography, excretory urography, cystography, urethrography, vaginourethrography, myelography, angiocardiography, venography, lymphangiography, valvuloplasty, valvular embolization techniques, arthrography, fistulography, stress radiography, peritoneography, and stress radiographic techniques.
PREREQUISITE: DVM or equivalent degree and permission of the instructor
HOURS OF CREDIT: 3
LECTURES: 2 hours

VCA 8550 PATHOPHYSIOLOGY, RADIATION BIOLOGY, SAFETY AND ARTIFACTS

This course provides a detailed study of physiology/pathophysiology as it relates to various veterinary diseases, as well as an introduction to radiation biology, safety, and artifacts. Specific topics include: Physiology and pathophysiology of specific organ systems: Alimentary, cardiovascular, central nervous system, musculoskeletal system, respiratory system, urogenital system, endocrine system. Radiation biology, oncology/tumor biology, radiation monitoring, and radiation protection.
PREREQUISITE: DVM or equivalent degree and permission of the instructor.
HOURS OF CREDIT: 2
LECTURES: 3 hours

VCA 8551 PATHOPHYSIOLOGY AND SURGICAL MANAGEMENT OF SOFT TISSUE DISEASES

This course provides advanced training in small animal surgery. Students are instructed in the pathophysiology of surgical diseases of the thoracic and abdominal cavities including respiratory, cardiovascular, gastrointestinal, endocrine, urogenital and dermatologic systems. Preoperative diagnostic evaluation, surgical techniques and postoperative case management will be discussed in relation to the pathophysiology of disease. Students will be expected to use refereed journal articles and approved textbooks throughout this course. Advanced surgical procedures will be performed using cadavers and models in the laboratory component.
PREREQUISITE: DVM or equivalent degree and permission of the instructor
HOURS OF CREDIT: 3 (Credits based on 3 hours of classroom/clinical instruction per week and 9 hours of laboratory time).

VCA 8552 PATHOPHYSIOLOGY AND SURGICAL MANAGEMENT OF ONCOLOGIC DISEASES

This course provides advanced training in small animal surgery. Students are instructed in the pathophysiology of surgical oncologic diseases of the musculoskeletal system, respiratory, cardiovascular, gastrointestinal, endocrine, urogenital and dermatologic systems. Preoperative diagnostic evaluation, surgical techniques and postoperative case management will be discussed in relation to the pathophysiology of disease. Students will be expected to use refereed journal articles and approved textbooks throughout this course. Advanced surgical procedures will be performed using cadavers and models in the laboratory component.
PREREQUISITE: DVM or equivalent degree and permission of the instructor
HOURS OF CREDIT: 3 (Credits based on 3 hours of classroom/clinical instruction per week and 9 hours of laboratory time).

VCA 8600 RESEARCH PROJECT (MVSc Program)

Each student in the MVSc program is required, under the supervision of a graduate faculty committee, to satisfactorily complete a research project. The project may be based on either a clinical investigation or a special topic such as a prospective or retrospective case study. The project report should make some contribution to the body of knowledge in that field and it should lead to a paper suitable for publication in a refereed journal.
PREREQUISITE: DVM or equivalent degree and successful admission into a small animal medicine residency training program in the Department of Companion Animals, AVC.
HOURS OF CREDIT: 6

VCA 8810–8820 DIRECTED STUDIES
This course is a thorough study of a selected problem or topic in the discipline. The course may include directed reading, directed research, or collection and analysis of data. The student will prepare a written report and present a seminar on the topic.
PREREQUISITE: Permission of instructor
HOURS OF CREDIT: 1–3

VCA 8900 SEMINAR
In this course students attend and present annual seminars on topics in their discipline, are evaluated on their seminars, and provide constructive criticism to others giving seminars in the course.
PREREQUISITE: Admission to Master of Science program
HOURS OF CREDIT: 1

VCA 9900 SEMINAR
This is a seminar course in which students attend and present annual seminars on topics in their discipline, are evaluated on their seminars, and provide constructive criticism to others giving seminars in the course.
PREREQUISITE: Admission to PhD program
HOURS OF CREDIT: 1

## HEALTH MANAGEMENT COURSES

VHM 8010 VETERINARY BIOSTATISTICS
This course provides the student with a working knowledge of the basic statistical techniques used in veterinary science. Topics include descriptive statistics, inferential statistics, non-parametric statistics, analysis of variance, regression and correlation and experimental design.
Cross-listed with graduate level course ESC 8770.
PREREQUISITE: Permission of instructor
HOURS OF CREDIT: 3
LECTURES: 2 hours
LABORATORIES: 2 hours

VHM 8020 ADVANCED VETERINARY BIOSTATISTICS
This course covers linear and logistic models, i.e. multiple linear and logistic regression and analysis of variance procedures for analysis of continuous and dichotomous outcomes with respect to multiple factors or explanatory variables. In addition, the course gives an introduction to experimental design and to analysis of data from complex experimental designs with multiple levels of variation or repeated measurements. The course is partially taught in conjunction with VHM 8120.
PREREQUISITE: VHM 8010 or permission of instructor

HOURS OF CREDIT: 2 or 3
LECTURES/SEMINARS: 2 hours
LABORATORIES: 3 hours

VHM 8110 EPIDEMIOLOGY I
This course provides students with an understanding of epidemiologic principles and methods with an emphasis on the concepts used in population health research. Specific topics covered include observational study design, sampling, measures of disease frequency, measures of association, validity (bias), confounding and stratified analyzes, screening tests and the design of clinical trials.
PREREQUISITE: Permission of the instructor
HOURS OF CREDIT: 4
LECTURES/SEMINARS: 5 hours
LABORATORIES: 1 hour

VHM 8120 EPIDEMIOLOGY II
This course provides students with a more detailed understanding of epidemiologic study design principles and a working knowledge of many multivariable statistical methods used in epidemiologic research. Specific topics covered include: linear regression, logistic regression, Poisson models, analysis of survival data, design of observational studies and validity (bias). The course is partially taught in conjunction with VHM 8020.
PREREQUISITE: VHM 8010, VHM 8110 or permission of the instructor
HOURS OF CREDIT: Four
LECTURES/SEMINARS: 5 hours
LABORATORIES: 1 hour

VHM 8220 POPULATION MEDICINE IN AQUACULTURE
This course covers current developments in finfish, crustacean and bivalve clinical health management with a particular focus on the epidemiology of infectious and non-infectious production problems. The lecture and seminar course topics include disease surveillance, diagnostic test evaluation, investigation of causal factors and evaluating health management practices. Field trips to aquaculture sites in the Atlantic Canada region are necessary.
PREREQUISITE: DVM, VPM 8110 (or equivalent) and VHM 8110 and permission of instructor
HOURS OF CREDIT: 3
LECTURES: 2 hours
LAB/SEMINARS: 2 hours

VHM 8230 HEALTH AND PRODUCTION MANAGEMENT IN SHELLFISH AND CRUSTACEAN AQUACULTURE
This course covers the principles and application of health and production management and practices of significant shellfish aquaculture species in Atlantic Canada, and crustacean aquaculture globally. Topics include the biology, production methods, diagnosis, treatment and management of production and disease problems, and aquatic ecosystem health. Field trips to aquaculture sites occur.
PREREQUISITE: Permission of the instructor
HOURS OF CREDIT: 3
LECTURES: 2 Hours
LAB/SEMINARS: 1 Hour

VHM 8260 LARGE ANIMAL CLINICAL PRACTICE I
This course provides advanced training in large animal internal medicine, surgery, theriogenology and equine community practice and is offered in any academic semester based on student enrolment. Under close supervision of board certified diplomates (ACVIM, ACVS, ACT, ABVP-Equine), students spend 8 weeks in large animal clinical services at the AVC. Using the problem-oriented approach, students examine patients, perform diagnostic procedures, interpret diagnostic tests, and diagnose and treat food animal and equine patients. Topics discussed in rounds include surgical

techniques, surgical anatomy, preventive medicine, infectious disease, diseases affecting performance or production, pharmacology, etc. Students receive formal mid-course and final evaluations. This course is graded Pass/Fail.
PREREQUISITE: DVM or equivalent degree, acceptance as a graduate student in a clinical discipline, permission of instructor
HOURS OF CREDIT: 2

VHM 8270 LARGE ANIMAL CLINICAL PRACTICE II
This course provides additional advanced training in large animal internal medicine, surgery, theriogenology and equine community practice and is offered in any academic semester based on student enrolment. Under close supervision of diplomates (ACVIM, ACVS, ACT, ABVP-Equine), students spend 12 weeks in large animal clinical services at the AVC. Using the problem-oriented approach, students examine patients, perform diagnostic procedures, interpret diagnostic tests, and diagnose and treat food animal and equine patients. Topics discussed in rounds include surgical techniques, surgical anatomy, preventive medicine, infectious disease, diseases affecting performance or production, pharmacology, etc. Students receive formal mid-course and final evaluations. This course is graded Pass/Fail.
PREREQUISITE: DVM or equivalent degree, acceptance as a graduate student in a clinical discipline, permission of instructor
HOURS OF CREDIT: 3

VHM 8280 LARGE ANIMAL CLINICAL PRACTICE III
This course provides more advanced training in large animal internal medicine, surgery, theriogenology and equine community practice and is offered in any academic semester based on student enrolment. Under close supervision of diplomates (ACVIM, ACVS, ACT, ABVP-Equine), students spend 12 weeks in large animal clinical services at the AVC. Using the problem-oriented approach, students examine patients, perform diagnostic procedures, interpret diagnostic tests, and diagnose and treat food animal and equine patients. Topics discussed in rounds include surgical techniques, surgical anatomy, preventive medicine, infectious disease, diseases affecting performance or production, pharmacology, etc. Students receive formal mid-course and final evaluations. This course is graded Pass/Fail.
PREREQUISITE: DVM or equivalent degree, acceptance as a graduate student in a clinical discipline, permission of instructor
HOURS OF CREDIT: 3

VHM 8310 TOPICS IN BIOSTATISTICS AND EPIDEMIOLOGY
This course reviews current developments in frequently used statistical techniques and introduces the student to some advanced biostatistical techniques including survival analysis, factor analysis, and general linear models.
PREREQUISITE: VHM 8010 or VHM 8020 (preferred) and permission of instructor
HOURS OF CREDIT: 2
LECTURES: 2 hours

VHM 8320 SELECTED TOPICS IN BIOSTATISTICS AND EPIDEMIOLOGY
This course reviews current developments in frequently used statistical techniques and introduces the student to advanced biostatistical techniques such as multilevel modelling, survival analysis, or Bayesian methodology.
PREREQUISITE: VHM 8010 or VHM 8020 (preferred) and permission of the instructor
HOURS OF CREDIT: 1
LECTURES: 1 hour

VHM 8330 INTRODUCTION TO QUANTITATIVE RISK ANALYSIS APPLIED TO ANIMAL AND VETERINARY PUBLIC HEALTH
This course will cover the concepts of quantitative risk analysis based on stochastic simulation, and its application in a regulatory context for estimation of risk associated with live animal and animal food products. An introduction to qualitative risk analysis is included, contrasting the main advantages and disadvantages of quantitative and qualitative risk assessment. The course will introduce the concepts of scenario pathway modelling, probability distributions, statistical distributions applied in risk

assessment, parameter estimation, uncertainty and variability analysis, sensitivity analysis, and use of risk assessment as decision support tool.
PREREQUISITE: VHM 8010, VHM 8110 or permission of the instructor
LECTURES: 3 hours

VHM 8340 INTRODUCTION TO QUANTITATIVE RISK ASSESSMENT IN ANIMAL HEALTH AND FOOD SAFETY
This introductory online course will cover the basic concepts of quantitative risk assessment applied to animal health and food safety. The course will introduce the following concepts: scenario-pathway modeling, food-processing models, probability distributions applied in risk assessment, uncertainty and variability analysis, sensitivity analysis, and use of risk assessment as a decision support tool.
PREREQUISITE: VHM 8010, VHM 8110 or permission of the instructor
LECTURES (tutorials, videos and forum discussions): 2 hours/day
LABORATORIES (minor assignments and discussion forums): 1 hour/day
HOURS OF CREDIT: 2

VHM 8350 ADVANCED LARGE ANIMAL TOPICS I
This fall semester lecture/seminar course reviews recent advances in large animal internal medicine, surgery, and theriogenology at a level appropriate for post-graduate veterinary interns. The course meets three times a week and includes a mix of instructor- and student-directed in-depth discussions of complicated clinical cases and relevant current literature in large animal medicine, surgery and theriogenology. Students are evaluated on their case/paper selection, critical reading skills, presentation skills, and participation in discussions. Considerable out-of-class preparation is required. Students receive formal mid-course and final evaluations. This course is graded Pass/Fail.
PREREQUISITE: DVM or equivalent degree, acceptance as a graduate student in a clinical discipline, permission of instructor
HOURS OF CREDIT: 3

VHM 8360 ADVANCED LARGE ANIMAL TOPICS II
This winter semester lecture/seminar course reviews recent advances in large animal internal medicine, surgery, and theriogenology at a level appropriate for post-graduate veterinarians undergoing advanced clinical training. The course meets three times a week and includes a mix of instructor- and student-directed in-depth discussions of complicated clinical cases and relevant current literature in large animal medicine, surgery and theriogenology. Students are evaluated on their case/paper selection, critical reading skills, presentation skills, and participation in discussions. Considerable out-of-class preparation is required. Students receive formal mid-course and final evaluations. This course is graded Pass/Fail.
PREREQUISITE: DVM or equivalent degree, acceptance as a graduate student in a clinical discipline, permission of instructor
HOURS OF CREDIT: 3

VHM 8370 CLINICAL CASE PRESENTATION AND PROJECT REPORT
In this course students present a seminar to the AVC community during the Clinical Conference course on a clinical case relevant to their discipline. Students must also attend presentations by others in this course. In addition, they must submit a written report on a topic of their choice (clinical case report, clinical investigation, prospective or retrospective case study, literature review, etc.) approved by their supervisor prior to the conclusion of their program. The report should make a contribution to the body of knowledge in the candidate's field. Publication in a refereed journal is encouraged but not required. Students are assessed utilizing standardized rubrics for the two course components. This course is graded Pass/Fail.
PREREQUISITE: DVM or equivalent degree, acceptance as a graduate student in a clinical discipline, permission of instructor
HOURS OF CREDIT: 2

VHM 8380 LARGE ANIMAL INTERNAL MEDICINE: PHYSIOLOGY I

This course is a detailed study of the physiology and pathophysiology of the cardiovascular, hematological, respiratory, and renal systems of large animal species. Large animal neonatology will also be covered. Clinical application of physiologic and pathophysiologic principles is emphasized. The course will meet for one contact hour per week over the fall, winter, and first summer semesters, and will involve a mix of instructor and student-directed discussions. Considerable out-of-class preparation is required.

PREREQUISITE: DVM or equivalent. Must be enrolled in an MVSc, MSc, or PhD program through AVC

HOURS OF CREDIT: 3

VHM 8390 LARGE ANIMAL INTERNAL MEDICINE: PHYSIOLOGY II

This course is a detailed study of the physiology and pathophysiology of the gastrointestinal, neurological, musculoskeletal, and endocrine systems of large animal species. Clinical application of physiologic and pathophysiologic principles is emphasized. The course will meet for one contact hour per week over the fall, winter, and first summer semesters, and will involve a mix of instructor and student-directed discussions. Considerable out-of-class preparation is required.

PREREQUISITE: DVM or equivalent. Must be enrolled in an MVSc, MSc, or PhD program through AVC

HOURS OF CREDIT: 3

VHM 8410 BOVINE THERIOGENOLOGY

This course involves advanced training in bovine theriogenology with emphasis placed on areas that are of most benefit to individual students. Topics include: applied reproductive physiology of cattle, control of the estrous cycle and ovulation, diseases and conditions affecting the reproductive system of cattle, and reproductive efficiency in cattle management. Any necessary training in diagnostic techniques, including breeding soundness evaluation, is provided. Embryo transfer and advanced reproductive technologies are discussed. Students participate in herd visits to dairy and beef farms and are involved in bovine reproduction cases that are presented to the veterinary teaching hospital.

PREREQUISITE: DVM or equivalent degree, permission of instructor

HOURS OF CREDIT: 3

LAB/SEMINARS: 6 hours

VHM 8420 EQUINE THERIOGENOLOGY

This course involves advanced training in equine theriogenology with emphasis placed on areas that are of most benefit to individual students. Topics include: applied reproductive physiology of horses, control of the estrous cycle and ovulation, diseases and conditions affecting the reproductive system of horses, and breeding management. Any necessary training in diagnostic techniques, including breeding soundness evaluation, is provided. Embryo transfer and advanced reproductive technologies are discussed. Students are also involved in equine reproduction cases that are presented to the veterinary teaching hospital.

PREREQUISITE: DVM or equivalent degree, permission of instructor

HOURS OF CREDIT: 3

LAB/SEMINAR: 6 hours

VHM 8430 EQUINE BREEDING FARM THERIOGENOLOGY

This course involves advanced training in equine theriogenology with emphasis placed on theriogenology as practised on breeding farms. Any necessary training in diagnostic techniques is provided. Students participate in visits to equine stud farms at the height of the breeding season and are involved in equine reproduction cases that are presented to the veterinary teaching hospital.

PREREQUISITE: DVM or equivalent degree, permission of instructor

HOURS OF CREDIT: 3

LAB/SEMINAR: 6 hours

VHM 8450 LARGE ANIMAL SURGERY

The course involves advanced training in veterinary surgery with emphasis on food animal and equine general surgery. Emphasis is placed on areas that are of most benefit to individual students. Topics include: surgery of the skin and adnexa, orthopaedic-related surgery, abdominal surgery, respiratory tract surgery, and urogenital surgery. Any necessary additional training in diagnostic evaluation of surgical cases is provided. Students are involved in cases admitted to the Veterinary Teaching Hospital, and those examined at farms and training facilities.
PREREQUISITE: DVM or equivalent degree; permission of the instructor
HOURS OF CREDIT: 3 hours

VHM 8460 EQUINE SURGERY AND LAMENESS
The course involves advanced training in equine surgery with emphasis on orthopedic and soft tissue surgery. Emphasis is placed on areas that are of most benefit to individual students. Topics include: surgery of the skin and adnexa, orthopedic related surgery, lameness evaluation, abdominal surgery, respiratory tract surgery, and urogenital surgery. Any necessary additional training in diagnostic evaluation of surgical or lameness cases is provided. Students are involved in cases admitted to the veterinary teaching hospital, and cases examined at farms and training facilities.
PREREQUISITE: DVM or equivalent degree, permission of instructor
HOURS OF CREDIT: 3
LAB/SEMINAR: 6 hours

VHM 8470 ANIMAL WELFARE
This course provides graduate students with an understanding of the principles of animal welfare. Animal welfare concepts are introduced and the role of science in approaching ethical issues is discussed. The course emphasizes how an understanding of affective states is fundamental to understanding animal welfare. Methods of welfare assessment are reviewed. The welfare implications of the management of animals in different situations are discussed by a systematic consideration of the management risk factors that can affect various welfare outcomes when animals are kept or used in different situations. Animal welfare research methods are critically appraised.
PREREQUISITE: Permission by instructor
LECTURE: 0.5 hours of lecture per week; Student presentations and discussions 2 hours per week
HOURS OF CREDIT: 2

VHM 8480 ADVANCED CLINICS IN LARGE ANIMAL INTERNAL MEDICINE I
This course provides training in large animal internal medicine and is offered in any academic semester based on student enrolment. Under close supervision of an ACVIM diplomate, students spend 12 weeks on the large animal medicine clinical service in the VTH. Using the problem-oriented approach, students examine patients, perform diagnostic procedures, interpret diagnostic tests, and diagnose and treat food animal and equine patients. Topics discussed in rounds include preventive medicine, infectious disease, diseases affecting performance or production, pharmacology, etc. Students are required to present an in-depth analysis of a clinical case once monthly in house officer rounds. Students enrolled in this course are expected to participate in emergency duty.
PREREQUISITES: DVM or equivalent degree, permission of instructor
HOURS OF CREDIT: 3
LAB/SEMINAR: 6 hours

VHM 8490 ADVANCED CLINICS IN LARGE ANIMAL INTERNAL MEDICINE II
This course provides advanced training in large animal internal medicine and is offered in any academic semester based on student enrolment. Under the supervision of an ACVIM diplomate, students spend 12 weeks on the large animal medicine clinical service in the VTH. Using the problem-oriented approach, students examine patients, perform diagnostic procedures, interpret diagnostic tests, and diagnose and treat food animal and equine patients. Topics discussed in rounds include preventive medicine, infectious disease, diseases affecting performance or production, pharmacology, etc. Students are required to present an in-depth analysis of a clinical case once monthly in house officer rounds. Students enrolled in this course are expected to participate in emergency duty.
PREREQUISITES: VHM 8480, DVM or equivalent degree, permission of instructor

HOURS OF CREDIT: 3
LAB/SEMINAR: 6 hours

VHM 8510 TOPICS IN ANIMAL NUTRITION
This course reviews a selection of new developments in ruminant and non-ruminant nutrition. Research papers in the discipline are critically evaluated.
PREREQUISITE: Permission of instructor
SEMINARS: 2 hours
HOURS OF CREDIT: 2

VHM 8520 COMPARATIVE ANIMAL COGNITION
This course will expose students to the complexities of animal behavior, beyond typical products of instincts and simple associative learning. Complex behaviors and higher-order cognitive processes will be explored from a critical perspective, as well as the issues and challenges in their evaluation in animals, scientific approaches and standards of proof for the science of Comparative Animal Cognition. The diversity of current theories of animal cognition and abilities across a broad range of complex functions and species will be discussed. Imbedded in the overall course perspective is the continued issue of how our perceptions of the cognitive abilities of animals shape our expectations and relationships with them, including an examination of interpretations of cognitive lives of various species contribute to concerns for animal welfare practices and the impact on natural behavior of animals.
Cross-level listed with Psychology 4042
PREREQUISITE: Graduate student
HOURS OF CREDIT: 3
LAB/SEMINAR: 2 hours

VHM 8600 RESEARCH PROJECT (MVSc program)
Each student in the MVSc program is required, under the supervision of a graduate faculty committee, to satisfactorily complete a small research project. The project may be based on either a clinical investigation or a special topic such as a prospective or retrospective case study. The project report should make some contribution to the body of knowledge in that field and it should lead to a paper suitable for publication in a refereed journal.
PREREQUISITE: DVM or equivalent degree, permission of instructor
HOURS OF CREDIT: 6

VHM 8620 ADVANCED CLINICS IN FOOD ANIMAL INTERNAL MEDICINE
This course provides in-depth training in food animal internal medicine and is offered in any academic semester based on student enrolment. Under supervision of an ACVIM diplomate, students spend 9 weeks in the large animal medicine clinical service at the AVC and 3 weeks in the food animal medicine and surgery service at the University of Montreal, Faculty of Veterinary Medicine. Students will also be given the opportunity to spend time with the farm services section of the AVC. Using the problem-oriented approach, students examine patients, perform diagnostic procedures, interpret diagnostic tests, and diagnose and treat food animal patients. Topics discussed in daily rounds include preventative medicine, infectious disease, diseases affecting performance or production, pharmacology, etc. Students are required to present an in-depth analysis of a food animal clinical case once monthly in house officer rounds. Students enrolled in this course are expected to participate in emergency duty.
PREREQUISITES: DVM or equivalent degree, permission of instructor
HOURS OF CREDIT: 3 hours
LAB/SEMINAR: 6 hours

VHM 8630 ADVANCED CLINICS IN EQUINE INTERNAL AND PREVENTATIVE MEDICINE
This course provides in-depth training in equine internal and preventative medicine and is offered in any academic semester based on student enrolment. Under supervision of an ACVIM diplomate, students spend 11 weeks in the large animal medicine clinical service at the AVC and one week in equine dentistry. Students will also be given the opportunity

to spend time with the equine ambulatory services section of the AVC. Using the problem-oriented approach, students examine patients, perform diagnostic procedures, interpret diagnostic tests, and diagnose and treat equine patients. Topics discussed in daily rounds include preventative medicine, infectious disease, diseases affecting performance or production, pharmacology, etc. Students are required to present an in- depth analysis of an equine clinical case once monthly in house officer rounds, with at least one case emphasizing preventative medicine. Students enrolled in this course are expected to participate in emergency duty.
PREREQUISITES: DVM or equivalent degree, permission of instructor
HOURS OF CREDIT: 3 hours
LAB/SEMINAR: 6 hours

VHM 8640 RECENT ADVANCES IN LARGE ANIMAL MEDICINE I
This is a lecture/seminar course designed to review recent advances in internal medicine and the physiologic mechanisms underlying health and disease of large animals, at a level appropriate for the first year of an internal medicine MSc/MVSc-Residency program. The course will meet for one contact hour per week for the fall and winter semesters, and the first summer session, and will involve a mix of instructor-and student-directed in-depth discussions of the relevant current literature or recently published texts. Considerable out-of-class preparation is required.
PREREQUISITE: DVM or equivalent, and permission of the instructor
LECTURES or SEMINAR: 1 hour
HOURS OF CREDIT: 3

VHM 8650 RECENT ADVANCES IN LARGE ANIMAL MEDICINE II
This is a lecture/seminar course designed to review recent advances in internal medicine and the physiologic mechanisms underlying health and disease of large animals, at a level appropriate for the second year of an internal medicine MSc/MVSc-Residency program. The course will meet for one contact hour per week for the fall and winter semesters, and the first summer session, and will involve a mix of instructor-and student-directed in-depth discussions of the relevant current literature or recently published texts. Considerable out-of-class preparation is required.
PREREQUISITE: DVM or equivalent, VHM 8640 and permission of the instructor
LECTURES or SEMINAR: 1 hour
HOURS OF CREDIT: 3

VHM 8660 RECENT ADVANCES IN LARGE ANIMAL MEDICINE III
This is a lecture/seminar course designed to review recent advances in internal medicine and the physiologic mechanisms underlying health and disease of large animals, at a level appropriate for the third year of an internal medicine MVSc-Residency program. The course will meet for one contact hour per week for the fall and winter semesters, and the first summer session, and will involve a mix of instructor-and student-directed in-depth discussions of the relevant current literature or recently published texts. Considerable out-of-class preparation is required.
PREREQUISITE: DVM or equivalent, VHM 8650 and permission of the instructor
HOURS OF CREDIT: 3
LECTURES or SEMINAR: 1 hour

VHM 8670 RECENT ADVANCES IN LARGE ANIMAL SURGERY I
This is a lecture/seminar course designed to review recent advances in surgery, lameness and surgical diseases of large animals, at a level appropriate for the first year of a surgical MSc/MVSc Residency program. The course will meet for one contact hour per week for the fall and winter semesters, and in the first summer session, and will involve a mix of instructor and student directed in-depth discussions of the relevant current literature or recently published texts. Considerable out-of-class preparation is required.
PREREQUISITE: DVM or equivalent and permission of the instructor
HOURS OF CREDIT: 3

VHM 8680 RECENT ADVANCES IN LARGE ANIMAL SURGERY II

This is a lecture/seminar course designed to review recent advances in surgery, lameness and surgical diseases of large animals, at a level appropriate for the second year of a surgical MSc/MVSc – Residency program. The course will involve a mix of instructor and student directed in-depth discussions of the relevant current literature or recently published texts. Considerable out-of-class preparation is required.

This course will meet for one contact hour per week for the fall and winter semesters and in the first summer session.
PREREQUISITE: DVM or equivalent, VHM 8670, and permission of the instructor
HOURS OF CREDIT: 3

VHM 8690 RECENT ADVANCES IN LARGE ANIMAL SURGERY III
This is a lecture/seminar course designed to review recent advances in surgery, lameness and surgical diseases of large animals, at a level appropriate for the third year of a surgical MSc/MVSc – Residency program. The course will involve a mix of instructor and student directed in-depth discussions of the relevant current literature or recently published texts. Considerable out-of-class preparation is required.

This course will meet for one contact hour per week for the fall and winter semesters and in the first summer session.
PREREQUISITE: DVM or equivalent, VHM 8680, and permission of the instructor
HOURS OF CREDIT: 3

VHM 8710 HERD HEALTH AND PRODUCTION MANAGEMENT OF DAIRY CATTLE
This course provides graduate students with an understanding of the principles of Herd Health and Production Management programs, udder and foot health, control of infectious diseases, fertility, young stock rearing, and farm economics. Lab exercises include analysis of data of farms that are enrolled in the Herd Health and Production Management program of the Farm Service group of the AVC.
PREREQUISITE: DVM or equivalent and permission of the coordinator
HOURS OF CREDIT: 3 hours
LECTURE/LAB: 5 hours

VHM 8720 ADVANCED CLINICS IN EQUINE WELFARE AND PREVENTIVE MEDICINE
This course provides in-depth training in equine welfare and preventive medicine and is offered in any academic semester based on student enrolment. Under close supervision of an ABVP (Equine) Diplomate, students spend 12 weeks in the Ambulatory Equine Service of the VTH. Topics emphasized in this course include application and understanding of the Equine Code of Practice, preventive medicine, infectious disease, dentistry and population/herd health. For this course, students are required to present an in-depth analysis of an equine clinical case once monthly in house officer rounds. Students enrolled in this course are expected to participate in emergency duty.
PREREQUISITE: DVM or equivalent degree and/or permission of the instructor
HOURS OF CREDIT: 3

VHM 8730 EQUINE SPORTS MEDICINE AND REHABILITATION I
This course provides training in equine sports medicine and rehabilitation and is offered in any academic semester based on student enrolment. Students are expected to be at entry level and will be working under direct supervision of an ABVP (Equine) diplomate, and will spend 12 weeks in the Ambulatory Equine Service of the VTH. Topics include diagnostic, therapeutic and rehabilitation techniques utilized to support the equine athlete from birth through adolescence, training, competition, injury, rehabilitation and retirement. Any necessary additional training in diagnostic and therapeutic techniques is provided. Students are involved in cases admitted to the VTH and those examined at farms and training facilities. Students enrolled in this course are expected to participate in emergency duty.
PREREQUISITE: DVM or equivalent degree and/or permission of the instructor
HOURS OF CREDIT: 3

VHM 8740 EQUINE SPORTS MEDICINE AND REHABILITATION II

This course provides more advanced training in equine sports medicine and rehabilitation and is offered in any academic semester based on student enrolment. Under close supervision of an ABVP (Equine) diplomate, students spend 12 weeks in the Ambulatory Equine Service of the VTH. Students are expected to work more independently in performing diagnostic, therapeutic and rehabilitation techniques utilized to support the equine athlete from birth through adolescence, training, competition, injury, rehabilitation and retirement. Any necessary additional training in diagnostic and therapeutic techniques is provided. Students are involved in cases admitted to the VTH and those examined at farms and training facilities. Students enrolled in this course are expected to participate in emergency duty.
PREREQUISITE: DVM or equivalent degree and/or permission of the instructor
HOURS OF CREDIT: 3

VHM 8750 RECENT ADVANCES IN EQUINE SPORTS MEDICINE AND PREVENTIVE MEDICINE I
This is a lecture/seminar course designed to review recent advances in equine sport and preventive medicine, at a level appropriate for the first year of an Ambulatory Equine MSc/MVSc-Residency program. The course will meet for one contact hour per week for the fall and winter semesters, and in the first summer session, and will involve a mix of instructor and student directed in-depth discussions of the relevant current literature or recently published texts. Considerable out-of-class preparation is required.
PREREQUISITE: DVM or equivalent degree and/or permission of the instructor
HOURS OF CREDIT: 3

VHM 8760 RECENT ADVANCES IN EQUINE SPORTS MEDICINE AND PREVENTIVE MEDICINE II
This is a lecture/seminar course designed to review recent advances in equine sport and preventive medicine, at a level appropriate for the second year of an Ambulatory Equine MSc/MVSc-Residency program. The course will meet for one contact hour per week for the fall and winter semesters, and in the first summer session, and will involve a mix of instructor and student directed in-depth discussions of the relevant current literature or recently published texts. Considerable out-of-class preparation is required.
PREREQUISITE: DVM or equivalent degree and/or permission of the instructor
HOURS OF CREDIT: 3

VHM 8770 RECENT ADVANCES IN EQUINE SPORTS AND PREVENTIVE MEDICINE III
This is a lecture/seminar course designed to review recent advances in equine sport and preventive medicine, at a level appropriate for the third year of an Ambulatory Equine MSc/MVSc-Residency program. The course will meet for one contact hour per week for the fall and winter semesters, and in the first summer session, and will involve a mix of instructor and student directed in-depth discussions of the relevant current literature or recently published texts. Considerable out-of-class preparation is required.
PREREQUISITES: DVM or equivalent and/or permission of the instructor
HOURS OF CREDIT: 3

VHM 8810-8820 DIRECTED STUDIES
This course is a thorough study of a selected problem or topic in the discipline. The course may include directed reading, directed research, or collection and analysis of data. The student will prepare a written report and present a seminar on the topic.
PREREQUISITE: Permission of instructor
HOURS OF CREDIT: 1-3

VHM 8900 SEMINAR
In this course, students attend and present annual seminars on topics in their discipline, are evaluated on their seminars, and provide constructive criticism to others giving seminars in the course.
PREREQUISITE: Admission to MSc or MVSc program
HOURS OF CREDIT: 1

VHM 9900 SEMINAR
This is a seminar course in which students attend and present annual seminars on topics in their discipline, are evaluated on their seminars, and provide constructive criticism to others giving seminars in the course.
PREREQUISITE: Admission to PhD program
HOURS OF CREDIT: 1

# PATHOLOGY & MICROBIOLOGY COURSES

VPM 8020 ADVANCES IN PROTOZOOLOGY
This course is an in-depth study of recent advances in knowledge of the major protozoan parasites of animals. Lectures and seminars cover a variety of topics including developmental cycles, pathogenicity, immunogenicity, diagnostic procedures, and epidemiology of several protozoan diseases.
PREREQUISITE: Permission of instructor
HOURS OF CREDIT: 3
LECTURES: 2 hour
SEMINARS: 1 hour

VPM 8110 DISEASES OF CULTURED FISH
This course reviews fish culture systems and the diseases encountered in cultured fish. The lecture and laboratory course covers culture techniques for fin fish and shell fish and the etiology, pathogenesis, diagnosis, and treatment of fish diseases.
PREREQUISITE: DVM or BSc (Biology) and permission of instructor
HOURS OF CREDIT: 3
LECTURES: 2 hours
LABORATORIES: 2 hours

VPM 8120 RECENT ADVANCES IN IMMUNOLOGY
This is a lecture/seminar course designed to study in detail areas of immunology which reflect current interest or controversy. Major concepts in immunology are covered.
PREREQUISITE: Permission of instructor.
HOURS OF CREDIT: 3
LECTURES: 1 hour
SEMINARS: 2 hours

VPM 8210 CONCEPTS IN VIRAL PATHOGENESIS
This is an advanced course reviewing the mechanisms by which viruses cause disease. The emphasis is on general concepts and mechanisms. Selected viral infections are used to illustrate the general concepts of virus-host interaction.
PREREQUISITE: Permission of instructor.
HOURS OF CREDIT: 3
LECTURES: 2 hours
SEMINARS: 1 hour

VPM 8220 ADVANCES IN BACTERIOLOGY
This course focuses on recent advances in the mechanisms of bacterial pathogenesis and molecular microbiology. Lectures and seminars will cover well-understood topics in these areas and will include the application of biotechnology for the development of vaccines and diagnostic reagents.
PREREQUISITE: Undergraduate microbiology and permission of the instructor.

HOURS OF CREDIT: 3
LECTURES: 2 hours
SEMINARS: 1 hour

VPM 8230 DIAGNOSTIC ANATOMIC PATHOLOGY I
In this course, the student is taught necropsy techniques including how to examine animals submitted for post mortem diagnosis. Pathogenesis and morphologic diagnosis of diseases prevalent in the fall season are emphasized. The student is required to complete at least 30-50 cases. The report on every case is to include a summary of all ancillary tests done in other units of the diagnostic laboratory. Selected cases are discussed at weekly pathology rounds. In addition, the student is exposed to techniques in histology, histochemistry, immunohistochemistry, and macro- and micro-photography.
PREREQUISITE: DVM or equivalent degree, permission of the instructor.
HOURS OF CREDIT: 3
LAB/SEMINARS: 6 hours

VPM 8240 DIAGNOSTIC ANATOMIC PATHOLOGY II
In this course, the student gains further experience in necropsy techniques and interpretation of lesions. Pathogenesis and morphologic diagnosis of diseases prevalent in the winter are emphasized. The student is required to complete at least 30-50 cases. The report on every case is to include a summary of all ancillary tests done in other units of the diagnostic laboratory. Selected cases are discussed at weekly necropsy rounds.
PREREQUISITE: DVM or equivalent degree, permission of the instructor.
HOURS OF CREDIT: 3
LAB/SEMINARS: 6 hours

VPM 8250 DIAGNOSTIC ANATOMIC PATHOLOGY III
In this course, the student is expected to gain further experience in necropsy techniques and interpretation of lesions. Pathogenesis and morphologic diagnosis of diseases prevalent in spring and summer are emphasized. The student is required to complete at least 30-50 cases. The report on every case is to include a summary of all ancillary tests done in other units of the diagnostic laboratory. Selected cases are discussed at weekly necropsy rounds.
PREREQUISITE: DVM or equivalent degree, permission of the instructor.
HOURS OF CREDIT: 3
LAB/SEMINARS: 6 hours

VPM 8260 ADVANCED DIAGNOSTIC ANATOMIC PATHOLOGY
In this course, the student is expected to gain further experience in necropsy techniques and interpretation of lesions. Morphologic diagnosis of diseases prevalent in a given season is emphasized and a more in-depth discussion of their pathogenesis is expected. The student is required to complete at least 50-60 cases. The report on every case is to include a summary of all ancillary tests done in other units of the diagnostic laboratory. Selected cases are discussed at weekly necropsy rounds.
PREREQUISITE: VPM 8230, VPM 8240, or VPM 8250 or equivalent, permission of the instructor.
HOURS OF CREDIT: 3
LAB/SEMINARS: 6 hours

VPM 8270 DIAGNOSTIC CLINICAL PATHOLOGY I
In this course, initial training in diagnostic clinical pathology during the fall is provided. Interpretations and presentations of clinical biochemistry, hematology, urology and cytology samples from a variety of species are undertaken by the student. Formal case discussions and directed reading supplement the clinical material, with emphasis on diseases prevalent in the summer and fall.
PREREQUISITE: DVM or equivalent degree, permission of the instructor

HOURS OF CREDIT: 3
LAB/SEMINARS: 6 hours

VPM 8280 DIAGNOSTIC CLINICAL PATHOLOGY II
In this course, training in diagnostic clinical pathology during the winter is provided. Interpretations and presentations of clinical biochemistry, hematology, urology and cytology samples from a variety of species are undertaken by the student. Formal case discussions and directed reading supplement the clinical material, with emphasis on diseases prevalent in the winter and spring.
PREREQUISITE: DVM or equivalent degree, permission of the instructor.
HOURS OF CREDIT: 3
LAB/SEMINARS: 6 hours

VPM 8330 ADVANCED DIAGNOSTIC CLINICAL PATHOLOGY I
In this course, further experience in diagnostic clinical pathology during the fall is provided. Interpretations and presentations of clinical biochemistry, hematology, urology and cytology samples from a variety of species are undertaken by the student. Formal case discussions and directed reading supplement the clinical material, with emphasis on diseases prevalent in the summer and fall.
PREREQUISITE: VPM 8270 & VPM 8280, permission of the instructor.
HOURS OF CREDIT: 3
LAB/SEMINARS: 6 hours

VPM 8340 ADVANCED DIAGNOSTIC CLINICAL PATHOLOGY II
In this course, further experience in diagnostic clinical pathology during the winter is provided. Interpretations and presentations of clinical biochemistry, hematology, urology and cytology samples from a variety of species are undertaken by the student. Formal case discussions and directed reading supplement the clinical material, with emphasis on diseases prevalent during the winter and spring.
PREREQUISITE: VPM 8270 & VPM 8280, permission of the instructor.
HOURS OF CREDIT: 3
LAB/SEMINARS: 6 hours

VPM 8350 SURGICAL PATHOLOGY I
In this course, the student is provided initial training in gross and microscopic examination of biopsy materials and fixed specimens submitted to the diagnostic laboratory during the fall. Morphologic diagnosis and prognosis are emphasized, especially with regard to neoplastic diseases. The student is required to complete at least 30-50 cases. Selected cases are discussed at weekly necropsy rounds. In addition, the student is exposed to techniques in histochemistry and immunohistochemistry.
PREREQUISITE: DVM or equivalent degree, permission of the instructor.
HOURS OF CREDIT: 3
LAB/SEMINARS: 6 hours

VPM 8360 SURGICAL PATHOLOGY II
In this course, the student is provided further training in gross and microscopic examination of biopsy materials and fixed specimens submitted to the diagnostic laboratory during the winter. Morphologic diagnosis and prognosis are emphasized, especially with regard to neoplastic diseases. The student is required to complete at least 30-50 cases. Selected cases are discussed at weekly necropsy rounds. In addition, the student is exposed to techniques in histochemistry and immunohistochemistry.
PREREQUISITE: DVM degree or equivalent, permission of the instructor.
HOURS OF CREDIT: 3
LAB/SEMINARS: 6 hours

VPM 8370 SURGICAL PATHOLOGY III

In this course, the student is provided further training in gross and microscopic examination of biopsy materials and fixed specimens submitted to the diagnostic laboratory during the spring and summer. Morphologic diagnosis and prognosis are emphasized, especially with regard to neoplastic diseases. The student is required to complete at least 30-50 cases. Selected cases are discussed at weekly necropsy rounds. In addition, the student is exposed to techniques in histochemistry and immunohistochemistry.

PREREQUISITE: DVM degree or equivalent, permission of the instructor.

HOURS OF CREDIT: 3

LAB/SEMINARS: 6 hours

VPM 8380 ADVANCED SURGICAL PATHOLOGY

In this course, the student is provided a more advanced training in gross and microscopic examination of biopsy materials and fixed specimens submitted to the diagnostic laboratory during the second year of study. Morphologic diagnosis, pathogenesis and prognosis are emphasized, especially with regard to neoplastic diseases. The student is required to complete at least 50-60 cases. Selected cases are discussed at weekly necropsy rounds. In addition, the student is exposed to techniques in histochemistry and immunohistochemistry.

PREREQUISITE: VPM 8350, VPM 8360, or VPM 8370 or equivalent, permission of the instructor.

HOURS OF CREDIT: 3

LAB/SEMINARS: 6 hours

VPM 8445 DIAGNOSTIC AQUATIC PATHOLOGY I

In this course, the student is taught diagnostic techniques including performing a necropsy and collecting and preparing samples from aquatic species submitted for post mortem diagnosis. Recognition of diseases, pathogenesis and morphologic diagnoses are emphasized. The student is required to complete 30 cases. The report on every case is to include a summary of all ancillary tests done in other units of the diagnostic laboratory. Selected cases are discussed at weekly pathology rounds. In addition, the student is exposed to techniques in histology, histochemistry, immunohistochemistry, and macro- and micro-photography. This course is restricted to holders of a DVM or equivalent degree.

PREREQUISITE: Permission of the instructor

HOURS OF CREDIT: 4

LECTURE/LAB: 8 hours

VPM 8446 DIAGNOSTIC AQUATIC PATHOLOGY II

In this course, the student is provided further training in diagnostic techniques for aquatic species submitted for postmortem diagnosis. Recognition of diseases, pathogenesis and morphologic diagnoses are further emphasized. The student is required to complete 30 cases. The report on every case is to include a summary of all ancillary tests done in other units of the diagnostic laboratory. Selected cases are discussed at weekly pathology rounds. In addition, the student is exposed to techniques in histology, histochemistry, immunohistochemistry, and macro- and micro-photography.

PREREQUISITE: DVM or equivalent degree, permission of the instructor.

HOURS OF CREDIT: 3

LAB/SEMINARS: 6 hours

VPM 8447 DIAGNOSTIC AQUATIC PATHOLOGY III

In this course, the student gains more experience in diagnostic techniques for aquatic species submitted for postmortem diagnosis. Recognition of diseases, pathogenesis and morphologic diagnoses are further emphasized. The student is required to complete 30 cases. The report on every case is to include a summary of all ancillary tests done in other units of the diagnostic laboratory. Selected cases are discussed at weekly pathology rounds. In addition, the student is exposed to techniques in histology, histochemistry, immunohistochemistry, and macro- and micro-photography.

PREREQUISITE: DVM or equivalent degree and VPM 8446.

HOURS OF CREDIT: 3
LAB/SEMINARS: 6 hours

VPM 8448 ADVANCED DIAGNOSTIC AQUATIC PATHOLOGY

In this course, the student gains more advanced experience in diagnostic techniques for aquatic species submitted for postmortem diagnosis. Recognition of diseases, pathogenesis and morphologic diagnoses are further emphasized. The student is required to complete 30 cases. The report on every case is to include a summary of all ancillary tests done in other units of the diagnostic laboratory. Selected cases are discussed at weekly pathology rounds. In addition, the student is exposed to techniques in histology, histochemistry, immunohistochemistry, and macro- and micro-photography.

PREREQUISITE: DVM or equivalent degree and VPM 8447
HOURS OF CREDIT: 3
LAB/SEMINARS: 6 hours

VPM 8450 DIAGNOSTIC BACTERIOLOGY

In this course students gain "hands-on" experience in clinical veterinary bacteriology. Various bacteria associated with disease conditions in animals are identified using microscopic (including fluorescent microscopy), cultural and biochemical methods. Emphasis is placed on study of case histories, and interpretation of results including antimicrobial susceptibility data. Other responsibilities include familiarization with new diagnostic techniques, and completion of 30 cases by each student.

PREREQUISITE: DVM or equivalent degree, permission of the instructor.
HOURS OF CREDIT: 3
LAB/SEMINARS: 6 hours

VPM 8460 DIAGNOSTIC BACTERIOLOGY II

In this course students gain additional "hands-on" experience in clinical veterinary bacteriology. Various bacteria associated with disease conditions in animals are identified using microscopic (including fluorescent microscopy), cultural and biochemical methods. Emphasis is placed on study of case histories, and interpretation of results including antimicrobial susceptibility data. Other responsibilities include familiarization with new diagnostic techniques, and completion of 30 cases by each student.

PREREQUISITE: DVM or equivalent degree, permission of the instructor.
HOURS OF CREDIT: 3
LAB/SEMINARS: 6 hours

VPM 8470 DIAGNOSTIC VETERINARY VIROLOGY I

This practical course deals with the isolation and identification of viruses in cell culture, chick embryos or animals and their detection using immunoassays. The student is required satisfactorily to complete about 60 cases. In weekly discussions, special emphasis is also placed on understanding approaches to the diagnosis of viral diseases, sterilization, disinfection and biosafety, sterile technique in collection of specimens, and processing, packaging and shipment of specimens for virus diagnosis.

PREREQUISITE: DVM or equivalent degree, permission of the instructor.
HOURS OF CREDIT: 3
LABORATORY: 5 hours
SEMINAR: 0.5
TUTORIAL: 0.5

VPM 8480 DIAGNOSTIC VETERINARY VIROLOGY II

This practical course deals with the isolation and identification of viruses in cell culture, chick embryos or animals and their detection using immunoassays. Tutorials utilize selected clinical cases to familiarize the student with the interpretation of laboratory test results. Current trends in diagnostic virology, serology and vaccinology are covered in group discussions on assigned readings in scientific literature.

PREREQUISITE: VPM 8470 and permission of the instructor.

HOURS OF CREDIT: 3
LAB/SEMINARS: 2 hours
TUTORIAL: 4 hours

VPM 8490 DIAGNOSTIC IMMUNOLOGY
This course covers a variety of immunodiagnostic techniques. Principles of serologic techniques and their application to disease diagnosis are discussed. The development of these techniques and their validation is covered in lecture and during laboratory sessions. Principles of immunohistological testing for both infectious diseases and for immunological diseases are discussed with relevant clinical examples, as are other immunochemical tests for immune-mediated disease.
PREREQUISITE: DVM or equivalent degree, permission of the instructor.
HOURS OF CREDIT: 3
LECTURES: 2 hours
LAB/SEMINARS: 2 hours

VPM 8520 DIAGNOSIS OF WILDLIFE DISEASES
In this two-semester course, the student is taught necropsy and investigative techniques for the diagnosis of disease in free-living and zoo mammals (land and marine) and birds. Participation in additional laboratory procedures is encouraged. The student is required to satisfactorily complete between 40 and 50 cases. The report on every case is to include a summary of all ancillary tests done in other units of the diagnostic laboratory, and brief comments on the significance of the disease diagnosed. Selected cases are discussed at weekly necropsy rounds.
PREREQUISITE: DVM or equivalent degree, permission of the instructor.
HOURS OF CREDIT: 3
LAB/SEMINARS: 3 hours

VPM 8540 DIAGNOSIS OF WILDLIFE DISEASES I
In this introductory course, students are taught necropsy and investigative techniques for the diagnosis of diseases in free- living wild animals (mammals, birds, and occasional reptiles and amphibians) submitted for post-mortem examination. Pathogenesis and morphologic diagnosis of diseases and their management implications are emphasized. Students are also encouraged to review collections of gross and histopathological slides of common wildlife diseases in the region and elsewhere.

VPM 8550 DIAGNOSIS OF WILDLIFE DISEASES II
In this course, the student gains further experience in necropsy techniques, interpretation of lesions, and evaluation of the significance of the diseases identified in individual wild animals for the rest of the population. The student is also encouraged to either write and submit one article for the newsletter of the Canadian Cooperative Wildlife Health Centre or give an oral presentation on a pertinent wildlife health topic at the Departmental level or at meetings of provincial Departments of Natural Resources, subject to approval by the instructor.
PREREQUISITE: VPM 8540

VPM 8560 DIAGNOSIS OF WILDLIFE DISEASES III
In this course, students are expected to gain further experience in necropsy techniques, interpretation of lesions, and evaluation of the significance of the diseases identified in individual wild animals for the rest of the population, with increasingly independent work performance (necropsy, analysis, and interpretation of diagnostic cases). Students are encouraged to either write and submit one article for the newsletter of the Canadian Cooperative Wildlife Health Centre or give an oral presentation on a pertinent wildlife health topic at the Departmental level or at meetings of provincial Departments of Natural Resources (subject to approval of the instructor).
PREREQUISITES: VPM 8540 and VPM 8550

VPM 8570 DIAGNOSIS OF WILDLIFE DISEASES IV
In this course, students are expected to gain further experience in necropsy techniques, interpretation of lesions, and evaluation of the significance of the diseases identified in individual wild animals for the rest of the population, with a high degree of independent work performance (necropsy, analysis and interpretation of diagnostic cases). Students are required to either write

and submit one article for the newsletter of the Canadian Cooperative Wildlife Health Centre or give an oral presentation on a pertinent wildlife health topic at the Departmental level or at meetings of provincial Departments of Natural Resources (subject to approval of the instructor).
PREREQUISITES: VPM 8530, 8540 and 8560

VPM 8600 RESEARCH PROJECT (MVSc PROGRAM)
Each student in the MVSc program is required, under the supervision of a graduate faculty committee, to complete satisfactorily a small research project in the second year of study. The project may be based on either a laboratory investigation or a special topic such as a prospective or retrospective case study. The project report should make some contribution to the body of knowledge in that field and it should lead to a paper suitable for publication in a refereed journal.
PREREQUISITE: DVM or equivalent degree, permission of the instructor.
HOURS OF CREDIT: 6
LAB/SEMINARS: 12 hours

VPM 8620 CELLULAR PATHOLOGY
This course is an in-depth study of cellular pathology. Lectures and seminars centre around a variety of topics including immunopathology, inflammation, healing disorders of cell growth, cell degeneration and cell necrosis. Both mammalian and ectothermic aquatic animal systems are discussed.
PREREQUISITE: Permission of Course Coordinator.
HOURS OF CREDIT: 3
LECTURES: 2 hours
SEMINARS: 1 hour

VPM 8630 ADVANCED RESPIRATORY PATHOLOGY
This course involves advanced training in veterinary and comparative respiratory pathology, with emphasis on mechanisms of disease. This advanced course provides residents and graduate students with an in-depth understanding of the respiratory defence mechanism, host response to injury, inflammation, pathogenesis of diseases and animal models of human disease. The course consists of formal lectures and independent work by the graduate students describing microscopic lesions (histopathology). Two seminars will be presented by the graduate student.
PREREQUISITE: Permission by the instructor.
LECTURES: 2 hours
LAB/SEMINARS: 2 hours
TUTORIALS: 2
HOURS OF CREDIT: 3

VPM 8710 MOLECULAR BIOLOGY TECHNIQUES
This course introduces students to basic techniques involved in recombinant DNA research and their application to the genetic analysis of animal viruses and other pathogens of veterinary importance. Students learn the principles and practical aspects of molecular biology techniques through lectures (2 hrs./wk.), and hands-on-experience (6 hrs.+/wk.). Emphasis is placed on the following topics: techniques for the manipulation of nucleic acids, hybridization methods, gene cloning, DNA sequencing, gene expression, and PCR technology.
HOURS OF CREDIT: 4
LECTURES: 2 hours
LABORATORIES: 6 hours

VPM 8720 ADVANCED HELMINTHOLOGY
This course is an in-depth study of helminth taxonomy/morphology and recent advances in knowledge of the major helminth parasites of wild and domestic animals. Identification of helminth parasites recovered at necropsy and on histologic sections is taught through lecture and laboratories. Additional lecture/laboratory topics include field and laboratory techniques used in the study of helminth infections and recent advances in disease pathogenesis, life cycle transmission, diagnostic procedures and immunology of helminth

parasites.
PREREQUISITE: Permission of instructor.
HOURS OF CREDIT: 3
LECTURES: 2 hours
LABORATORIES: 2 hours

VPM 8810–8820 DIRECTED STUDIES
This course is a thorough study of a selected problem or topic in the discipline. The course may include directed reading, directed research, or collection and analysis of data. The student will prepare a written report and present a seminar on the topic.
PREREQUISITE: Permission of instructor.
HOURS OF CREDIT: 1–3

VPM 8850 BIOINFORMATICS FOR GRADUATE STUDENTS
In addition to participating in all the lectures and activities of the undergraduate course CS 3220/BIO 3220, graduate students are expected to accomplish a graduate project and attend extra guest lectures specially prepared for graduate students (when the graduate enrolment is 3 or more). The graduate project would be related to the student's research, so the thesis supervisor will be invited to join in the process of choosing and evaluating the graduate project. The graduate project will be worth 30% of the final grade.
Cross-level listed with CS 3220, BIO 3220, and HB 8850
PREREQUISITE: Admission to the graduate program and permission of the instructor
Note: No student can be awarded more than one course credit among HB 8850, VPM 8850, CS 3220, and BIO 3220

VPM 8900 SEMINAR
In this course, students attend and present annual seminars on topics in their discipline, are evaluated on their seminars, and provide constructive criticism to others giving seminars in the course.
PREREQUISITE: Admission to MSc program.
HOURS OF CREDIT: 1

VPM 9900 SEMINAR
This is a seminar course in which students attend and present annual seminars on topics in their discipline, are evaluated on their seminars, and provide constructive criticism to others giving seminars in the course.
PREREQUISITE: Admission to PhD program
HOURS OF CREDIT: 1

# 111. Master of Cleantech Leadership and Transformation

## Master of Cleantech Leadership and Transformation (MCLT)

Taking an inquiry-based learning approach, this program follows a cohort-model and provides students a unique and valuable opportunity to develop the skills, knowledge, and strategic mindset, through applied learning, to bridge traditional and emerging knowledge systems and drive cleantech innovation for a sustainable future.

**STRUCTURE OF PROGRAM:**

Graduate students will register in the interdisciplinary MCLT program under the Dean of Graduate Studies. The program requires students to take courses in the Fall, Winter, and Summer semesters continuously.

In addition to the "General Regulations for Graduate Programs," described above, the following regulations apply specifically to the Master of Cleantech Leadership and Transformation degree.

**PROGRAM REQUIREMENTS:**

Students enrolled in the MCLT program are required to complete a total of 36 credit hours (12 courses) including a capstone project. The components of the degree program include eleven core courses (33 credit hours), one elective course (3 credit hours), and Orientation to the Capstone Project (0 credit hours). Students have the opportunity to complete the MCLT program in sixteen months. Students must complete all required courses within three (3) years of being admitted to the program and meet graduation requirements within four (4) years of being admitted to the program.

The courses required for the MCLT are as follows:

CLT 6101 Cleantech Fundamentals I
CLT 6102 Cleantech Fundamentals II
CLT 6201 Environmental Ethics & Social Responsibility
CLT 6203 Indigenous Worldviews on Environmental Sustainability
CLT 6205 Cleantech Governance, Regulation, Policy and Politics
CLT 6207 Economics and Policy Analysis of Cleantech
CLT 6301 Project Management for Cleantech Transformation
CLT 6303 Innovation and Entrepreneurship for Cleantech Transformation
CLT 6800 Leadership Skills for Cleantech Transformation
CLT 7000 Orientation to Cleantech Capstone Project
CLT 7001 Cleantech Capstone Project I
CLT 7002 Cleantech Capstone Project II

In addition to completing all required courses, students must complete one of the following elective courses:

CLT 7210 Sustainable Communities and Policy
CLT 7310 Energy Technologies for Sustainable Neighbourhoods

**CLEANTECH COURSES**

**6101 Cleantech Fundamentals I**

This course examines fundamental concepts of climate change science, bringing students from different backgrounds onto the same page. Topics include ecosystems, biogeochemistry cycles, and greenhouse gases. The major environmental issues that need to be addressed to achieve net zero emissions will be discussed. Students will develop a solid understanding of the cleantech path to net zero and develop hopeful messaging around this.

PRE OR CO-REQUISITE: Acceptance into the Master of Cleantech Leadership and Transformation Program or

permission of instructor
HOURS OF CREDIT: 3

**6102 Cleantech Fundamentals II**

This course builds on Cleantech Fundamentals I by examining the path to net zero energy. Students will first gain a solid understanding of energy systems, major energy technologies underlying energy supply and consumption, their applications, and their integration with the electric grid. This course also introduces emerging clean energy technologies and policies impacting the development, deployment, and utilization of these technologies to address environmental issues. The role of big data, AI tech innovations, and other hot topics in the net zero energy path and energy security will be discussed.
PRE OR CO-REQUISITE: CLT 6101 – Cleantech Fundamentals I or permission of instructor
HOURS OF CREDIT: 3

**6201 Environmental Ethics & Social Responsibility**

This course explores key debates concerning: the moral significance of nature; basic moral theories; moral relativism, objectivism, and pragmatism; Indigenous perspectives on human-nature relations, ethical assessment of new technologies including impacts on human health and behavior, biodiversity, water conservation and climate change; the question of why humans have degraded their environments, including economic and political causes; the concepts of space, place, and ecological identity; ethical limitations of economic-driven decision-making and cost-benefit analysis; professional ethics and social responsibility; environmental justice, environmental racism, Reconciliation, and key debates in the ethics of climate change (individual, intergenerational, and international responsibilities; just transitions, geoengineering).
PRE OR CO-REQUISITE: Acceptance into the Master of Cleantech Leadership and Transformation Program or permission of instructor
HOURS OF CREDIT: 3

**6203 Indigenous Worldviews on Environmental Sustainability**

This graduate-level course discusses Indigenous worldview and philosophy to respond to the impacts of climate change. It explores the integration of Indigenous Knowledges with Western Knowledges to advance unique approaches to island and global environmental sustainability in the context of climate change.
PRE OR CO-REQUISITE: Acceptance into the Master of Cleantech Leadership and Transformation Program or permission of instructor
HOURS OF CREDIT: 3

**6205 Cleantech Governance, Regulation, Policy and Politics**

An introduction to clean technology governance, regulation, policy and politics, the first half focuses on Canada, as students examine the role that various levels of government play in relation to existing constitutional, administrative and regulatory frameworks. The second half employs a comparative perspective exploring case studies from several jurisdictions' settings, both developed and developing, looking at approaches of deploying cleantech projects. Students examine ideas, policy actors and institutions involved. We will address significant questions around efforts to support the transition towards net zero via the creation of a policy environment which lends itself to successful cleantech projects. Students will undertake a detailed analysis of a cleantech project, producing a well-researched policy product.
PRE OR CO-REQUISITE: Acceptance into the Master of Cleantech Leadership and Transformation Program or permission of instructor
HOURS OF CREDIT: 3

**6207 Economics and Policy Analysis of Cleantech**

This interdisciplinary course merges economics and political science to analyze cleantech-related issues within the framework of public policy, defined as 'anything a government chooses to do or not to do.' A primary goal is to understand the factors influencing policy decisions, particularly institutions, context, and decision-making processes. The economic aspect of the course focuses on the tension between economic activities and environmental sustainability, exploring how economic practices lead to environmental degradation and what regulatory actions can balance economic growth with environmental sustainability. Politically, the course examines the roles of different

government structures in Canada in policy development, evaluating the effectiveness of policies like carbon pricing and subsidies. Students will develop skills to critically assess government policies in environmental economics, understanding the interplay between economic theories and political realities.
PRE OR CO-REQUISITE: CLT 6205 – Cleantech Governance, Regulation, Policy, and Politics or permission of instructor
HOURS OF CREDIT: 3

**6301 Project Management for Cleantech Transformation**

This course will introduce students to project management knowledge, tools, and techniques to effectively manage projects within the rapidly evolving landscape of sustainable and clean technologies. Throughout the course, students will be exposed to sustainable environmental, social, and governance (ESG) principles and practices using lectures, case studies, and facilitated discussion. Students will develop a comprehensive understanding of project management principles while integrating ESG frameworks into project planning, stakeholder analysis, and engagement, execution, and evaluation by focusing on various project management concepts, guidelines, and practices for the leaders of sustainable and clean technology initiatives.
PRE OR CO-REQUISITE: Acceptance into the Master of Cleantech Leadership and Transformation Program or permission of instructor
HOURS OF CREDIT: 3

**6303 Innovation and Entrepreneurship for Cleantech Transformation**

This course looks at efforts of innovation and entrepreneurship in cleantech. These efforts are described and assessed in the context of innovation management and entrepreneurial ecosystems. The role of entrepreneurial thinking, innovative organizational culture, portfolio management, engagement of stakeholders, collaboration with partners, mitigation of technological risks, and interactions with investors are taught both in theory and using case studies relevant to cleantech. The course utilizes real-world learning techniques such as case studies, guest speakers, and project/venture plans.
PRE OR CO-REQUISITE: Acceptance into the Master of Cleantech Leadership and Transformation Program or permission of instructor
HOURS OF CREDIT: 3

**6800 Leadership Skills for Cleantech Transformation**

This course provides students with an overview of major leadership theories and opportunities to develop and practice their interpersonal skills in preparation for leadership in influential cleantech roles. Topics covered include leadership styles, followership and empowerment, change management and agency, influence and persuasion, effective communication, and conflict management. Students will reflect on their own leadership style and hone their leadership and interpersonal skills through interactive case discussions, role plays, and presentations. Key areas of skill development include self-awareness, critical thinking, adaptability, persuasion, conflict management, and communication.
PRE OR CO-REQUISITE: Acceptance into the Master of Cleantech Leadership and Transformation Program or permission of instructor
HOURS OF CREDIT: 3

**7000 Orientation to Cleantech Capstone Project**

The orientation module is an engaging and informative overview designed to prepare students for their Capstone Project experience. It will provide insights from industry and community leaders in cleantech, guidance on how to best prepare for the Capstone Project courses and networking opportunities. The course grade will be on a pass/fail basis.
PRE OR CO-REQUISITE: Students are expected to have completed all Master of Cleantech Leadership and Transformation program requirements to this point
HOURS OF CREDIT: 0

**7001 Cleantech Capstone Project I**

This course is the first of a two-part Capstone Project series where students will have the opportunity to begin their teamwork on a real-life project with a community or industry partner. Students will focus on the initial stages of the Capstone Project which include developing a project proposal, generating research questions, conducting a literature

review, environmental scan, and needs assessment, reviewing research ethics guidelines, and developing the project's research methodology. Supported by a series of workshops and seminars on topics like proposal writing, literature searching and citation, time management, and peer workshopping and feedback, emphasizing partnership development and engagement.

PRE OR CO-REQUISITE: Students are expected to have completed all Master of Cleantech Leadership and Transformation program requirements to this point

HOURS OF CREDIT: 3

**7002 Cleantech Capstone Project II**

This course is the second of a two-part Capstone Project series focusing on the development and completion of the team project which will culminate in a final report and presentation, with an analysis of findings and recommendations for the community or industry partner. In addition to the Capstone Project, students will individually write a leadership development portfolio reflecting on how course workshops and seminars have informed their knowledge, skills, attitudes, and identity as leaders. Supported by workshops and seminars focusing on teamwork skills, stakeholder engagement, community entry practices, and communication skills, while also providing a discussion forum for students to learn from and engage with leaders in cleantech.

PRE OR CO-REQUISITE: CLT 7001 – Capstone Project I

HOURS OF CREDIT: 3

Elective Courses (1 required)

**7210 Sustainable Communities and Policy**

The course advances students' understanding of the concept of sustainable development (SD) by introducing the history of the concept and different ways of measuring sustainability. The course touches upon the main factors that influence policy decisions and outcomes regarding SD (i.e., the role of power, economic interests, expertise, public opinion, resources, and technological innovation). Focusing on 'community energy systems' [CES] as a practical strategy for advancing sustainability. CES necessitates deep public involvement in development processes, as well as a fair and localized distribution of project outcomes. The CES development paradigm will be explored as a strategy for mitigating externalities associated with all energy sources, as well as a means to achieve distributive, procedural, recognition, and other forms of energy justice.

PRE OR CO-REQUISITE: Acceptance into the Master of Cleantech Leadership and Transformation Program or permission of instructor

HOURS OF CREDIT: 3

**7310 Energy Technologies for Sustainable Neighbourhoods**

This course offers a comprehensive exploration of sustainable community planning and renewable energy integration. Students will delve into historical perspectives and contemporary challenges, analyzing urban sprawl and sustainable built environment forms, with an emphasis on clean energy and nature-based solutions. The curriculum covers the integration of diverse renewable sources, microgrids, and energy storage technologies, enhancing grid reliability and resiliency. Through a collaborative approach, students will learn to integrate renewable energy into existing Canadian buildings and neighborhoods. By combining planning, renewable energy, and healthy community principles, students will receive a holistic perspective on sustainable communities and energy systems.

PRE OR CO-REQUISITE: CLT 6102 – Cleantech Fundamentals II or permission of instructor

HOURS OF CREDIT: 3

# 112. Master of Veterinary Science (MVSC)

**A) STRUCTURE OF THE PROGRAM**

The MVSc degree of the University of Prince Edward Island is a two-year, non-thesis (professional) Master's-track program to enhance scholarship and competitiveness of veterinarians in one of the broad disciplines of pathology, microbiology, or clinical sciences. The program is designed to provide advanced training in the disciplines, and to develop teaching and communication skills. In addition, a student successfully completing the program may spend an extra year of residency in his/her selected discipline so as to be eligible for certification by specialty groups that require three years of residency training. Success in the program is attested by the achieving of satisfactory standings in the minimum number of graduate courses required, the completion of a research project, and the writing of a project report suitable for publication in a refereed journal.

The graduate students will register in one of the academic departments listed below and in one of the designated areas of specialization:

**Department of Companion Animals**

Small Animal Medicine
Small Animal Surgery
Cardiology
Diagnostic Imaging

**Department of Health Management**

Large Animal Medicine
Large Animal Surgery
Theriogenology
Population Medicine
Aquatic Food Animal Medicine
Equine Clinical Sciences
Food Animal Clinical Sciences

**Department of Pathology and Microbiology**

Bacteriology
Clinical Pathology
Immunology
Morphologic Pathology
Parasitology
Virology
Wildlife Pathology
Public Health
Aquatic Animal Health
Biosecurity

In addition to the "General Regulations for Graduate Programs," described above, the following regulations apply specifically to the MVSc degree:

**Residency Requirements**

Normally, at least four semesters of full-time study in residence at the University must be devoted to the non-thesis Master's program if the student is admitted as a regular student. For a regular student admitted to a part-time study program, the residency period is based on the equivalence of three part-time semesters to one full- time

semester. A student admitted as a provisional student requiring two semesters in that category must spend at least two additional semesters as a regular full-time student to meet the residency requirement. Upon completion of the residency requirement, the student is then eligible to become a candidate for the MVSc degree.

Normally, the project report must be formally submitted, or the program must be otherwise complete, within 48 months of the completion of the residency requirement. Departure from these normal requirements requires approval from the Graduate Studies Committee.

**B) COURSES**

**Prescribed Studies**

The minimum number of courses and/or general examinations is outlined below. For graduate credit, the courses selected must be acceptable to the Department and the Graduate Studies Committee. The candidate must maintain an average grade of at least a "B" standing (see Grades in General Regulations section) in the substantive courses outlined below in order to maintain registration in the program. Substantive courses are graduate level courses assigned a minimum of two credit hours.

Students are required to complete courses totalling a minimum of 32 credit hours. Within this course complement there must be at least eight substantive courses and the appropriate departmental Seminar course (one credit). Normally, in addition to the project, at least three substantive courses should be in the area of the student's specialization. The Department may require examinations (oral and/or written) from time to time, to evaluate the student's progress in his/her overall program.

**Additional Courses**

In addition to these prescribed studies, the candidate may undertake to achieve satisfactory standings in courses supportive of the special discipline. These courses may be at either the undergraduate or the graduate level. The standings obtained in them will not affect the average grade of the prescribed studies.

When a student is required to register in a seminar or colloquium course in more than one semester, the record will show a grade or a designation of "In Progress" for semesters prior to completion of the course, and "Pass" or "Fail" for the final semester. With the consent of the Supervisory Committee, and of the instructor and the Department Chair concerned, a student may register for, and audit, all or part of a course. It is understood that the student will attend lectures as prescribed, but will not write any examination or receive any grade. Such a course may be recorded as an additional course, identified by "AUD".

**C) THE PROJECT REPORT**

**Research**

Normally, the equivalent of at least six credit hours must be devoted to a small research project in fulfilment of the degree requirement. The project may be based on either a laboratory or clinical investigation, or a special topic such as a prospective or retrospective case study. Summers during which research work is actively conducted may be counted as research semester equivalents, even though other courses may not be offered at that time. In order to avoid undue prolongation of the time required to complete the degree, the research topic should be identified early and approved by the Supervisory Committee. Research involving the use of animals must follow the Guidelines of the Canadian Council on Animal Care.

**Project Report**

Each candidate for the degree of Master of Veterinary Science is required to submit a project report (in place of a thesis) based upon the research conducted under supervision as described above. The report should make some contribution

to the body of knowledge in the candidate's field. The report should be prepared as a manuscript, in a form that meets the guidelines for submission of a peer-reviewed scientific journal.

**Procedures**

The project report may be handed in at any time of the year, but candidates must bear in mind the desirability of having the final examination as much in advance of the deadline date for report submission as possible. Candidates are advised to inform themselves of the deadlines schedule, a copy of which may be obtained in the Office of the Program Administrator. It is desirable that each candidate initiate discussion about examination dates with the Supervisor early in the final semester.

The candidate should keep in close touch with the Supervisor and the Supervisory Committee, throughout the preparation of the project report. The final draft of the report, after it has been reviewed by all members of the Supervisory Committee, and when ready for examination is sent to the members of the MVSc Examination Committee (see below).

Following the Examination, the candidate, if successful, arranges for the preparation of the project report in final form, and for its submission to the Program Administrator (see below). The project report in final form, prepared as a manuscript meeting the guidelines for submission of a peer-reviewed scientific journal, must include any minor corrections or revisions indicated during the Examination. Approval of the report and the manuscript takes the form of a Certificate of Approval, signed by the Examination Committee.

**The Master of Veterinary Science Examination**

The final oral examination is based on an overall assessment of the candidate's knowledge and competence in his/her field of study, including the project report. It is a departmental examination identified as the MVSc Examination and carried out by the MVSc Examination Committee normally consisting of four members as follows:

i. one graduate faculty of the Department, who is not a member of the Supervisory Committee, and who is appointed by the Department Chair to act as chair of the MVSc Examination and to make the arrangements therefore;
ii. the Supervisor of the candidate's program;
iii. one additional member of the Supervisory Committee; and
iv. one member of the graduate faculty from a department other than that in which the student is registered.

The Department Chair selects the Examination Committee at the request of the Supervisor and is responsible for notifying the Program Administrator of its composition. The Examination is normally open to the public; however, members of the audience may question the candidate only upon invitation of the Chair of the Committee.

The Examination is passed and the project report approved if there is no more than one negative vote, an abstention being regarded as a negative vote. The report, from the Department Chair to the Program Administrator, records the result as "unsatisfactory," or "satisfactory,". If the result is "unsatisfactory," the candidate may be given the opportunity by the MVSc Examination Committee of a second attempt. A second "unsatisfactory" result will terminate candidacy at this university.

## Graduate Courses – Veterinary Medicine

# 113. Doctor of Philosophy Program (PhD) - Veterinary Medicine

**A) STRUCTURE OF THE PROGRAM**

The purpose of the PhD degree program is to educate individuals to become independent, reliable, and competent research scientists. The PhD degree requires the demonstration of independent research and a reasonable mastery of a concentrated field of study. The research should comprise an extensive body of original research in the student's field, making a true contribution exemplifying the student's depth of knowledge, creativity, innovation, and proven ability to make significant scientific research contributions. The latter is attested to by the achieving of satisfactory standings in the approved program of graduate courses, the completion of a research project, and the writing of a defensible thesis based upon the research.

The graduate students will register in one of the academic departments of the Faculty of Veterinary Medicine and in one of the areas of specialization listed:

**Department of Biomedical Sciences**

Animal Behaviour
Physiology, Pharmacology and Toxicology
Cell Biology
Neuroscience
Endocrinology

**Department of Health Management**

Animal Science and Animal Nutrition
Epidemiology/Health Management
Clinical Sciences
Aquatic Animal Health
Biostatistics
Public Health
Animal Welfare

**Department of Pathology and Microbiology**

Bacteriology
Clinical Pathology
Immunology
Morphologic Pathology
Parasitology
Virology
Wildlife Pathology
Public Health
Aquatic Animal Health
Biosecurity

Depending on the individual thesis topic, projects could involve one or more of several species of animals. There will be considerable interaction and co-operation among the departments, with other universities in the region, and with government research laboratories to provide courses and research facilities to meet the needs of individual students and their research projects.

In addition to the "General Regulations for Graduate Programs" described earlier, the following regulations apply specifically to the Doctor of Philosophy degree:

**Admission Requirements**

The normal basis for admission to PhD studies as a regular or a provisional student is a recognized thesis-based MSc degree obtained with an average of at least second class (B level 70% to 79.9%) academic standing.

**Transfer from MSc to PhD**

An applicant enrolled in an MSc program who achieves a superior record (normally at least first class [80% or higher] academic standing in graduate course work) and shows a particular aptitude for research may, with recommendation of the Supervisory Committee and Department, apply to the AVC Graduate Studies and Research Committee for transfer from the MSc to a PhD program without the requirement for completion of the MSc degree. Transfers are normally made within the same department. However, inter-departmental transfers will be considered by the AVC Graduate Studies and Research Committee on a case-by-case basis, on the recommendation of both Departments. The application for transfer must be made no sooner than the end of the second semester and normally no later than the end of the sixth semester, and is effective in the semester following approval. All regulations relating to the PhD program apply from the effective date. However, status in the doctoral program will be considered provisional until such time as the candidate passes the PhD Comprehensive Examination, as governed by the academic unit's regulations. If the Comprehensive Examination is passed, the student will be transferred from provisional to regular PhD student status. Two failed attempts of the Comprehensive Examination will result in the provisional PhD student status being revoked and immediate reversion to MSc student status. All regulations relating the MSc degree apply from the date of reversion. There will be no refund of program fees.

**Residency Requirements**

Normally, at least six semesters of full-time study in-residency at the University must be devoted to the doctoral program following completion of a recognized Master's degree. In cases in which a student transfers from a Master's to a PhD program, eight semesters of full-time study would be the minimum residency requirement after completion of the Bachelor's degree. Residency is defined as having direct and frequent contact with the student's Supervisor and Supervisory Committee. This residency is normally in-person, unless otherwise approved by the AVC Graduate Studies and Research Committee.

**Time limit to Complete Degree**

For students who are full-time throughout their program, the PhD is expected to be complete within 15 semesters. The duration limits for when the thesis must be formally submitted or the program otherwise complete is 21 semesters after first registration. Departure from the 21 semester limit requires a program extension approval from the AVC Graduate Studies and Research Committee and Faculty of Graduate Studies, and the decision is submitted to the Registrar's Office.

**B) SUPERVISION**

The student's program is established and progress kept under review by the appropriate department with approval of the AVC Graduate Studies and Research Committee twice annually. At the discretion of the academic unit, the day-to-day responsibility for overseeing the student's program will rest with the Supervisor or jointly with the Supervisory Committee of five graduate faculty, one of whom must be from a department other than that in which the student is registered.

The graduate student's Supervisor shall not be the Chair of the Supervisory Committee. The Supervisor and Supervisory Committee members must maintain Graduate Faculty status appropriate for the degree.

**C) COURSES**

The PhD degree is primarily a research degree; for that reason course work commonly comprises a smaller proportion of the total than is the case at the level of the Master's degree. The graduate program of each graduate student is specific to the student's research requirements and as such relies on the student's Supervisory Committee to identify the optimal set of courses unique to the student's program.

**Prescribed Studies**

In the Faculty of Veterinary Medicine, substantive courses are graduate level courses assigned a minimum of two credit hours. In the PhD program students are required to complete courses totalling a minimum of 12 credit hours. Within this course complement there must be at least four substantive courses and the appropriate departmental Seminar course (one total credit for the course that is completed over the first 9 semesters). Recognizing that it is the responsibility of the student and their supervisor, with input from their Supervisory Committee, to propose courses that best support the development of the student's research skills proficiency, the AVC Graduate Studies and Research Committee may approve a justified reduction in the requirement of four substantive courses, twelve total credits, or both. Approval for taking fewer than six total credits would be granted only under exceptional circumstances.

Normally, only one of the substantive courses may be a Directed Studies course unless the Supervisory Committee and the AVC Graduate Studies and Research Committee agree that it is in the best interests of the student to take more than one Directed Studies to ensure appropriate skills development in the field of study to complete their degree.

All students are expected to complete VHM 8010 (Veterinary Biostatistics) unless comparable training has been completed prior to entry into the program or a more appropriate alternative statistics is proposed by the Supervisory Committee and approved by the AVC Graduate Studies and Research Committee. Approved waivers of biostatistics courses may lower the total number of graduate level credits during the PhD program at UPEI if supported by the student's Supervisory Committee and approved by the AVC Graduate Studies and Research Committee. In the case of a waiver, it will not be necessary to replace a statistics course with a non-statistics course unless the student's Supervisory Committee deems the student deficient in another important field. In some cases, on the recommendation of the Supervisory Committee and with the approval of the AVC Graduate Studies and Research Committee, exemptions may be granted for some of the course requirements in recognition of previous academic work, as would be the case for students who enter the PhD program with a MSc if the previous degree program provided graduate-level courses applicable to their current PhD research.

For graduate credit, the courses selected must be acceptable to the department and the overall graduate program approved by the AVC Graduate Studies and Research Committee as early as feasible in the program and not later than the end of the first full semester of study. These substantive courses and/or general examinations comprise the candidate's prescribed studies.

A department may require examinations (oral and/or written), from time to time, to evaluate the student's progress in their overall program.

**Additional Courses**

In addition to these prescribed studies, the candidate may undertake to achieve satisfactory standings in courses supportive of the special discipline. These courses may be at either the undergraduate or the graduate level. The standings obtained in them will not affect the average grade of the prescribed studies. When a student is required to register in a seminar or colloquium course in more than one semester, the record will show a grade or a designation of "In Progress" for semesters prior to completion of the course and "Pass" or "Fail" for the final semester. The student will register in the seminar course every semester until all other PhD degree requirements have been met or nine semesters, whichever occurs first. With the consent of the Supervisory Committee, and of the instructor and the Department Chair

concerned, a student may register for, and audit, all or part of a course. It is understood that the student will attend lectures as prescribed, but will not write any examination or receive any grade. Such a course may be recorded as an additional course, identified by AUD.

**D) THE THESIS**

**Research**

In the total program of a doctoral student it is expected that the major part of the time be devoted to research in fulfilment of the thesis requirement. The research proposal should be formulated at as early a date as possible and be presented to the Supervisory Committee for approval. Research must meet all compliance approval requirements, including (but not limited to) the Guidelines of the Canadian Council on Animal Care, monitored by the UPEI Animal Care Committee (ACC), all legislation related to biohazards and the UPEI Biosafety Policy, monitored by the UPEI Institutional Biosafety Committee (IBC), and the Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans, monitored by the UPEI Research Ethics Board. For research conducted off-campus, direct and frequent contact with the student's Supervisor and Supervisory Committee must be maintained and arrangements are subject to the prior approval of the Chair of the Department in which the student is registered and the Associate Dean of AVC Graduate Studies and Research.

**Comprehensive Examination**

At as early a date as may be feasible no later than the 6th semester after first registration following the Master's degree or the 8th semester after first registration following the honours baccalaureate, the student is required to take their comprehensive examination. Deviation from this schedule must be approved by the AVC Graduate Studies and Research Committee. The comprehensive examination is an examination to assess the student's knowledge in that branch of learning embracing the subject and will ordinarily occur in two parts, one written and one oral.

The Comprehensive Examination is an examination by the Faculty of Veterinary Medicine (as distinct from an examination by the Supervisory Committee).

Upon completing the Comprehensive Examination satisfactorily, the student is deemed to have met the Faculty of Veterinary Medicine standards, and then becomes a candidate for the PhD degree. The Examining Committee, and its Chair will be, proposed by the Chair of the department and approved by the Associate Dean of AVC Graduate Studies and Research. The Examining Committee consists of some or all of the members of the Supervisory Committee, together with two additional members of the Graduate Faculty, at least one of whom must be a member of the department. The Chair of the Examining Committee is responsible for making all arrangements. As a Comprehensive Examination, consideration is to be given to:

1) the student's knowledge of the subject matter and ability to integrate the material derived from their studies; and,

2) to the student's ability and promise in research. The Associate Dean of AVC Graduate Studies and Research, therefore, will receive from the Supervisory Committee a written evaluation of the quality of the student's performance to date in research and of the student's potential as a researcher. This evaluation wil be shared with the Examining Committee. The Examining Committee will determine the relative importance to be given to these two major components of the Comprehensive Examination.

The results of the Comprehensive Examination will be reported to the Associate Dean of Graduate Studies and Research through the Department Chair. The examination may be repeated once within a program, and if the student fails a second time, further registration in the PhD program will be denied.

**Thesis**

Each candidate for the degree of Doctor of Philosophy shall submit a thesis, written by the candidate, on the research carried out by the candidate on the approved topic. The thesis is expected to be a significant contribution to knowledge

in its field, and the candidate must indicate in what ways it is a contribution. The thesis must demonstrate mature scholarship and critical judgement on the part of the candidate, and it must indicate an ability to express oneself in a satisfactory literary style. Approval of the thesis is taken to imply that it is judged to be sufficiently meritorious to warrant publication in reputable scholarly media in the field. The thesis style and formatting must be approved by the student's Supervisory Committee and must conform to the UPEI Faculty of Graduate Studies thesis guidelines.

**Examination and Publication**

For each doctoral thesis, an External Examiner from outside the University is appointed by the AVC Associate Dean of Graduate Studies and Research in consultation with the Supervisor and the Department Chair. Prior to the exam, the External Examiner will submit a written appraisal of the thesis to the Associate Dean of Graduate Studies and Research. This brief report will summarize their evaluation of the thesis and normally include a discussion of the scientific significance of the thesis with comments regarding its theoretical framework, methodology, findings, and interpretations. The report will consider its academic standard and quality, reflecting that the candidate meets the minimum requirements to qualify as a researcher, considering the candidate's formulation of research questions, logical and original approaches to testing stated hypotheses, and understanding of current methods and their limitations.

The External Examiner is expected to attend the Final Oral Examination. However, when an External Examiner is unable to attend the Final Oral Examination within a reasonable time frame, the Associate Dean of Graduate Studies and Research, in consultation with the Chair of the Examining Committee and the Chair of the Department, may permit examination via videoconference. Honoraria and expenses are paid as per University policy in relation to the duties involved.

**Procedures**

The thesis may be submitted at any time of the year, but candidates are advised to allow ample time for revision and examination. It is understood that, as the thesis is being written, the candidate is in regular communication with the Supervisor and Supervisory Committee. In due time, a final draft emerges which is deemed to be ready for examination. The AVC Associate Dean of Graduate Studies and Research receives this final draft from the candidate and a formal request for the examination, endorsed by the Supervisory Committee (maximum of one dissenting committee member) and the Departmental Chair. A copy of this final draft is sent by the AVC Associate Dean of Graduate Studies and Research to the External Examiner as "fair copy" of the thesis. Normally within one week of receiving the thesis, the External Examiner will communicate to the AVC Associate Dean GSR their opinion of the overall acceptability of the thesis going forward to examination and arrangements for the Final Oral Examination will then be finalized by the AVC Graduate Studies and Research Office. If the External Examiner deems the thesis to be unacceptable, the supervisory committee will be informed and the final oral examination may be deferred to a later date. It is understood that as a result of the Final Oral Examination, the entire examination committee will be involved in decisions about whether the candidate satisfies the criteria for the degree which may include corrections to produce a revised final version of the thesis.

**The Final Oral Examination**

The Final Oral Examination is devoted chiefly to the defence of the doctoral thesis. It is a Faculty level examination, for which the arrangements are the responsibility of the Office of the Associate Dean of AVC Graduate Studies and Research. The Final Oral Examination is conducted by an Examining Committee consisting of five members, as follows:

- a member of the graduate faculty who is not a member of the Supervisory Committee appointed to act as Chair by the Associate Dean of AVC Graduate Studies and Research in consultation with the Department Chair;
- the External Examiner;
- a member of the graduate faculty who is not a member of the Supervisory Committee, appointed by the Associate Dean of AVC Graduate Studies and Research in consultation with the Department Chair;

- two members of the student's Supervisory Committee, proposed by the Supervisory Committee and appointed by the Associate Dean of AVC Graduate Studies and Research. One Supervisor or Co-Supervisor may fill the role of the one from the Supervisory Committee, but not both. Normally, one member shall be from a Department other than that in which the student is registered.

Normally, the Associate Dean of Graduate Studies and Research or their designate will attend the Examination. The Examination is open to the public except under exceptional circumstances recommended by the Associate Dean of AVC Graduate Studies and Research and approved by the Dean of UPEI Faculty of Graduate Studies. Members of the audience may question the candidate only upon invitation of the Chair of the Committee. Normally the Examination is preceded by a public presentation of the research results.

The members of the Examining Committee, including the External Examiner, report individually on both the defence and the thesis, the candidate being deemed to have passed and the thesis approved if not more than one of the five Examiners votes negatively. An abstention is regarded as a negative vote. The signed Certificate of Approval, is submitted with the approved thesis in its final form to the Associate Dean of AVC Graduate Studies and Research. The report to the Associate Dean will record the decision as "unsatisfactory," or "satisfactory." If "unsatisfactory," the candidate may be given the opportunity of a second attempt. A second "unsatisfactory" will terminate candidacy at this University.

## Graduate Courses – Veterinary Medicine

# 114. Doctor of Applied Health

**(i) Introduction**

The DrAH is a solutions-focused interdisciplinary degree program. The curriculum focuses on developing essential skills based on theory and evidence for real world applications to resolve issues within health-related sectors.

Graduates of the Doctor of Applied Health program will be ready to make meaningful contributions to scholarship in applied health through their knowledge and understanding of a range of research methodologies and their relevance to specific real world challenges impacting health-focused organizations and communities.

In responding to the demand for scholar-practitioners with the ability to provide leadership in the workplace and build strong collaborative networks, through this program, UPEI aims to meet the pressing needs for evidence-informed, upstream prevention, policies and practices that target population health promotion. To this end, the DrAH focuses on developing graduates with the competencies required to bridge gaps between health systems, health researchers, health practitioners, and decision/policy makers in a manner that breaks down silos and enables professionals to work toward common goals.

**(ii) Overview**

The Doctor of Applied Health at UPEI is the first professional Doctor of Applied Health degree program in Atlantic Canada. The program model is a four-year, 60 credit professional doctoral program with a capstone project. The program will be delivered using a cohort approach with a high degree of active engagement and collaborative interdisciplinary learning.

**(iii) Program Requirements**

The Doctor of Applied Health degree is comprised of 20 required courses, with a minimum of 360 hours of on-campus summer institute experience, and an applied research capstone project. The following program plan illustrates the schedule of curriculum delivery over the four years of the program.

**REQUIRED COURSES**

**Year 1: Summer Institute (July – 2 compressed courses)**

AH-7000: Introduction to Health and Health Promotion

AH-7010: Introduction to Applied Health Research Methods

**Year 1: Fall Semester**

AH-7020: Foundations of Population and Applied Health

**Year 1: Winter Semester**

AH-7030: Partnering to Advance Population Health

**Year 1: Summer Semester**

AH-7040: The Social Determinants of Health

**Year 2: Summer Institute (July – 2 compressed courses)**

AH-7050: Policy Analysis

AH-7060: Introduction to Knowledge Translation

**Year 2: Fall Semester**

AH-7070: Improving Health Outcomes through Sustainable Development

**Year 2: Winter Semester**

AH-7080: Knowledge Generation in Applied Health – Research and Theories

**Year 2: Summer Semester**

AH-7090: Ethics and Professional Practice Issues in Applied Health

**Year 3: Summer Institute (July – 2 compressed courses)**

AH-7100: Special Topics in Applied Health

AH-7110: Improving Health Outcomes through Collaborative Leadership

**Year 3: Fall Semester**

AH-7120: Introduction to Implementation Science

**Year 3: Winter Semester**

AH-7130: Community Development and Project Planning

**Year 3: Summer Semester**

AH-7140: Systemic Influences on Health – Applied Health Administration and Management

**Year 4: Summer Institute (July – 2 compressed courses)**

AH-7150: Improving Health Outcomes Through Policy Development and Implementation

AH-7160: Marketing and Communicating Applied Health Programs

**Year 4: Fall Semester**

AH-7170: Knowledge to Action – Assessing and Validating Wicked Problems

**Year 4: Winter Semester**

AH-7180: Improving Health Through Knowledge Translation I – Taking Action on Wicked Problems Implementing and Evaluating the Capstone Project

**Year 4: Summer Semester**

AH-7190: Improving Health Through Knowledge Translation II- Sharing Solutions to Wicked Problems – Culmination and Dissemination of Capstone Project

**ELECTIVE COURSES**

None

## Doctor of Applied Health Courses

7000 INTRODUCTION TO HEALTH AND HEALTH PROMOTION

This course introduces students to the evolution of health and health promotion beginning with the historical evolution of health from a biomedical perspective to the Ottawa Charter for Health Promotion in 1986 to the most recent Astana Conference. Through various case examples, students will examine how targeted actions specific to building public policy, creating supportive environments, strengthening community action, developing personal skills and re-orientating health services towards health promotion and illness prevention can result in improvements in population health.

PREREQUISITE: Must be enrolled in the Doctor of Applied Health Program

Three semester hours

7010 INTRODUCTION TO APPLIED HEALTH RESEARCH METHODS

Building upon undergraduate research coursework, students will learn how to interpret and evaluate research designs commonly used in applied health. Students will be introduced to various epidemiological methods, case study, ethnographic, and participatory action research methodologies. In addition, students will be expected to critically appraise current applied health research and recognize the importance of examining multiple data sets including demographic, epidemiological and statistical data, current literature and environmental scans when proposing applied health research.

PREREQUISITE: Must be enrolled in the Doctor of Applied Health Program

Three semester hours

7020 FOUNDATIONS OF POPULATION AND APPLIED HEALTH

In this course students will be introduced to foundational concepts related to population health and applied health. In this course students will be introduced to seminal documents and position papers that have enhanced our understanding of population health. Socio-environmental issues impacting population health will be explored and opportunities to address and enhance population health at the local, national and international debated.

PREREQUISITE: AH 7000, AH 7010

Three semester hours

7030 PARTNERING TO ADVANCE POPULATION HEALTH

In this course students will gain a deep appreciation of the importance of partnering and intersectoral collaboration to advance population health. Students will be introduced to the roles and responsibilities of multiple sectors who are actively working on to promote the health of individuals, families, and communities at the local, national, and international level. Throughout this course students will recognize various components that constitute successful partnerships.

PREREQUISITE: AH 7020

Three semester hours

7040 THE SOCIAL DETERMINANTS OF HEALTH

Building upon AH 7000 and AH 7020, coursework, students will delve further into the biopsychosocial factors that impact the health and well-being of individuals, families, and populations. Students will be introduced to the social determinants of health and consider how each of these can contribute to both wellness and illness. Students will critically appraise various determinants of health considering their wicked problem and identify how taking action on a specific determinant, or determinants of health, could address their wicked problem and lead to improved population health outcomes.

PREREQUISITE: AH 7030

Three semester hours

7050 POLICY ANALYSIS

In this course students will be exposed to the various stages involved in the development of healthy public policies. From identification of need through to policy implementation and legislation, students will analyze a multitude of factors that determine whether policies drafted become policies implemented. Drawing upon case examples at the local, national and international level, students will critically examine the extent to which effective and ineffective policy development can impact population health.

PREREQUISITE: Successful completion of all Doctor of Applied Health Year 1 program courses

Three semester hours

7060 INTRODUCTION TO KNOWLEDGE TRANSLATION

In this course, students will integrate Year 1 Doctor of Applied Health program course learning and propose their capstone project topic. Working in partnership with external partners and using multiple data sets including demographic, epidemiological and statistical data, current literature and environmental scans, students will identify a wicked problem and defend how this could be addressed through the development of a capstone project. They will then propose an appropriate applied research method and evaluation strategy to resolve the wicked problem. This course will culminate with the successful viva-voce defense of the student's proposed Doctor of Applied Health capstone project proposal.

PREREQUISITE: Successful completion of all Doctor of Applied Health Year 1 program courses

Three semester hours

7070 IMPROVING HEALTH OUTCOMES THROUGH SUSTAINABLE DEVELOPMENT

The students in DAH 7070 will be introduced to the 1978 Declaration of Alma Alta, and the 2000 Millennium Health Goals and 2015 UN Sustainable Development Goals (SDGs). Using case examples, students will critically analyze where successes and failures have occurred in the advancement of global health. Through interactive dialogue, debate and review of local, national and international examples, students will gain a deeper understanding of each of the 17 SDGs and recognize how actions targeting these can lead to sustained health improvements.

PREREQUISITE: AH 7050, AH 7060

Three semester hours

7080 KNOWLEDGE GENERATION IN APPLIED HEALTH – RESEARCH AND THEORIES

A central tenet of the DrAH program is interprofessional and inter-organisational collaboration in order to establish a leadership role in applied health research and care. To this end, students will be introduced to the theoretical literature

underlying the importance of establishing communities of practice and the role of these communities in healthcare collaboration. Three important thematic areas addressed in this course will include: optimizing knowledge sharing within and across communities of practice, suggested ways to create and manage communities of practice, and the importance of sustaining stakeholder identity within communities of practice.
PREREQUISITE: AH 7070
Three semester hours

7090 ETHICS AND PROFESSIONAL PRACTICE ISSUES IN APPLIED HEALTH

This course introduces students to various ethical issues in applied health. Students will be exposed to various codes of conduct guiding the practice of various applied health disciplines. Using a socioecological framework, students will critically analyze various interprofessional practice issues. Through case-based learning, students will work in teams to propose ethically sound solutions to address issues in applied health practice locally, nationally and internationally. Central to this course will be an understanding of the importance of ethics when working collaboratively with others in applied health.
PREREQUISITE: AH 7080
Three semester hours

7100 SPECIAL TOPICS IN APPLIED HEALTH

Topics chosen for the Special Topics in Applied Health course will address a wide array of relevant, current and contemporary issues impacting population health at the local, national and international levels. Topics selected for these courses may vary from year to year depending on emerging and future issues in applied health. Proposed topics for the Special Topics in Applied Health courses will align with the Canadian Public Health Association competencies for graduate students (2019) and/or the Canadian Health Services and Policy Research Alliance competencies for doctoral education (2018).
PREREQUISITE: Successful completion of all Doctor of Applied Health Year 2 program courses
Three semester hours

7110 IMPROVING HEALTH OUTCOMES THROUGH COLLABORATIVE LEADERSHIP

In this course students will be introduced to various theories of leadership and the impact that these may have in the planning and delivery of health services and subsequent health outcomes. Building upon the Canadian Federation for Health care Improvement Executive Training Program (2019), students will recognize the importance of developing effective collaborative interdisciplinary teams, grounded in a philosophy of collaboration, mutuality and respect. Using various case examples, students will understand more fully how this approach to relational leadership can open the door to new possibilities and improve population health.
PREREQUISITE: Successful completion of all Doctor of Applied Health Year 2 program courses
Three semester hours

7120 INTRODUCTION TO IMPLEMENTATION SCIENCE

In this course students will be introduced to the bridge between science and practice through community engagement and social action to increase health equity. Using an implementation science approach students will be introduced to the scientific study of methods to promote the systematic uptake of clinical research findings and other evidence-based practices into routine practice, and hence to improve the quality (effectiveness, reliability, safety, appropriateness, equity, efficiency) of health care.
PREREQUISITE: AH 7100, AH 7110
Three semester hours

7130 COMMUNITY DEVELOPMENT AND PROJECT PLANNING

In this course students will be introduced to various models of community development and project planning. Using a strengths-based approach, students will understand the various phases required for successful project development and implementation. Building on knowledge gained through previous program courses, students will articulate the importance of interdisciplinary partnerships and collaborative leadership in community development and project planning.

PREREQUISITE: AH 7120

Three semester hours

7140 SYSTEMIC INFLUENCES ON HEALTH – APPLIED HEALTH ADMINISTRATION AND MANAGEMENT

Throughout this course students will be introduced to a multitude of systemic influences that impact population health. Examining various frameworks guiding health administration and management, students will critically dialogue and debate how systemic influences including health economics, and health legislations can impact the evolution of local, national and international health systems and the management of these.

PREREQUISITE: AH 7130

Three semester hours

7150 IMPROVING HEALTH OUTCOMES THROUGH POLICY DEVELOPMENT AND IMPLEMENTATION

In this course, students will gain an in-depth understanding of the multiple phases of public policy development and implementation. Sharing both successes and failures in health policies, students will gain a deeper appreciation and recognize how effective health policies can lead to improved population health outcomes. Students will use evidence to justify how health outcomes can be improved through the successful implementation of a capstone project that supports the development of healthy public policies for sustained change.

PREREQUISITE: Successful completion of all Doctor of Applied Health Year 3 program courses

Three semester hours

7160 MARKETING AND COMMUNICATING APPLIED HEALTH PROGRAMS

In this course students will be introduced to various marketing and communication theories that could be used to raise awareness about applied health programs. Students will consider these theories related to their proposed capstone project. At the conclusion of this course, students will develop a marketing and communication plan to educate others about their wicked problem and how their proposed capstone project will address this problem and lead to population health improvements. Students will share their marketing and communication plan with applied health practitioners to gather feedback about the effectiveness of their proposed strategies.

PREREQUISITE: Successful completion of all Doctor of Applied Health Year 3 program courses

Three semester hours

7170 KNOWLEDGE TO ACTION—ASSESSING AND VALIDATING WICKED PROBLEMS

In this course students will integrate previous program course learning and solidify their capstone project topic. Working collaboratively with external partners and using multiple data sets including demographic, epidemiological and statistical data, current literature and environmental scans, students will identify existing issues within health systems and justify how these wicked problems can be addressed through the implementation of a capstone project. During this course, students will finalize their plans for implementing the capstone project with their program supervisory committee and external partners.

PREREQUISITE: AH 7150, AH 7160

Three semester hours

7180 IMPROVING HEALTH THROUGH KNOWLEDGE TRANSLATION I—TAKING ACTION ON WICKED PROBLEMS IMPLEMENTING AND EVALUATING THE CAPSTONE PROJECT

In this course students will implement their capstone projects. In addition, strategies for knowledge translation related to the wicked problem will be finalized. This course will culminate with students conducting an evaluation of the project's effectiveness in addressing their proposed wicked problem.

PREREQUISITE: AH 7170

Three semester hours

7190 IMPROVING HEALTH THROUGH KNOWLEDGE TRANSLATION II—SHARING SOLUTIONS TO WICKED PROBLEMS – CULMINATION AND DISSEMINATION OF CAPSTONE PROJECT

The focus of this final course is on the sharing of solutions to wicked problems. Students will be expected to actively engage in knowledge translation activities that showcase their capstone projects and highlight how these projects have addressed their proposed wicked problem. It is expected that students share their capstone projects broadly with a wide array of audiences, across multiple sectors and settings. At the conclusion of this course, students are expected to have

prepared and submitted at least one major paper or report for dissemination.
PREREQUISITE: AH 7180
Three semester hours
Note:  Course will remain In Progress until Capstone Project is submitted and accepted. May be registered in multiple semesters.

# 115. Doctor of Philosophy in Sustainable Design Engineering

**Faculty of Sustainable Design Engineering PhD Program**

**Overview:** The UPEI Doctor of Philosophy in Sustainable Design Engineering (PhD-SDE) program aims to train graduates who have in-depth expertise in applying principles of sustainable design engineering to interdisciplinary and transdisciplinary research challenges. The PhD-SDE degree program will be research-intensive and require the students to complete their thesis work under the supervision of a Faculty of Sustainable Design Engineering (FSDE) faculty member.

**Course Requirements:** Students will be required to take at least four (4) graduate-level courses (equivalent to at least 12 credits) in addition to SDE 8010 (PhD Thesis) and SDE 8900 (Seminar). Normally these courses should be selected from the PhD-SDE Graduate level Courses listed below. Upon approval of the student's supervisory committee, up to two graduate-level courses may be taken from outside the FSDE. All students must complete the SDE 8030 (Contemporary Topics in Sustainable Design Engineering) course unless they receive approval from their supervisory committee to take an alternate FSDE graduate-level course. In the case of students who transfer from the MSc-SDE program at UPEI, any PhD-SDE Graduate-level Courses completed during their MSc degree will count towards their PhD degree. Each student is expected to complete these courses within the first 24 months of the degree, before or in the concurrent semester of their PhD Comprehensive Exam.

**Thesis and Seminar:** PhD-SDE students are required to register for SDE 8010 (PhD Thesis) throughout their degree program. PhD-SDE students are also required to register in the SDE 8900 (Seminar) course in the first four years of their degree program. SDE 8900 is a Pass/Fail course. Seminars are held on a weekly basis, and each student must present their research work at least once a year and attend all the seminar sessions to receive Pass the SDE 8900 course, unless prior arrangement is made with the Supervisor and the Graduate Studies Coordinator. SDE 8010 will be evaluated as satisfactory/unsatisfactory, and the requirement for receiving satisfactory in the SDE 8010 is explained under the Doctoral Examination subsection.

**Duration of Program:** A minimum period of three (3) years and maximum period of seven (7) years from the date of first registration will be allocated for the completion of the PhD-SDE program. The date of registration for students who transfer from MSc-SDE program at UPEI will be considered as the beginning of their MSc degree. Exceptional circumstances will be considered provided that they are supported by the student's supervisor(s) and properly communicated, discussed and supported by the supervisory committee. In all cases, extensions beyond this maximum period must be approved by the FSDE Graduate Studies Committee (GSC) and the Dean of the Faculty of Graduate Studies.

**Mentorship and Supervision:** In the first semester of the PhD program, each student will be assigned a supervisory committee which will consist of the student's supervisor(s), three (3) members chosen from UPEI faculty. Up to two of these committee members can be UPEI adjunct faculty members with graduate faculty status. The primary supervisor must be a faculty member in the FSDE. Adjunct faculty with graduate faculty status may be faculty members from other universities or professionals with doctorates at external organizations with whom UPEI FSDE has research collaborations. The FSDE GSC has provided a document, "Guidelines for Graduate Supervision", that is shared with supervisor(s), supervisory committees and graduate students at orientation sessions and this document serves as a reference to follow throughout a student's program.

**Doctoral Research:** Independent research will be the major focus of the PhD-SDE degree. In order to avoid undue extension of the time required to complete the degree, the research topic must be identified early and approved by the supervisory committee. The research should comprise an extensive body of original research in the student's field, making a true contribution exemplifying the student's depth of knowledge, creativity, innovation and proven ability to make significant scientific research contributions. The PhD-SDE student must be able to articulate how their research

demonstrates aspects of engineering design and sustainability. The supervisor(s) will meet with the student regularly, and the supervisory committee will meet at least twice a year with the student to provide feedback on the student's progress.

**Candidacy Examination:** Doctoral students must complete a candidacy examination within two (2) years of entering the PhD program. Students who register for the MSc-SDE program at UPEI and then transfer into the PhD program must complete their candidacy exam within three (3) years of registering as a graduate student at UPEI (including the MSc period before the transfer). Before the exam, the student must present a thesis proposal abstract to the supervisory committee and obtain a recommendation that the student proceed with the oral candidacy exam. The supervisor(s) will inform the FSDE GSC of this decision, and will suggest the make-up of the candidacy examination committee. The candidacy examination committee will consist of two (2) members of the supervisory committee and one (1) UPEI faculty member external to FSDE who has graduate faculty status. This external member of the candidacy examination committee must have no conflict of interest with the student's supervisor(s). A designate from the FSDE GSC will act as Chair of the examination. The student must submit a thesis proposal to the candidacy examination committee at least two weeks before the examination date. The thesis proposal should address not only the research plan, but also a knowledge and implementation plan that demonstrates the student's reflection and understanding of the research topic within the context of sustainable design. After the student's presentation and question period, the examination committee will make a judgment of satisfactory or unsatisfactory. A judgment of satisfactory will result in the student being declared a PhD Candidate. If the judgment is unsatisfactory, the student will be required to retake the exam within 4 months. A second unsatisfactory judgment will result in the student being required to withdraw from the PhD program. If the student has not previously completed an MSc degree, they are then free to enter the MSc program and transfer research and academic coursework.

**Thesis Dissertation:** Each candidate for the PhD-SDE is required to submit a written thesis dissertation based upon the research conducted under supervision described above. The thesis dissertation must demonstrate the candidate's capacity for original and independent work, and should include a critical evaluation of work which has previously been done in the field of their research, as well as a clear understanding of sustainable design. The thesis dissertation must highlight new conclusions which are drawn from the candidate's own research work.

**Defence:** The examination committee will be chaired by a representative from the FSDE GSC and will consist of the following: supervisor(s), two (2) members of the supervisory committee, one (1) UPEI faculty member external to FSDE who has graduate faculty status, and one (1) external examiner from outside the University of Prince Edward Island. These examiners must have no conflict of interest with the supervisor(s). In order to proceed to defence, the candidate must submit a copy of their dissertation to the supervisory committee for review and approval. Once approved by all members, the supervisor(s) will then submit the PhD dissertation and a list of potential external examiners to FSDE Graduate Studies Coordinator. The FSDE Graduate Studies Coordinator will then confirm the external examiners as well as the defence Chair, and notify the Deans of FSDE and Faculty of Graduate Studies. A copy of the dissertation will be shared with the examination committee and the defence date will be finalized.

Prior to the exam, the external examiners will submit written evaluations of the dissertation to the defence Chair. This brief report will summarize their evaluation of the thesis and normally include a discussion of the scientific significance of the thesis with comments regarding its theoretical framework, methodology, findings, and interpretations. The report will consider its academic standard and quality, reflecting that the candidate meets the minimum requirements to qualify as a researcher, considering the candidate's formulation of research questions, logical and original approaches to testing stated hypotheses, and understanding of current methods and their limitations.

The final oral examination of the PhD thesis will consist of a public research seminar, followed by questions from the doctoral examination committee. The examination will be public, but members of the audience may only question the candidate upon invitation of the Chair of the committee. After the defence seminar and question period, the committee will make a judgment of satisfactory or unsatisfactory. The members of the examination committee report individually on both the defence and the dissertation. The candidate passes if at least four (4) of the five (5) examiners votes positively. An abstention is regarded as a negative vote. Concurrently, the members sign the Certificate of Approval, to be submitted with the approved dissertation in its final form (after implementation of revisions requested by the

committee at the defense) to the Dean of FSDE. The report to the Dean will record the decision as “unsatisfactory”, or “satisfactory”. If “unsatisfactory,” the candidate will be given the opportunity of a second attempt. A second “unsatisfactory” will terminate candidacy at UPEI.

**Graduation:** The candidate will receive the degree certificate at UPEI convocation upon successful completion of four (4) approved graduate courses (with minimum of 60% in each course), receiving Pass in SDE 8901 (Seminar) course, and receiving Satisfactory in SDE 8010 (PhD Thesis).

## List of Courses

1. **Thesis and Seminar**

SDE 8010 PHD THESIS
This is a research-oriented course in which students will conduct an extensive original research project, culminating in the submission and defence of a thesis. Students must register in this course each semester to maintain enrolment in the program. It embodies the research component of the PhD program.
PREREQUISITE: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8900 SEMINAR
In this course students attend seminars on current topics in their research area of Sustainable Design Engineering and are expected to be seminar presenters. Techniques in preparing scientific communication (oral presentations and poster displays) are also covered.
PREREQUISITE: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

1. **PhD-SDE Graduate-level Courses**

SDE 8020 QUALITY CONTROL AND PROJECT MANAGEMENT
This course is an introduction to the most widely accepted project management practices in the workforce today. The student will learn the industrially accepted techniques associated with the management of time, cost, risk, and scope in order to achieve total project stakeholder satisfaction. The goal in this course is to prepare students with the most efficient and effective project management practices by applying these techniques to their graduate research work, and in so doing greatly increase their likelihood of managing successful projects during their careers. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4020; credit cannot be received for both courses.
PREREQUISITES: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

8021 CONTEMPORARY TOPICS IN ENGINEERING MANAGEMENT
This graduate-level course is an introduction to the most widely accepted engineering management practices in the workforce today. Through lectures, case studies, guest speakers, and facilitated discussion, students will develop managerial knowledge and skills and be exposed to a spectrum of corporate activities in the engineering environment. Topics presented in this course include strategic management of research and development, organizational management, knowledge, risk and IP management, new product development, globalization, ethics, project management in a technology-based organization. This course will focus on “management for future engineering leaders” and examine national guidelines, practice engineering team dynamics, apply quantitative quality and supply chain concepts, and present financial/accounting basics for engineers. Graduate-level project will be required as defined in consultation with the instructor.

Cross-level listed with ENGN-4021; credit cannot be received for both courses.
PREREQUISITES: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8030 CONTEMPORARY TOPICS IN SUSTAINABLE DESIGN ENGINEERING

In this course students will be exposed to and examine the concepts underlying sustainable design engineering as they pertain to engineering practice and in particular engineering research and the development of new technologies. Sustainable design engineering can be defined as an engineering design process which considers not only the key performance indicators and functional characteristics of the system being developed but also the environmental, social and economic context and impacts of the system. Recent advances in sustainability research have focused on the complex interactions between these areas, evolving from "green engineering" to a full consideration of sustainability. In order to develop sustainable solutions, engineers and researchers must be able to critically evaluate their work in this context. To this end, students will examine case studies and relevant readings on such topics as sustainability indicators, techno-economic and life cycle assessment, stakeholder engagement, real time technology assessment, engineering justice, and design for sustainability. While approaches for addressing the specific areas of environmental, social and economic sustainability will be covered, the focus of the course will be on the interactions between these areas. A key outcome of this course will be a paper critically examining the student's research topic from the perspective of sustainable design engineering. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4030; credit cannot be received for both courses.
PREREQUISITES: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8031 CONTEMPORARY TOPICS IN USER-CENTRED ENGINEERING DESIGN

User-centred design offers a powerful and systematic approach to understanding users and their needs and delivering effective design solutions in many domains including engineering, technology and health sciences. This course will introduce students to a variety of principles, practices and research methods for designing, developing and evaluating products, systems and solutions based on the users' needs, and context. Students will learn human factors, ergonomics, cognitive and perceptual psychology principles for designing products, information displays and complex systems. Students will be exposed to various subjective and objective metrics and methods for evaluations and usability studies. Students will also be introduced to apply user-centred design for developing sustainable products and systems. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4031; credit cannot be received for both courses.
PREREQUISITES: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8040 DESIGN OF EXPERIMENTS

This course focuses on the design, implementation, and analysis of engineering, scientific, and computer-based experiments. The course will examine the proper and scientific approach to experimentation, modeling, simulation, and analysis of data. Various designs are discussed and their respective advantages and disadvantages are noted. Factorial designs and sensitivity analysis will be studied in detail because of its relevance to various industries. Use of software for designing and analyzing experiments will also be used. For experiments that involved mainly physical quantities and natural phenomena, techniques of dimensional analysis will also be introduced. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4040; credit cannot be received for both courses.
PREREQUISITE: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8050 ENGINEERING RESEARCH METHODS & EXPERIMENT DESIGN

This course will introduce students to the elements of a research project and will focus on quantitative research methodologies. Students will practice the planning, implementation, analysis, and documentation for a research project of their own design. Topics will include: performing a literature review, developing a hypothesis, creating a research plan, collecting data, analyzing the results, and compiling a research report. Students will use tools for quantitative data

analysis and will explore reliability, validation, and verification concepts. Students will report findings in a technical presentation. The course encourages students to develop their research question and perform a sample experiment to apply lessons learned to their main research topic. Intellectual property rights and engineering ethics topics will be explored. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4050; credit cannot be received for both courses.
PREREQUISITES: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8060 MODELING, CONTROL, AND DESIGN OF ENERGY SYSTEMS

This course focuses on the understanding of the physical processes underlying the energy conversion process from wind and solar energy. Students will have an advanced knowledge of aerodynamics and structural dynamics, and they will understand the main strategies used for controlling these machines over their complete operating range. A specific goal of the course is to provide students with a multidisciplinary vision on the physics of energy systems, and an understanding of the methods used for their modeling and simulation. A particular emphasis will be placed on design, and on the effects of design choices on the cost of energy. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4060; credit cannot be received for both courses.
PREREQUISITE: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8061 OPTIMIZATION IN ENERGY INFRASTRUCTURE

The course aims to provide the knowledge about the application of various optimization methods in designing energy infrastructure. The course starts with the introduction to various optimization algorithms. Thereafter, the integration of energy modeling and simulation with optimization algorithms will be demonstrated. This course will also cover the optimization of distributed energy systems using single and multi-objective optimization methods. Several minor projects will be introduced to formulate the energy system optimization problem deciding design variables, objectives, and constraints. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4061; credit cannot be received for both courses.
PREREQUISITE: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8062 SOLAR BUILDINGS AND NEIGHBORHOODS

The course is aimed to discuss the design considerations in designing solar buildings and neighborhoods. The course will start with the historical background of solar neighborhoods in modern and ancient history. Thereafter, passive solar design considerations in various small and large scale buildings will be discussed. Principles of solar design such as building site setting, building shape, building envelopes, active and passive based heating and cooling techniques will be introduced. The active electrical and thermal energy generation and storage strategies will be discussed. Energy modeling and simulation tools used for the assessment of solar access of various building will be demonstrated. Various case studies related to solar buildings and neighborhood will be taken for assignments. For the term project, incorporation of solar strategies for modifying existing Canadian buildings and neighborhoods will be assigned to groups of students. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4062; credit cannot be received for both courses.
PREREQUISITE: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8063 CONTEMPORARY TOPICS IN SUSTAINABLE ENERGY

This broadly applicable course discusses global energy usage and exposes students to current trends in local and global sustainable energy initiatives (i.e., energy generation and storage) and applications. Present and future global energy consumption and related CO2 emissions are considered and discussed. Students will be exposed to and analyze case studies as well as develop and design their own globally relevant solution concepts. Students will ultimately gain an enhanced, quantitative appreciation for the challenges and opportunities related to global energy system decarbonization. Graduate-level project will be required as defined in consultation with the instructor.

Cross-level listed with ENGN-4063; credit cannot be received for both courses.
PREREQUISITE: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8070 NOVEL ENGINEERED MATERIALS FOR SUSTAINABLE APPLICATIONS

This course is a graduate-level examination of the properties and processing of novel, engineered materials for sustainable applications. Fundamental concepts of solid-state diffusion, phase transformations, amorphous-to-crystalline kinetics, rapid solidification – for nuclear energy, more electric generation, renewable energy systems, additive manufacturing, modeling and simulation of the nanoscale will be discussed. As well, the relationships between the performance of electrical, optical, and magnetic devices and the microstructural and defect characteristics of the materials from which they are constructed will be explored. Focusing on functional materials for emerging technologies and emphasizing a device-design approach, applications will center around current research in the Faculty of Sustainable Design Engineering. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4070; credit cannot be received for both courses.
PREREQUISITE: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8080 INDUSTRIAL MACHINE VISION

This course focuses on computer vision with an emphasis on techniques for automated inspection, object recognition, mechanical metrology, and robotics. Image processing courses typically focus for image enhancement, restoration, filtering, smoothing, etc. These topics will be covered to a certain degree but the main focus will be on image segmentation, feature extraction, morphological operators, recognition and photogrammetry. Issues related to the efficient software implementation of these techniques for real-time applications will also be addressed. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4080; credit cannot be received for both courses.
PREREQUISITE: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8081 MODERN MECHATRONIC SYSTEMS

This course emphasizes how the abstract concepts of control theory and advanced design tools are used pragmatically in engineering practice in the mechatronics field. This course explores current topics of modern mechatronics, from the application of complex systems through dimensionality reduction, machine learning, and dynamical systems modelling to innovative methods and algorithms such as augmented reality, medical image analysis, and automated mapping of environments. Above all, this course is designed to entice students to think, ask questions of existing theory, and understand the essence of mechatronics systems. To this end, students will develop and implement practical, hands-on-with-hardware applications of the control system analysis and design principles that are the subject matter of their research. The findings and results of this project will be presented in the format of a manuscript that incorporates the research methodology, their final product, and critical thinking over the mechatronic topic. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4081; credit cannot be received for both courses.
PREREQUISITE: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8100 BIOFUEL AND BIOMASS TECHNOLOGY

This course focuses on advanced concepts in understanding biofuels and bioenergy systems, renewable feedstocks, their production, availability and attributes for biofuel/bioenergy production, types of biomass derived fuels and energy, thermochemical conversion of biomass to heat, power and fuel, biochemical conversion of biomass to fuel environmental aspects of biofuel production, economics and life-cycle analysis of biofuel, and value adding of biofuel residues. Students will analyze, as well as prepare, case studies on biofuel production. Graduate-level project will be required as defined in consultation with the instructor.
Cross-level listed with ENGN-4100; credit cannot be received for both courses.

PREREQUISITE: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

SDE 8101 ADVANCES IN BIORESOURCE ENGINEERING

The quest for food security, renewable energy, climate change and demand for sustainable fuels has increased focus on biomass conversion and technological interventions to cope with these challenges. This course covers advanced topics in bioresource engineering to acquire an understanding of sustainability challenges in bioresource sector and propose optimal climate smart solutions by implementing technologies and processes. The course is delivered in three complementary modules: i) deep learning and artificial intelligence for sustainable food production, ii) biofuels and biomaterials, and iii) the design of biomass conversion reactors. Graduate-level project will be required as defined in consultation with the instructor.

Cross-level listed with ENGN-4101; credit cannot be received for both courses.
PREREQUISITE: Admission to the graduate program in Faculty of Sustainable Design Engineering
HOURS OF CREDIT: 3

# 116. PhD Faculty of Science (Environmental Sciences (ESC) and Molecular and Macromolecular Sciences (MMS))

**A) STRUCTURE OF THE PROGRAM**

The purpose of this PhD degree program is to provide a doctoral level research experience for candidates, ensuring that they develop critical thinking, creativity and subject mastery through their program. A secondary objective is to provide a value added degree containing a significant, Business (PhD MMS) or (environmental communications) (PhD ESC) component to the studies. This degree will offer graduate education at the PhD level that meets the needs of the global scientific business, industry, research and academic environments in Molecular and Macromolecular Sciences, or Environmental Sciences both identified as constellations of research strength at UPEI.

These degree programs are research-intensive and will require the student to develop a thesis based around an individual, independent thesis topic. This foundation will be complemented by graduate-level constellation-based courses, a comprehensive examination and a final oral defence of the thesis. Unless otherwise specified below, the "General Regulations for Graduate Programs" will apply to the Doctorate of Philosophy in Molecular and Macromolecular Sciences and Environmental Sciences degrees.

**Admission Requirements**

Acceptance into the program will be granted on the basis of qualifications and suitability to fit into the main research endeavours of MMS or ESC members who are also members of the Graduate Faculty with a PhD/Masters supervisory role.

Students must hold a Master of Science degree or its equivalent from a recognized university and have achieved at least a second class standing (70-80%) for this degree. Students may also be admitted to the PhD program by registering in the existing MSc program in Science and transferring to the PhD program after twelve (12) to eighteen (18) months upon the recommendation of their supervisory committee. In special circumstances, highly exceptional students with first-class BSc Honours degrees may be admitted directly to the PhD program (contact the office of the Dean of Science for specific criteria for admission). Evidence will be required that the applicant is capable of undertaking substantial original research. Admission to the MMS or ESC PhD programs is granted on the basis of a recommendation of the Faculty of Science Graduate Studies Committee and explicit supervisory support from a faculty member within the corresponding constellation. Faculty members must demonstrate research funding to cover four years of guaranteed stipend support or exhibit sufficient research progress that funding renewal is expected.

Applicants are encourage to visit the Faculty of Science Graduate Studies website (http://www.upei.ca/science/graduatestudies) and contact faculty members within the MMS or ESC constellations to discuss research interests and to confirm the availability of a position within their group. Secondly, applicants will submit an application package including an application form, official university transcripts for the applicant's complete undergraduate and graduate (if any) record to date, three letters of reference, at least two of which should be from faculty members with a strong familiarity with the applicant's academic and research background, proof of English language proficiency such as TOEFL scores (for applicants whose first language is not English) which meet the minimum scores as listed under the general Admission Requirements in the university Calendar and evidence of the ability to conduct substantial original research including, but not limited to, theses, publications and research presentations.

**Residency Requirements**

Given the nature of these programs, a minimum of six full terms (two fall, two winter, and two summer terms) is required to complete course work. A maximum period of seven (7) years from the date of registration will be allocated for the completion of the PhD program. Exceptional circumstances will be considered provided that they are supported by the student's supervisor and properly communicated, discussed and supported by the supervisory committee. In all cases, extensions beyond this maximum period must be approved by the Faculty of Science Graduate Studies Committee and the Office of Graduate Studies.

**Supervision**

In the first semester of the PhD program, each student will be assigned a supervisory committee which will consist of the student's supervisor and three (3) members chosen from UPEI faculty or adjunct faculty within the corresponding constellation (or from the Faculty of Business in the case of MMS) or a cognate discipline. For MMS students, it is expected that at least two members of the committee will be from the MMS constellation and that at least one member of the committee will have significant business experience, either as a member of the Faculty of Business or as an adjunct or regular faculty member with industrial expertise. The majority of students' time will be engaged in developing their research project, but this experience will be supplemented by coursework in Science and Business; specific courses will be chosen in consultation with the supervisory committee.

**Research**

Independent research will be the major focus of the PhD degree. Normally, the equivalent of at least nine full-time semesters must be devoted to research in fulfillment of the thesis requirement. Summers during which research work is actively conducted may be counted as research semester equivalents. In order to avoid undue prolongation of the time required to complete the degree, the research topic should be identified early and approved by the Supervisory Committee. The research should comprise an extensive body of original research in the candidate's field, making a true contribution exemplifying the student's depth of knowledge, creativity, innovation and proven ability to make significant scientific research contributions. Research progress will be monitored by biannual meetings of the Supervisory Committee as proscribed by the Faculty of Science Graduate Studies Committee. Research involving the use of hazardous materials must follow the Guidelines of the Workplace Hazardous Materials Information System. Research involving animals or humans, must follow established protocols on Animal care and ethics, respectively.

**Candidacy Examination**

Doctoral students must complete a candidacy examination within two (2) years of entering the PhD program. Students who register as Master's students at UPEI and then transfer into the PhD program must complete their candidacy exam within three (3) years of registering as a graduate student at UPEI. Before the exam, the student must present a basic thesis proposal to the Supervisory Committee and obtain a recommendation that the student proceed with the oral candidacy exam. The supervisory committee will inform the Faculty of Science Graduate Studies Committee of this decision, and will suggest the make-up of the Candidacy Examination Committee.

The Candidacy Examination Committee will consist of two (2) members of the Supervisory Committee and one (1) external faculty member from the University of Prince Edward Island who does not necessarily need to fall within the corresponding research constellation; this third member could be from another scientific research constellation. A designate from the Faculty of Science Graduate Studies Committee will act as Chair of the examination.

The student will then distribute copies of a detailed thesis proposal (MMS) or an original essay (ESC) to the Candidacy Examination Committee and the Faculty of Science Graduate Studies Committee. The latter will schedule a mutually agreeable time and place for the exam. This proposal (MMS) or essay (ESC) must be received at least three weeks prior to the scheduled exam. The expanded thesis proposal (MMS) should address not only the research plan, but also how the student's courses in both MMS and Business relate to the proposed work. The essay (ESC) should address a topic considered relevant to ESC as identified in advance by the Candidacy Examination Committee. The examination begins

with a formal presentation by the student not to exceed 30 minutes followed by the candidate being asked to respond to questions from the Examination Committee on topics related to the proposed area of research or essay and general topics in the student's field. The questions, while broad in scope, will invariably focus on the student's research proposal and will evaluate the student's expertise in their field. The Examination Committee will then deliberate in a closed session to make a judgment of satisfactory or unsatisfactory. A judgment of satisfactory will result in the student being declared a PhD Candidate. If the judgment is unsatisfactory, the student will be required to re-take the exam within 4 months. A second unsatisfactory judgment will result in the student being required to withdraw from the PhD program. If the student has not previously completed an MSc degree, he or she is then free to enter the MSc program and transfer research and academic coursework.

**Thesis**

Each candidate for the degree of Doctor of Philosophy in Molecular and Macromolecular Sciences or Environmental Sciences is required to submit a thesis based upon the research conducted under supervision described above. The thesis must demonstrate the candidate's capacity for original and independent work, and should include a critical evaluation of work which has previously been done in the field of his or her research. The thesis should emphasize any new conclusions which may be drawn from the candidate's own research.

For MMS students, while there is no requirement that the work conducted be directed towards industry, business or commercial applications, students are expected to address the significance and importance of their work to technology, industry and innovation in Canada and the world. General specifications as to type of paper, format, order and binding will be available as necessary.

**Examination**

The final oral examination of the PhD thesis will consist of a research seminar, followed by questions from the Doctoral Examination committee. The examination will be public, but members of the audience may only question the candidate upon invitation of the Chair of the Committee. The committee will be chaired by a representative from the Faculty of Science Graduate Studies Committee and will consist of five members as follows: Two (2) representatives from the student's supervisory committee, One (1) internal examiner from the University of Prince Edward Island, preferably a faculty member with relevant research experience, One (1) external examiner from outside the University of Prince Edward Island, preferably from another University or Research Institute, as deemed appropriate.

The external examiner will be chosen by the Faculty of Science Graduate Studies Committee from a list of three arms-length nominees who should be experts in the candidate's research field. The nominees will be suggested by the Supervisory Committee in consultation with the student. It is preferred if the external examiner can attend the examination in person, however the external examiner can participate via video or audio conference call if this is impractical. Following the examination, the candidate will leave the room and the committee will deliberate upon the decision.

The members of the Examination committee, including the External Examiner, report individually on both the defence and the thesis, the candidate being deemed to have passed if not more than one of the five Examiners votes negatively. An abstention is regarded as a negative vote. If successful, the candidate will be awarded his or her PhD degree. If unsuccessful, the candidate will be permitted to retake the examination within 6 months. If unsuccessful in the second attempt, the student will be required to withdraw from the PhD program. If the student has not previously completed an MSc degree, he or she is then free to enter the MSc program and transfer research and academic coursework.

**COURSES**

# MOLECULAR AND MACROMOLECULAR SCIENCES COURSES (PHD)

Students will be required to take three (3) graduate-level courses in Molecular and Macromolecular Sciences, three (3) graduate-level courses in business, and one (1) capstone course that integrates science and business components. Each student must complete a minimum of three (3) courses within the first 18 months of the degree, which may be a combination of the science and business requirements but must include at least one MMS and one business course. In addition, students should have started their capstone project, although completion of this project is not a requirement for this period.

Following this initial stage of research and coursework, each student will take a candidacy exam adjudicated by a Candidacy Examination Committee, and upon its successful completion will become a PhD candidate. Completion of the remaining required courses, further development of the research project, and preparation of a thesis within a maximum of seven (7) years will culminate in the defence of this body of work in a public forum, adjudicated by the student's supervisory committee and an external examiner who will be an expert in the student's field of research. If a student, for any reason, withdraws from the PhD program they may elect to enter the MSc program at UPEI if no such degree has been previously obtained.

Graduate students are required to register for MMS 8010—PhD thesis throughout their degree program. Additional required constellation-based courses include MMS 8020—Molecules, Macromolecules and the Business of Science and MMS 8030—Directed Studies in Molecular and Macromolecular Sciences. Students are also required to take 2 additional MMS electives at the graduate level. Business requirements include BUS 6030—Marketing Management, BUS 7010—Biotechnology Management and Development and BUS 702— Commercialization of Biotechnology and Innovations.

MMS 8010 PHD THESIS
This is a research-oriented course in which students will conduct an extensive original research project, culminating in the submission and defence of a thesis. Students must register in this course each semester to maintain enrolment in the program. It embodies the research component of the PhD program.

MMS 8020 MOLECULES, MACROMOLECULES AND THE BUSINESS OF SCIENCE
This capstone course highlights the integration between Molecular and Macromolecular Sciences and Business. In conjunction with the Program Coordinators and the PEI BioAlliance, the student will be paired with a receptive industry or government partner to develop a new research idea, direction, or application of potential interest to industry. The student will consult on scientific business ideas within the context of recent literature, scientific expertise, and the current industrial environment, with a focus on entrepreneurship and the development of new scientific products, processes, or markets. The partner in this course will be chosen so that the project will build toward the student's doctoral thesis with integration across all three components (doctoral-level study, MMS, and the business of science) of the program. This cross- sector collaboration will culminate in the student presenting and defending his/her work on the developed concept to industry and academic experts. This six-credit course will take place over a period of two–three semesters.
PREREQUISITE: Admission to PhD program
HOURS OF CREDIT: 6

MMS 8030 DIRECTED STUDIES IN MOLECULAR AND MACROMOLECULAR SCIENCES
This course is a thorough study of a selected topic in the Molecular and Macromolecular Sciences constellation. Entry to the course, and the course outline, are subject to the approval of the Supervisory Committee and the Dean of Science. The course may include directed reading, directed research, and discussion with the instructor. The student may be required to prepare a written report and/or present a seminar in the area. Topics must not be directly related to the student's research project, although they may be in the same discipline. Coverage of the topic by the student must

include the relevant commercial and business aspects of the field.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

**ELECTIVE COURSES**

MMS 8040 FIELD COURSE IN MARINE DRUG DISCOVERY
This course offering will familiarize students in the areas of marine natural products, marine taxonomy, field based biological assays of relevance to drug discovery, marine microbiology, and biotechnology. Lectures will introduce students to the concepts of field research and their applications to drug discovery. Students will participate in field collections of marine invertebrates. The collected organisms will then be subjected to several biological and chemical assays. Students will present field reports identifying the collected species and any chemical or biological activities observed. The second half of the course will focus on supervised research projects. The project topics will be chosen by the students and instructors. In lieu of a textbook, students will be provided with a collection of several publications from the marine natural products literature. These articles will include reviews of marine natural products, reports of recent advances, and founding texts of the field. Course experience in invertebrate zoology at the undergraduate level is strongly recommended.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MMS 8050 ADVANCED STUDIES IN NMR SPECTROSCOPY
This course covers the use of Nuclear Magnetic Resonance (NMR) spectrometry used in the determination of structures in Organic and Inorganic Chemistry. Major topics include the theory and use of NMR spectroscopy, in particular the use of 2D experiments and multi-nuclear NMR spectroscopy. Particular emphasis is placed on developing the students' ability to interpret spectra and elucidate the structure of a molecule based on this evidence beyond the undergraduate level, as well as the role NMR has played as a structural tool in the pharmaceutical industry and academia. Students will have a practical/hands-on component in this course.
Cross-level listed with CHEM 4050. Credit cannot be received for both MMS 8050 and CHEM 4050.
HOURS OF CREDIT: 3
Restriction: Student must be admitted into a graduate program in Science.

MMS 8060 ADVANCED TOPICS IN COMPUTATIONAL CHEMISTRY
This course exercises the application of computational chemistry to structural and reactivity questions in organic and inorganic chemistry. Computational methods discussed include molecular mechanics, ab initio and semi-empirical calculations, and density functional theory. The objective is to gain an understanding of the application of these methods to chemical problems. The current literature is explored to illustrate the use of computational chemistry in research.
Restriction: Student must be admitted to the MSc Program
HOURS OF CREDIT: 3
NOTE: Responsibility for this course rests with the department of Chemistry.

MMS 8070 ADVANCED STUDIES IN INORGANIC REACTION MECHANISMS
This course develops inorganic reaction mechanisms, with an emphasis on catalytic cycles, catalyst development, and the context of these reactions within the polymer, pharmaceutical and consumer product industries. Students will learn how to support reaction mechanisms through appropriate experimentation and spectroscopic characterization of catalysts, reactions and products. Students will examine how new catalysts are developed, patented and brought into commercial use. Major projects include a patent application on an imaginary catalytic system, and a report assessing the commercial relevance of a recent literature discovery.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MMS 8080 GREEN CHEMISTRY
This course will develop the fundamentals of greener chemical processes and syntheses. The course will present the principles of green chemistry in the context of case studies within Canadian academia and industry. Coursework and projects will aim to develop synthetic skills, providing students with the tools to propose green synthetic plans for small molecules and polymers while introducing students to wider political and environmental issues which impact on chemical industry.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MMS 8090 BIOMATERIALS
This course covers the fundamentals of the synthesis, properties, and biocompatibility of metallic, ceramic, polymeric, and biological materials that come in contact with tissue and biological fluids. Emphasis is placed on using biomaterials for both hard and soft tissue replacement, organ replacement, coatings and adhesives, dental implants, and drug delivery systems. New trends in biomaterials, such as electrically conductive polymers, piezoelectric biomaterials, and solgel processing are discussed, and the recent merging of cell biology and biochemistry with materials is examined.
Cross-level listed with CHEM 4090. Credit cannot be received for both MMS 8090 and CHEM 4090.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MMS 8100 SOFT CONDENSED MATTER PHYSICS
This course utilizes a variety of tools developed within the general framework of statistical and solid-state physics to study the structural and dynamic properties of a number of important soft-condensed matter systems, including: polymers, liquid crystals, and membranes. Some key topics include: (1) Liquid crystals: elasticity, deformations, surface effects, fluctuations and scattering; (2) Polymers: chain conformations, mixtures and phase behaviour, motion in melts and glasses (viscoelasticity, relaxation, reptation); (3) Membranes: two and three-dimensional networks, self-assembly of amphiphiles, thermal fluctuations in membrane shape, bilayer bending and surface curvature. One of the goals of the course is to introduce students to a variety of important analytical methods, including: mean-field theory, density functional theory, Landau-Ginzberg theory, and renormalization-group theory. In addition, a number of key computational methods are employed to explore the properties of some simple polymeric systems, including: Monte Carlo, Molecular Dynamics and Discontinuous Molecular Dynamics.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MMS 8110 ADVANCE TOPICS IN MATERIALS CHARACTERIZATION
This course introduces students to instrumentation that is routinely used in materials chemistry. The techniques to be covered include powder X-ray diffraction, thermogravimetric analysis, differential scanning calorimetry, electron microscopy, AC impedance and Raman spectroscopy. The theory behind these techniques will be thoroughly discussed in class, with an emphasis of data interpretation. Students will also gain hands-on experience with these instrumental techniques through laboratory work.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MMS 8130 ADVANCED TECHNIQUES IN SCANNING ELECTRONIC MICROSCOPY
(See HB 8250)

MMS 8140 MARINE NATURAL PRODUCTS CHEMISTRY
The overall goal of the course is to provide a description of the structures and biosynthetic origins of natural products of marine origin. The main classes of natural products will be reviewed with an emphasis on their biological origin as a tool to understanding structures. The biomedical relevance of marine natural products will be discussed along with special topics lectures on such themes as “From lead compound to FDA approval” and “Development of a natural

product drug lead". Additional lectures on biological screening and metabolomics as modern tools in drug discovery, and chromatographic purification of natural products will round out the discussions. Students will be expected to develop a thorough understanding of the biosynthetic origin of all major categories of natural products through case studies.
Cross-level listed with Chemistry 4140. Credit cannot be received for both MMS 8140 and CHEM 4140.
PREREQUISITE: Admission to graduate program in Science
HOURS OF CREDIT: 3

MMS 8240 ADVANCES STUDIES IN ENVIRONMENTAL TOXICOLOGY
This course provides an in-depth analysis of environmental impacts of the major classes of contaminants including methodologies for environmental impact assessment and monitoring. Effects of environmental contaminants are examined at the ecosystem, organismal, cellular, biochemical and molecular levels. Additional emphasis is placed on understanding the fate of contaminants of concern in aquatic and terrestrial environments including their environmental chemistry, biogeochemical cycles, and exposure and uptake pathways by organisms. The course consists of lectures, discussions of peer-reviewed literature, case studies, presentations by students and laboratories.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

MMS 8800 ADVANCED APPLICATIONS OF MOLECULAR BIOTECHNOLOGY
This course examines principles of gene manipulation, and the technological application of modern molecular biology tools. Topics include recent research developments and application of biotechnology in fields such as medicine, agriculture, and industry. Emphasis is placed on reviewing current literature in the field, particularly on areas related to the natural sciences / environment and human health. NOTE: Responsibility for this course rests with the department of Biology.
PREREQUISITE: Admission to a graduate program in Science or permission of the instructor
HOURS OF CREDIT: 3
NOTE: Responsibility for this course rests with the Department of Biology.

# ENVIRONMENTAL SCIENCES COURSES (PHD)

Students will be required to take three (3) mandatory graduate-level courses in Environmental Sciences in addition to one (1) elective course in their disciplinary area. Each student is expected to complete these courses within the first 18 months of the degree. Graduate students are required to register for ESC 8010 – PhD thesis throughout their degree program. Additional required constellation-based courses include ESC 8020 – Communication strategies, ESC 8030 – Current issues in Environmental Impact Assessment, and ESC 8040 – Practical issues surrounding environmental management. Students are also required to take 1 additional ESC elective at the graduate level (see list below).

ESC 8010 PhD THESIS
This is the main science-oriented component of the PhD, and as such, it is a course in which students will conduct an original research project, report orally on this work throughout the course of the degree, culminating in the submission and defence of a dissertation. A formal approval to initiate the research project will be granted after the supervisory committee has been established and a research proposal, including a thorough review of pertinent literature available, is provided by the candidate. Students must register in this course each semester to maintain enrolment in the program. It embodies the research component of this program.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

ESC 8020 COMMUNICATION STRATEGIES
This course will help graduate students develop essential communication skills. Students will engage with the theoretical foundations of communication strategies that apply across professional fields. Course assessment will

involve independent development of communications related to their graduate project in the environmental sciences and the peer-review of one another's work. Students will build a communications portfolio directly supporting their graduate project through a series of assignments designed to build confidence and increase focus on communication related aspects of their studies and professional skillset.
PREREQUISITE: Admission to a graduate program in ESC or permission of the instructor
HOURS OF CREDIT: 3
NOTE: Responsibility for this course rests with the Department of Biology.

ESC 8030 CURRENT ISSUES IN ENVIRONMENTAL IMPACT ASSESSMENT
This course is intended to review the theory behind Environmental Impact Assessment (EIA) through the use of case studies that best exemplify project development that prevent or minimize environmental degradation. This course will examine the needs, methods, regulatory frameworks and social implications of EIA with emphasis on recent Canadian case studies. On completion of this course, students will be familiarized with the concept of EIA (its history, principles, key constructs and main steps), the legislative and institutional context of EIA, and will be able to critically examine EIA cases and identify their implications.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

ESC 8040 PRACTICAL ISSUES SURROUNDING ENVIRONMENTAL MANAGEMENT
This course intends to provide hands-on experience to our students by deploying them in NGOs, government agencies, or environmental consulting companies for approximately 75 flexible hours (the equivalent to the number of contact hours typically considered for a course's lectures and laboratory). The primary goal of this course is to expose students of a given environmental discipline into the multiple aspects involved in the actual issues and decision-making process that take place in agencies outside the academic setting. This unique training period (spread from two weeks to an entire semester) will provide human resources to often resource-limited groups/entities that will be chosen by each supervisory committee according to their relevance for the student research focus. Students are expected to gain unprecedented experience and, to some extent, provide actual input into environmental management. The student will prepare a written report and share their experience by giving a public seminar. The supervisory committee in collaboration with the Faculty of Science Graduate Studies Committee will be responsible for identifying an appropriate placement based on the student's discipline and interests.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

**ELECTIVE COURSES**

ESC 8090 Special Topics in Environmental Sciences
A course typically designed to reflect an issue of current interest in the Environmental Sciences not covered by existing courses. The conditions under which the course may be offered will be subject to the approval of the Chair of the Department and the Dean of Science.
PREREQUISITE: Admission to a graduate program in Science or permission of the instructor
HOURS OF CREDIT: 3
NOTE: Responsibility for this course rests with the Department of Biology.

ESC 8210 Advances in Conservation Physiology
This course will draw on theory from behavioral and physiological ecology as it applies to understanding how animals respond to human-induced environmental change. For example, birds in urban environments and fish in high- boat traffic waters are faced with anthropogenic noise that masks reproductive signals. What behavioral and/or physiological mechanisms are employed to deal with this altered environment? Students will be expected to delve into the current, primary literature to explore the responses of animals at the individual level and the consequences of these responses at the population level.
PREREQUISITE: Admission to a graduate program in Science or permission of the instructor

HOURS OF CREDIT: 3
NOTE: Responsibility for this course rests with the Department of Biology.

ESC 8230 Advances in Evolutionary Ecology

Evolutionary Ecology is the study of how evolutionary processes interface with ecological parameters. This course will focus on understanding current theory on the interaction of evolution and ecology – how are evolutionary patterns explained by ecology and how does an animal's ecology reflect its evolution – using both theoretical and empirical examples.
PREREQUISITE: Admission to a graduate program in Science or permission of the instructor
HOURS OF CREDIT: 3
NOTE: Responsibility for this course rests with the Department of Biology.

ESC 8620 ADVANCED TOPICS IN FRESHWATER SCIENCE

This course provides advanced study into the hydrology, chemistry, and ecology of freshwater ecosystems. The first part of the course is lecture-based and focuses on the physical, chemical, and biological characteristics of fresh waters. The second part of the course is seminar-based examining peer review literature both assigned by the instructor and chosen by the student. A laboratory component includes an introduction to, and an assignment regarding geographical information systems and their use in hydrology. Laboratory work will include water analysis techniques and instrumentation.
PREREQUISITE: Admission to a graduate program in Science or permission of the instructor.
HOURS OF CREDIT: 3
NOTE: Responsibility for this course rests with the Department of Biology.

ESC 8650 ADVANCES IN COASTAL RESEARCH

This course provides an update on relevant areas of ongoing coastal research. The first part of the course concentrates on presentations relevant to climate change on coastal settings, including ocean warming, coastal erosion and other global stressors, long-term and large-scale changes, coastal biodiversity loss, ecosystem services, and aquatic invasive species. The second part of the course includes participation in regular discussion sessions based on analysis of advanced literature relevant to coastal research disciplines and to the student's particular research interest. Assignments include an essay relevant (but not restricted) to a student's field of research.
PREREQUISITE: Admission to a graduate program in Science or permission of the instructor
HOURS OF CREDIT: 3
NOTE: Responsibility for this course rests with the Department of Biology.

ESC 8710 ADVANCED STUDIES IN ENVIRONMENTAL TOXICOLOGY

This course provides an in-depth analysis of environmental impacts of the major classes of contaminants including methodologies for environmental impact assessment and monitoring. Effects of environmental contaminants are examined at the ecosystem, organismal, cellular, biochemical and molecular levels. Additional emphasis is placed on understanding the fate of contaminants of concern in aquatic and terrestrial environments including their environmental chemistry, biogeochemical cycles, and exposure and uptake pathways by organisms. The course consists of lectures, discussions of peer-reviewed literature, case studies, presentations by students and laboratories.
Cross-listed with MMS 8240 and VBS 8450.
PREREQUISITE: Admission to a graduate program in Science or permission of the instructor
HOURS OF CREDIT: 3.
NOTE: Responsibility for this course rests with the Department of Biology.

ESC 8730 ANALYSIS OF GENETIC DATA

This course will help graduate students develop the skills needed to analyze genetic data. Topics will be set to suit participants' research interests. This can include many types of data: transcript abundance in cells, allele frequency in populations, sequence evolution in lineages, species composition in communities, and more. Activities are student-led

and will include paper discussions, coding models and simulations, and research presentations. The course will help students design projects that use the power of genetic data The course will help students understand the processes that drive genetic change to design projects that use the power of genetic data.
PREREQUISITE: Admission to a graduate program in Science or permission of the instructor
HOURS OF CREDIT: 3
NOTE: Responsibility for this course rests with the Department of Biology

ESC 8770 VETERINARY BIOSTATISTICS
This course provides the student with a working knowledge of the basic statistical techniques used in veterinary science. Topics include descriptive statistics, inferential statistics non-parametric statistics, analysis of variance, regression and correlation and experimental design.
Cross-listed with graduate level course VHM 8010.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

ESC 8780 ISLAND BIOGEOGRAPHY AND CONSERVATION OF INSULAR SYSTEMS
This course examines the several fundamental patterns and processes that characterize biotas and environments on islands and other broadly defined insular systems. Topics covered include earth history and historical biogeography, speciation, dispersal, extinction, island biogeography, assembly and evolution of insular communities, island effect, adaptive radiation, environmental determinism, conservation biology, marine and terrestrial protected areas, and vulnerability of island biotas to terrestrial and aquatic invasive species.
PREREQUISITE: Admission to a graduate program in Science
HOURS OF CREDIT: 3

ESC 8800 ADVANCED APPLICATIONS OF MOLECULAR BIOTECHNOLOGY
This course examines principles of gene manipulation, and the technological application of modern molecular biology tools. Topics include recent research developments and application of biotechnology in fields such as medicine, agriculture, and industry. Emphasis is placed on reviewing current literature in the field, particularly on areas related to the natural sciences / environment and human health.
Cross-listed with MMS 8800
PREREQUISITE: Admission to a graduate program in Science and permission of the instructor
HOURS OF CREDIT: 3.
NOTE: Responsibility for this course rests with the Department of Biology.

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