

Minutes of the Sixth Meeting of Senate
Friday, April 6, 2018
3:00 – 5:00 pm
618 University Avenue

- Present:** A. Abd-El-Aziz (Chair), A. Braithwaite, R. Bissessur, D. Dahn, M. Doyle, P. Drake, P. Foley, R. Gilmour, K. Gottschall-Pass, L. Hammell, A. Hsiao, G. Irvine, G. Jiwani, R. Kays, G. Keefe, J. Krause, N. Kujundzic, S. Lee, G. Lindsay, R. MacDonald, A. MacFarlane, E. MacNeill, W. McGuigan, T. Mady, R. Morin Chase, D. Moses, M. Murray, T. Nabuurs, B. O’Keefe, J. Podger, R. Raiswell, C. Ryan, N. Saad, D. Sutton, C. Thorne and G. Wedlake
- Regrets:** B. Campbell, L. Chilton, N. Etkin and L. Heider
- Absent:** G. Conboy, C. Kamunde, A. Khayyat, and M. Van den Heuvel
- Recorder:** D. MacLean, Administrative Assistant to Senate

President Alaa Abd-El-Aziz called the meeting to order at 3:05 p.m.

1. **Approval of Agenda**
MOTION (A. Braithwaite/D. Dahn) to approve the agenda as presented. CARRIED

2. **Approval of Minutes – March 2, 2018**
MOTION (L. Hammell/M. Doyle) to approve the minutes of March 2, 2018. CARRIED

3. **Business Arising**
President Abd-El-Aziz asked Dr. Robert Gilmour to provide an update on his recent trip to Egypt. Dr. Gilmour stated that he was quite impressed with the construction site and the fact that there are three shifts per day working to have the building operational and occupied by September 2018. He also informed Senators that he attended a scientific conference and a scientific expo while he was there. Dr. Gilmour discussed with the Canadian Universities in Egypt the offering of two new programs – namely Applied Climate Change and Adaptation and Environmental Studies. The Canadian University in Dubai is also interested in the Applied Climate Change and Adaptation program and the Environmental Studies program as joint degree programs.

4. **President’s Report**
President Abd-El-Aziz stated that today was a great day for UPEI, especially our students. It was the day that the Provincial Government brought down their budget. The President noted that the University will be receiving a 2% increase to our operating budget. We also received financial support for our Doctor

of Psychology Program as well as funding for the Mental Health Proposal put forth by the Student Union. Ms. Taya Nabuurs noted that they are planning to set up peer counselling for students as part of this proposal. More money was provided to the provincial scholarship program which will increase the amount given to students for each year they attend UPEI. This along with our internal scholarship program will be helpful in recruiting more Island students.

5. **Students Applying to Graduate before Convocation**

No requests were received.

6. **Senate Reports**

- a. **Academic Planning and Curriculum Committee Report**
i. **Fifth Curriculum Report**

Registrar's Office

OMNIBUS Motion (R. Gilmour/K. Gottschall-Pass) that motions 1-4 be approved as noted below:

1) To update the Graduate English Language Proficiency requirements to reflect additional ways to satisfy this requirement.

(See details on the Curriculum Report Attached – Page 3)

2) To update the Undergraduate English Language Proficiency requirement to reflect additional ways to satisfy this requirement.

(See details on the Curriculum Report Attached – Page 6-8)

3) That the language in Academic Regulation #12 reflect business days as a measure for procedural timelines.

(See details on the Curriculum Report Attached – Page 9-11)

4) To insert a new definition of a Business Day into existing list of definitions.

(See details on the Curriculum Report Attached – Page 12-13)

Faculty of Science

Applied Health Sciences and Chemistry

OMNIBUS Motion (K. Gottschall-Pass/R. MacDonald) that motions 5-7 be approved as noted below:

5) To approve the removal of the High School pre-requisite for FN 1110 Introductory Foods.

(See details on the Curriculum Report Attached – Page 14)

6) To revise the course description for CHEM 2720 Inorganic Chemistry I.

(See details on the Curriculum Report Attached – Page 15)

7) To revise the course description for CHEM 3740 Inorganic Chemistry II.

(See details on the Curriculum Report Attached – Page 16)

School of Applied Climate Change and Adaptation

OMNIBUS Motion (K. Gottschall-Pass/T. Mady) that motions 8-37 be approved as noted below:

8) That a new course entitled ACC 1010 Introduction to PEI's Living Climate Lab be approved as proposed.

(See details on the Curriculum Report Attached – Page 17-18)

9) That a new course entitled ACC 1020 Introduction to Community Climate Program Technologies be approved as proposed.

(See details on the Curriculum Report Attached – Page 19-20)

10) That a new course entitled ACC 1030 Surveying Cultural Landscapes in the Environmental Humanities be approved as proposed.

(See details on the Curriculum Report Attached – Page 21-22)

11) That a new course entitled ACC 2020 Impacts of Climate Policy on Environmental Management be approved as proposed.

(See details on the Curriculum Report Attached – Page 23-24)

12) That a new course entitled ACC 2030 Indigenous knowledge in Climate Change and Adaptation be approved as proposed.

(See details on the Curriculum Report Attached – Page 25-26)

13) That a new course entitled ACC 2160 Work Integrated Learning I be approved as proposed.

(See details on the Curriculum Report Attached – Page 27-28)

14) That a new course entitled ACC 3010 Global Climate Change Vulnerability and Adaptation be approved as proposed.

(See details on the Curriculum Report Attached – Page 29-30)

15) That a new course entitled ACC 3020 Climate Future and Modelling be approved as proposed.

(See details on the Curriculum Report Attached – Page 31-32)

16) That the course entitled ACC 3030 Climate Change Surveillance be approved as proposed.

(See details on the Curriculum Report Attached – Page 33-34)

17) That a new course entitled ACC 3040 Climate Change Statistics in R be approved as proposed.

(See details on the Curriculum Report Attached – Page 35-36)

18) That a new course entitled ACC 3050 Renewable Energy and Clean Technologies be approved as proposed.

(See details on the Curriculum Report Attached – Page 37-38)

19) That the course entitled ACC 3060 Visualization of Climate Change be approved as proposed.

(See details on the Curriculum Report Attached – Page 39-41)

20) That the new course entitled ACC 3080 Reducing Greenhouse Gas Emissions be approved as proposed.

(See details on the Curriculum Report Attached – Page 42-43)

21) That the new course entitled ACC 3090 Geographic Information Systems for Climate Change be approved as proposed.

(See details on the Curriculum Report Attached – Page 44-46)

22) That a new course ACC 3100 Climate Change Impacts on Biodiversity be approved as proposed.

(See details on the Curriculum Report Attached – Page 47-48)

23) That a new course entitled ACC 3120 Climate Change Management and Adaptation in Canada be approved as proposed.

(See details on the Curriculum Report Attached – Page 49-50)

24) That a new course entitled ACC 3140 Business Risk Assessment Under Climate Change be approved as proposed.

(See details on the Curriculum Report Attached – Page 51-52)

25) That a new course entitled ACC 3160 Work Integrated Learning II be approved as proposed.

(See details on the Curriculum Report Attached – Page 53-54)

26) That a new course entitled ACC 4010 Oceans, Coastal Systems and Climate Change be approved as proposed.

(See details on the Curriculum Report Attached – Page 55-56)

27) That a new course entitled ACC 4020 Uncertainty and Probability in Climate Change be approved as proposed.

(See details on the Curriculum Report Attached – Page 57-58)

28) That a new course entitled ACC 4040 Computer Programming to Visualize Climate Change be approved as proposed.

(See details on the Curriculum Report Attached – Page 59-60)

29) MOTION: That a new course entitled ACC 4060 Measuring Your Carbon Footprint through Carbon Accounting and Carbon Trading be approved as proposed.

(See details on the Curriculum Report Attached – Page 61-62)

30) That a new course entitled ACC 4070 Climate Extremes be approved as proposed.

(See details on the Curriculum Report Attached – Page 63-64)

31) That a new course entitled ACC 4080 Climate Change Impacts and Adaptation be approved as proposed.

(See details on the Curriculum Report Attached – Page 65-66)

32) That a new course entitled ACC 4090 Climate Change and Sustainable Tourism be approved as proposed

(See details on the Curriculum Report Attached – Page 67-68)

33) That a new course entitled ACC 4110 Climate Change and Human Health be approved as proposed.

(See details on the Curriculum Report Attached – Page 69-70)

34) That a new course entitled ACC 4120 International Climate Diplomacy be approved as proposed.

(See details on the Curriculum Report Attached – Page 71-72)

35) That a new course entitled PHYS 2630 Atmospheric and Ocean Physics be approved as proposed.

(See details on the Curriculum Report Attached – Page 73-74)

36) That a new calendar entry for the admission requirements to the Bachelor of Science in Applied Climate Change and Adaptation in the Faculty of Science be approved as proposed:

(See details on the Curriculum Report Attached – Page 75-76)

37) That a new calendar entry for the Bachelor of Science in Applied Climate Change and Adaptation in the Faculty of Science be approved as proposed.

(See details on the Curriculum Report Attached – Page 77-85)

CARRIED

After the unanimous approval of motions 8-37, R. Morin Chase requested that the Dean of Science look at other electives that may help strengthen this program such as Environmental Economics and Climate Change Economics. The Interim Dean of Science, K. Gottschall-Pass, indicated that she will take this request under consideration.

A. Braithwaite cautioned the Senate of discussing addition of courses on the floor of the Senate but she requested that a referral to APCC is an appropriate method. A Braithwaite also noted that other courses, **not just economics courses, could also be considered as electives.**"

A motion from the floor was put forward by R. Morin Chase/G. Jiwani that the Dean of Science considers the request of adding other electives that might benefit the program as per the discussion and bring it back to the Senate through APCC. The motion was carried.

School of Mathematical and Computational Sciences

38) Motion (K. Gottschall-Pass/R. Morin Chase) that the deletion of the course AMS 2400 be approved. CARRIED

(See details on the Curriculum Report Attached – Page 86)

39) Motion (K. Gottschall-Pass/N. Said) that the deletion of the course AMS 2860 be approved. CARRIED

(See details on the Curriculum Report Attached – Page 87)

40) Motion (K. Gottschall-Pass/T. Mady) that the deletion of the course AMS 3730 be approved. CARRIED

(See details on the Curriculum Report Attached – Page 88)

41) Motion (K. Gottschall-Pass/G. Keefe) that a new course entitled AMS 2030 INTERMEDIATE MICROECONOMICS I be approved as proposed. MOTION DEFEATED – 27 OPPOSED; 1 APPROVED; 3 ABSTAINED

(See details on the Curriculum Report Attached – Page 89-90)

Rationale: The Prerequisite/Co-Requisite states “Enrolled in BSc. In Actuarial Science or Financial Mathematics” but R. Morin Chase indicated that no consultation was held with Financial Mathematics.

A motion from the floor was then proposed:

Motion (G. Keefe/L. Hammell) that a new course entitled AMS 2030 INTERMEDIATE MICROECONOMICS I be approved with the removal of the words “or Financial Mathematics” from the Prerequisite/Co-Requisite category. CARRIED; 1 Abstention – Dr. A. Hsiao

42) Motion (G. Jiwani/K. Gottschall-Pass) that a new course entitled AMS 2040 INTERMEDIATE MACROECONOMICS I be approved with the removal of the words “or Financial Mathematics” from the Prerequisite/Co-Requisite category. CARRIED; 1 Abstention – Dr. A. Hsiao

(See details on the Curriculum Report Attached – Page 91-92)

43) Motion (K. Gottschall-Pass/G. Keefe) that a new course entitled AMS 4040 ADVANCED GGY AXIS be approved as proposed.

(See details on the Curriculum Report Attached – Page 93-95)

44) Motion (K. Gottschall-Pass/T. Mady) that a new course entitled AMS 4600 PREDICTIVE ANALYTICS be approved as proposed.

(See details on the Curriculum Report Attached – Page 96)

45) Motion (K. Gottschall-Pass/G. Lindsay) that a new course entitled AMS 4610 PREDICTIVE ANALYTICS FOR ACTUARIES be approved as proposed.

(See details on the Curriculum Report Attached – Page 97)

46) Motion (K. Gottschall-Pass/G. Lindsay) that a new course entitled AMS 4700 SHORT TERM INSURANCE PRICING AND RESERVING be approved as proposed.

(See details on the Curriculum Report Attached – Page 98)

47) Motion (K. Gottschall-Pass/R. Bissessur) that a new course entitled STAT 3250 STATISTICS FOR RISK MODELLING be approved as proposed.

(See details on the Curriculum Report Attached – Page 99)

OMNIBUS Motion (K. Gottschall-Pass/P. Drake) that motions 48-56 be approved as noted below:

48) Motion: that the name and description of AMS 2160 be changed as shown below.

(See details on the Curriculum Report Attached – Page 100)

49) Motion: that the course prerequisite change for AMS 2410 be approved as proposed.

(See details on the Curriculum Report Attached – Page 101)

50) Motion: that the prerequisite, description and name of AMS 2510 be changed as proposed below.

(See details on the Curriculum Report Attached – Page 102)

51) Motion: that the course prerequisite and course name of MCS 2050 be changed as proposed below and the course be renumbered as AMS 3040.

(See details on the Curriculum Report Attached – Page 103)

52) Motion: that the prerequisite, name and description of AMS 3310 be approved as proposed.

(See details on the Curriculum Report Attached – Page 104)

53) Motion: that the name, description and prerequisite of AMS 3510 be changed as proposed below.

(See details on the Curriculum Report Attached – Page 105)

54) Motion: that the prerequisite and lab hours for AMS 4540 be changed as shown below.

(See details on the Curriculum Report Attached – Page 106)

55) Motion: that the course description change for AMS 4550 be approved as proposed.

(See details on the Curriculum Report Attached – Page 107)

56) Motion: that the course description and prerequisites for Math 1910 be revised as follows.

(See details on the Curriculum Report Attached – Page 108)

57) Motion (K. Gottschall-Pass/C. Ryan) that the Bachelor of Science in Actuarial Science degree requirements be modified as proposed below.

(See details on the Curriculum Report Attached – Page 109-110)

58) Motion (K. Gottschall-Pass/C. Ryan) that the Bachelor of Science in Financial Mathematics degree requirements be modified as proposed below.

(See details on the Curriculum Report Attached – Page 111-112)

b. Senate Steering and Nominating Committee Report

i) SEARCH COMMITTEE – CHIEF LIBRARIAN

The “Selection of the Chief Librarian” policy, states the following:

- a) When a candidate for the office of University Librarian must be sought, Senate shall cause to be set up a Search Committee for the Librarian consisting of the following:
 - b) the President or his/her nominee
 - c) two full-time librarians elected by the librarians
 - d) one member of the Library Support staff elected by the members of the support staff
 - e) three full-time teaching faculty members
 - f) one senior student

All positions were filled except for e) “Three full-time teaching faculty members”. A “Call for Nominations” with faculty yielded four (4) nominees for three (3) positions.

- 1) **Dr. Aitazaz Farooque, School of Sustainable Design Engineering, Faculty of Science**
- 2) **Dr. Nino Antadze, Environmental Studies, Faculty of Science**
- 3) **Dr. Greg Doran, English Department, Faculty of Arts**
- 4) **Dr. Philip Smith, Psychology, Faculty of Arts**

An election was held during Senate and the following three faculty members were elected to sit on the committee:

- Dr. Nino Antadze, Environmental Studies, Faculty of Science**
- Dr. Greg Doran, English Department, Faculty of Arts**
- Dr. Philip Smith, Psychology, Faculty of Arts**

ii) **LIBRARY REVIEW COMMITTEE (LR)**

According to the UPEI Faculty Association Collective Agreement, Article E7.9.1, there shall be a Librarian Review Committee (LRC) constituted annually in the Library when there is an application for permanency or promotion. Article E.7.9.3 states, “.....the University Librarian shall assure that a properly constituted LRC is assembled. The LRC shall have a membership of at least five (5), and be composed of:

- a) all eligible Librarians who choose to serve from the Library subject to the terms in Article E 7.9.3(d) below, one of whom shall be elected Chair, and one of which shall be secretary to the committee;
- b) one tenured Faculty member who has served as a Library faculty contact within the previous four years;
- c) if necessary, a sufficient additional number shall be **elected by Senate** from among Faculty Members to make a total of at least five (5) or to ensure an odd number on the LRC;
- d) eligible Librarians are those who have been full-time or part-time probationary or permanent Librarians for a minimum of one (1) full year, and are not applying for reappointment, permanency or promotion during the year of the LRC membership, and do not otherwise have a conflict of interest. Members of the University Review Committee (URC) are eligible to sit on the LRC, but may not sit on the URC sub-committees considering applications they have already seen on the LRC. “

Two “Call for Nominations” with the entire faculty yielded two nominees (noted below):

Dr. Andrew Trivett, School of Sustainable Design Engineering, Faculty of Science
Dr. Nino Antadze, Environmental Studies, Faculty of Science

A “Call for Nominations” from the floor was also carried out which yielded one nominee:

Dr. Lisa Chilton, History Department, Faculty of Arts

As we required three nominees to fill the three faculty positions on the committee, a vote was not required and all nominees were acclaimed.

iii) **FOR INFORMATION OF SENATE**

At the General Faculty meeting on February 26, 2018, the following faculty members were acclaimed to sit on Senate:

- **Dr. Robert Dennis**, Department of Religious Studies, Faculty of Arts for a three-year term, July 1, 2018 to June 30, 2021.
- **Dr. Cathy Ryan**, Psychology Department, Faculty of Arts, for another three-year term, July 1, 2018 to June 30, 2021.
- **Dr. Malcolm Murray**, Philosophy Department, Faculty of Arts, for another three-year term, July 1, 2018 to June 30, 2021.
- **Dr. Doreley Coll**, Department of Modern Languages, Faculty of Arts, for a three-year term, July 1, 2018 to June 30, 2021.

- **Dr. Melanie Buote**, Department of Pathology & Microbiology, Faculty of Veterinary Medicine, for a three-year term, July 1, 2018 to June 30, 2021.
- **Dr. Etienne Cote**, Department of Companion Animals, Faculty of Veterinary Medicine, for a three-year term, July 1, 2018 to June 30, 2021.
- **Dr. Luke Heider**, Department of Health Management, Faculty of Veterinary Medicine, for a three-year term, July 1, 2018 to June 30, 2021.

ELECTED TO SENATE

- **Dr. Louis Doiron, Department of Math and Computational Sciences, Faculty of Science**, elected for a three-year term, July 1, 2018 to June 30, 2021.
- **Dr. Doug Dahn, Physics Department, Faculty of Science**, elected for a three-year term, July 1, 2018 to June 30, 2021.
- **Dr. Adam Fenech, Department of Biology/Environmental Studies, Faculty of Science** elected for a three-year term, July 1, 2018 to June 30, 2021.
- **Dr. James Moran, History Department, Faculty of Arts**, elected for a three-year term, July 1, 2018 to June 30, 2021.

7. Other Business

i) N. Said noted that his daughter has applied to various universities and has received a physical letter from all except UPEI. He feels that it is valuable and important for parents to be aware of communication between their children and an institution, something a physical letter permits but a private e-mail to the prospective student only, does not. Ms. Sutton explained that a couple of years ago the Registrar's office decided to go paperless and now deal with students through e-mails only. She noted that this initiative was brought forward by the high schools who indicated that a quick response by e-mail was much better than a letter received in the mail. Senators agreed that this is a marketing issue and Ms. Sutton has agreed to take the suggestion under advisement.

ii) R. Raiswell raised concerns about "Google" and whether it corresponds with our Privacy Policy. He indicated that it is administered under foreign law and we are fairly well exposed when it comes to privacy. President Abd-El-Aziz informed Senators that he recently met with the CIO as well as the Vice Presidents on this issue. Discussions have been held with Microsoft and consideration is being given to moving the e-mail system to Microsoft hopefully in September 2018. Nothing has been finalized, but the campus community will be notified as soon as details are available in this regard.

8. Adjournment

Motion (S. Lee/R. Bissessur) that the meeting be adjourned at 4:20 p.m.

Respectfully submitted,

Donna Sutton
Secretary of Senate

Attachment: Fifth Curriculum Report – April 6, 2018

REGISTRAR'S OFFICE

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1	Graduate English Language Proficiency Requirements	Calendar Entry Change	3-5
2	Undergraduate English Language Proficiency Requirements	Calendar Entry Change	6-8
3	Academic Regulation #12	Calendar Entry Change	9-11
4	Addition of New Definition	Calendar Entry Change	12

FACULTY OF SCIENCE

Summary of Changes

Applied Human Sciences

5	FN 1110	Calendar Entry Change: prerequisite change	14
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Chemistry

6-7	Chemistry 2720 and 3740	Calendar Entry Change: course description changes	15-16
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School of Applied Climate Change and Adaptation

8-35	ACC 1010, ACC 1020, ACC 1030, ACC 2020, ACC 2030, ACC 2160, ACC 3010, ACC 3020, ACC 3030, ACC 3040, ACC 3050, ACC 3060, ACC 3080, ACC 3090, ACC 3100, ACC 3120, ACC 3140, ACC 3160, ACC 4010, ACC 4020, ACC 4040, ACC 4060, ACC 4070, ACC 4080, ACC 4090, ACC 4110, ACC 4120, PHYS 2630	New Course Proposals	17-74
36	Admission Requirements	New Calendar Entry	75-76
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School of Mathematical and Computational Sciences

38-40	AMS 2400, 2860, 3730	Course Deletions	86-88
41-47	AMS 2030, AMS 2040, AMS 4040, AMS 4600, AMS 4610 AMS 4700, STAT 3250	New Course Proposals	89-99
48	AMS 2160	Calendar Entry Change: name and course description	100
49	AMS 2410	Calendar Entry Change: prerequisite change	101
50	AMS 2510	Calendar Entry Change: prerequisite, name and course description change	102
51	MCS 2050	Calendar Entry Change: name, number and prerequisite change	103

52-53	AMS 3310, AMS 3510	Calendar Entry Change: name, course description and prerequisite change	104-105
54	AMS 4540	Calendar Entry Change: prerequisite and lab hours change	106
55	AMS 4550	Calendar Entry Change: course description change	107
56	MATH 1910	Calendar Entry Change: course description and prerequisite change	108
57	Bachelor of Science in Actuarial Science	Calendar Entry Change: degree requirement changes	109-110
58	Bachelor of Science in Financial Mathematics	Calendar Entry Change: degree requirement changes	111-112



CALENDAR & CURRICULUM CHANGE

Motion # 1

Revision is for a: **Calendar Entry Change**

Faculty/School/Department: **Registrar's Office**

Department/Program(s)/Academic Regulations: **Graduate English Language Proficiency**

MOTION: To update the Graduate English Language Proficiency requirements to reflect additional ways to satisfy this requirement

Reproduction of Current Calendar Entry

Graduate Requirements

Admission requirements for All Graduate Programs and for Graduate Student Status:

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 is demonstrated by:

1. 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;
2. or a satisfactory score on one of the following approved English language examinations.

<i>Test</i>	<i>Regular Offer (all programs except Nursing, Education)</i>	<i>Regular Offer (Nursing, Education only)</i>	<i>Conditional * Offer</i>
IELTS (Academic)	7 in writing and no band lower than 6.5	7 in writing and speaking; 6.5 in reading and listening	5
TOEFL pbt	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
MELAB	85 with 3+ in speaking	85 with 3+ in speaking	Speaking 60
CanTEST	5 in Writing with no other band lower than 4.5	5	4
CAEL	70	70	50
PTE	66	66	50
CAE	CAE A and B and CPE A and B 185-190 after Jan 1/15	CAE A; CPE A & B 185-190 after Jan 1/15	140



CALENDAR & CURRICULUM CHANGE

Motion # 1

Eiken	1	1	Pre-1
CELBAN for Nursing only	Listening 7.5, Reading 6.5, Writing 7; Speaking 7		

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: Students meeting this requirement must participate in the Graduate English Academic Preparation program and satisfy the minimum Unconditional English Language Proficiency requirements before being permitted to enrol in Graduate level courses or participate in Graduate program activity.

Proposed revision with changes underlined and deletions indicated clearly

Graduate Requirements

Admission requirements for All Graduate Programs and for Graduate Student Status:

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 is demonstrated by:

1. 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;
2. or a satisfactory score on one of the following approved English language examinations.

<i>Test</i>	<i>Regular Offer (all programs except Nursing, Education)</i>	<i>Regular Offer (Nursing, Education only)</i>	<i>Conditional* Offer</i>
IELTS (Academic)	7 in writing and no band lower than 6.5	7 in writing and speaking; 6.5 in reading and listening	5
TOEFL pbt	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
MELAB	85 with 3+ in speaking	85 with 3+ in speaking	Speaking 60
CanTEST	5 in Writing with no other band lower than 4.5	5	4
CAEL	70	70	50

CALENDAR & CURRICULUM CHANGE

Motion # 1

PTE	66	66	50
CAE	CAE A and B and CPE A and B 185-190 after Jan 1/15	CAE A; CPE A & B 185-190 after Jan 1/15	140
Eiken	±	±	Pre-1
<u>GTECCBT</u>	<u>>1250</u>	<u>>1250</u>	<u>1100</u>
CELBAN for Nursing only	Listening 7.5, Reading 6.5, Writing 7; Speaking 7		

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: Students meeting this requirement must participate in the Graduate English Academic Preparation program and satisfy the minimum Unconditional English Language Proficiency requirements before being permitted to enrol in Graduate level courses or participate in Graduate program activity.

Rationale for Change: To update the acceptable test from the Japanese market. This is the recommended test from colleagues in Japan.

Effective Date: May 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None

Authorization

Date:

Departmental Approval: Darcy McCardle, Associate Registrar	January 29, 2018
Faculty/School Approval: N/A	N/A
Faculty Dean's Approval: N/A	N/A
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

Form Version: September 2017

CALENDAR & CURRICULUM CHANGE

Motion #2

Revision is for a: **Calendar Entry Change**

Faculty/School/Department: **Registrar's Office**

Department/Program(s)/Academic Regulations: **Undergraduate English Language Proficiency**

MOTION: To update the Undergraduate English Language Proficiency requirements to reflect additional ways to satisfy this requirement

Reproduction of Current Calendar Entry

**Undergraduate Requirements
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

1. 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; **OR**
2. Submission of an official test score at or above the acceptable minimum, such as:

<i>Test</i>	<i>Undergraduate (except Nursing, Education, Doctor of Veterinary Medicine & Radiography)</i>	<i>Nursing, Radiography, Doctor of Veterinary Medicine & Education</i>
IELTS (Academic)	Overall score of 6.5 with 6.5 in writing no other band below 6	Overall score of 7 with 7 in 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
MELAB	80	85
CanTEST	4.5	5
CAEL	60	70

Pearson Test of English	58	66
Cambridge Advanced English	CAE A-C: 176-184 after Jan 1/15	CAE A: CPE A & B; 185-190 after Jan 1/15
Eiken	Pre-1	1

Applicants without English proficiency test scores, or with scores below the minimum, may be admitted conditionally (NOT available to applicants seeking admission to Nursing, Radiography, Education or Doctor of Veterinary Medicine), and will be assessed by the EAP Coordinator upon arrival. Depending upon the assessment result, students may be placed in either full-time or part-time EAP. Part-time EAP is taken in combination with up to three credit courses. Upon successful completion of EAP, with an acceptable test score as noted above, these students will be eligible to begin academic studies without conditions related to English language proficiency.

Proposed revisions with changes underlined and deletions indicated clearly

Undergraduate Requirements

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:

1 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; **OR**

2 Submission of an official test score at or above the acceptable minimum, such as:

<i>Test</i>	<i>Undergraduate (except Nursing, Education, Doctor of Veterinary Medicine & Radiography) <u>Arts, Science, Business and Baccalauréate en éducation, Français Langue Seconde</u></i>	<i>Nursing, Radiography, Education & Doctor of Veterinary Medicine & Education</i>
IELTS (Academic)	Overall score of 6.5 with 6.5 in writing no other band below 6	Overall score of 7 with 7 in 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
MELAB	80	85

CALENDAR & CURRICULUM CHANGE

Motion #2

CanTEST	4.5	5
CAEL	60	70
Pearson Test of English	58	66
Cambridge Advanced English	CAE A-C: 176-184 after Jan 1/15	CAE A: CPE A & B; 185-190 after Jan 1/15
Eiken	Pre-1	1
<u>GTEC CBT</u>	<u>1176-1250</u>	<u>1250 and above</u>
<u>English 621*</u>	<u>70%</u>	<u>N/A</u>

Applicants without English proficiency test scores, or with scores below the minimum, may be admitted conditionally (NOT available to applicants seeking admission to Nursing, Radiography, Education or Doctor of Veterinary Medicine), and will be assessed by the EAP Coordinator upon arrival. Depending upon the assessment result, students may be placed in either full-time or part-time EAP. Part-time EAP is taken in combination with up to three credit courses. Upon successful completion of EAP, with an acceptable test score as noted above, these students will be eligible to begin academic studies without conditions related to English language proficiency.

*Prince Edward Island high school course English 621 or an analogous grade 12 academic English course from another Canadian Provincial curriculum.

Rationale for Change: To identify Arts, Business, Science and the Baccalaureate en Education, francais langue seconde as sharing the same minimum English language proficiency score requirement and to reflect an existing agreement to see the use of Grade 12 Academic English as an appropriate way to confirm English proficiency for undergraduate studies and to update the acceptable test from the Japanese market. This is the recommended test from colleagues in Japan.

Effective Date: May 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None

Authorization	Date:
Departmental Approval: Darcy McCardle, Associate Registrar	January 29, 2018
Faculty/School Approval: N/A	N/A
Faculty Dean's Approval: N/A	N/A
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018



CALENDAR & CURRICULUM CHANGE

Motion #3

Revision is for a: **Academic Regulation Change**

Faculty/School/Department: **Registrar's Office**

Department/Program(s)/Academic Regulations: **Academic Regulation #12**

MOTION: That the language in Academic Regulation #12 reflect business days as a measure for procedural timelines.

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
<p>Regulation 12 - Academic Appeals</p> <p>1. In the application of all academic regulations, students shall have access to a fair and just appeal procedure.</p> <p>2. In every case, a student must file an appeal within the required timelines (see below), otherwise the appeal shall not be considered.</p> <p>Appeal on Grades</p> <p>3. An informal appeal must first be made to the instructor within 30 calendar 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.</p> <p>4. A formal appeal may be made in writing within 7 calendar days of the instructor's decision, as follows:</p> <ul style="list-style-type: none"> • 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 or School in accordance with section 6 of this Regulation. <p>5. The Department Chair's decision may be further appealed, in writing, within 14 calendar days of the date of the Department Chair's decision to the</p>	<p>Regulation 12 - Academic Appeals</p> <p>1. In the application of all academic regulations, students shall have access to a fair and just appeal procedure.</p> <p>2. In every case, a student must file an appeal within the required timelines (see below), otherwise the appeal shall not be considered.</p> <p>Appeal on Grades</p> <p>3. An informal appeal must first be made to the instructor within 30 calendar <u>20 business</u> 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.</p> <p>4. A formal appeal may be made in writing within 7 calendar <u>5 business</u> days of the instructor's decision, as follows:</p> <ul style="list-style-type: none"> • 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 or School in accordance with section 6 of this Regulation. <p>5. The Department Chair's decision may be further appealed, in writing, within 14 calendar <u>10 business</u> days of the date of the Department Chair's</p>



CALENDAR & CURRICULUM CHANGE

Motion #3

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
<p>Dean of the Faculty or School, in accordance with section 6 of this Regulation.</p> <p>6. In an appeal to the Dean:</p> <p>a) The Dean shall provide the student with a copy of the Faculty/School’s policy/procedures, if those have not already been provided.</p> <p>b) The Dean shall establish an appeals committee to hear the appeal.</p> <p>c) The appeals committee shall consider the appeal and make a recommendation to the Dean.</p> <p>d) The Dean shall consider the appeals committee’s recommendation and render a decision on the appeal.</p> <p>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.</p> <p>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 30 calendar days of the date of the Dean’s decision.</p> <p>Other Appeals</p> <p>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 21 calendar 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.</p> <p>Appeal Rules and Forms</p> <p>9. The Senate may establish rules and forms applicable to appeals made to the Senate Academic and Student Discipline Appeals Committee.</p>	<p>decision to the Dean of the Faculty or School, in accordance with section 6 of this Regulation.</p> <p>6. In an appeal to the Dean:</p> <p>a) The Dean shall provide the student with a copy of the Faculty/School’s policy/procedures, if those have not already been provided.</p> <p>b) The Dean shall establish an appeals committee to hear the appeal.</p> <p>c) The appeals committee shall consider the appeal and make a recommendation to the Dean.</p> <p>d) The Dean shall consider the appeals committee’s recommendation and render a decision on the appeal.</p> <p>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.</p> <p>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 30 calendar <u>20 business</u> days of the date of the Dean’s decision.</p> <p>Other Appeals</p> <p>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 21 calendar <u>15 business</u> 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.</p> <p>Appeal Rules and Forms</p> <p>9. The Senate may establish rules and forms applicable to appeals made to the Senate Academic and Student Discipline Appeals Committee.</p>



CALENDAR & CURRICULUM CHANGE

Motion #3

Rationale for Change: To connect procedural timelines to business days to avoid impacts of scheduled holiday or closure periods.

Effective Date: May 2018

Implications for Other Programs: Not Applicable

Impact on Students Currently Enrolled: None

Authorization	Date:
Departmental Approval: Darcy McCardle	January 29, 2018
Faculty/School Approval: N/A	N/A
Faculty Dean's Approval: N/A	N/A
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018



CALENDAR & CURRICULUM CHANGE

Motion #4

Revision is for a: **Calendar Entry Change**

Faculty/School/Department: **Registrar's Office**

Department/Program(s)/Academic Regulations: **Registrar's Office**

MOTION: To insert a new definition of a Business Day into existing list of definitions

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
<p>Definitions There are many different ways that universities refer to programs, the paths you can take, and the resulting outcomes of your studies. Find out how we describe these at UPEI.</p>	<p>Definitions There are many different ways that universities refer to programs, the paths you can take, and the resulting outcomes of your studies. Find out how we describe these at UPEI.</p> <p><u>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.</u></p>

Rationale for Change: To provide a definition of Business Day to guide the application of Regulation #12 and any other university processes that will be run using this type of schedule

Effective Date: May 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None

Authorization	Date:
Departmental Approval: Darcy McCardle	January 29, 2018
Faculty/School Approval: N/A	N/A
Faculty Dean's Approval: N/A	N/A
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

SUMMARY CALENDAR & CURRICULUM CHANGES – FACULTY OF SCIENCE

Summary of Calendar & Curriculum Changes for the Faculty of Science

From Science Council meetings held on January 11 & February 1, 2018

Department of Applied Human Sciences

- Removal of the High School pre-requisite for FN 1110 Introductory Foods.

Department of Chemistry

- Revisions to course descriptions for CHEM 2720 Inorganic Chemistry I, and CHEM 3740 Inorganic Chemistry II.

School of Applied Climate Change and Adaptation

- New courses: ACC 1010, ACC 1020, ACC 1030, ACC 2020, ACC 2030, ACC 2160, ACC 3010, ACC 3020, ACC 3030, ACC 3040, ACC 3050, ACC 3060, ACC 3080, ACC 3090, ACC 3100, ACC 3120, ACC 3140, ACC 3160, ACC 4010, ACC 4020, ACC 4040, ACC 4060, ACC 4070, ACC 4080, ACC 4090, ACC 4110, ACC 4120, PHYS 2630
- New Calendar entries for Admissions and the Program.

School of Mathematical and Computational Sciences

- Deletions of: AMS 2400, AMS 2860 and AMS 3730.
- New courses: AMS 2030 (cross-listed with ECON 2030), AMS 2040 (cross-listed with ECON 2040), AMS 4040, AMS 4600, AMS 4610, AMS 4700, and STAT 3250.
- Course revisions to: AMS 2160, AMS 2410, AMS 2510, MCS 2050 (now AMS 3040), AMS 3310, AMS 3510, AMS 4540, AMS 4550, and MATH 1910.
- Calendar entry revisions to: Actuarial Science to meet the School of Actuarial Science accreditation standards, and to Financial Mathematics to meet the program requirements for Statistics.

CALENDAR & CURRICULUM CHANGE

Motion #5

Revision is for a: **Pre-requisite Addition/Change**

Faculty/School/Department: **Science**

Department/Program(s)/Academic Regulations: **Applied Human Sciences/Foods and Nutrition**

MOTION: To approve the removal of the High School pre-requisite for FN 1110 Introductory Foods.

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
<p><u>Reproduction</u></p> <p>111 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. PREREQUISITE: Grade XII Chemistry or the permission of the Chair in special cases Three lecture hours, three-hour laboratory</p>	<p><u>Revised</u></p> <p>111<u>0</u> 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. PREREQUISITE: Grade XII Chemistry or the permission of the Chair in special cases Three lecture hours, three-hour laboratory</p>

Rationale for Change: This change is being made to provide ease of access for students wishing to take the course who do not have the Chemistry course from High School.

Effective Date: September 2019

Implications for Other Programs: None

Impact on Students Currently Enrolled: None

<i>Authorization</i>	<i>Date:</i>
Departmental Approval: Dany MacDonald	January 11, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

CALENDAR & CURRICULUM CHANGE

Motion #6

Revision is for a: **Course Description Change**

Faculty/School/Department: **Science**

Department/Program(s)/Academic Regulations: **Chemistry**

MOTION: To revise the course description for CHEM 2720 Inorganic Chemistry I.

<p><u>Reproduction of Current Calendar Entry</u> 272 INORGANIC CHEMISTRY I This course examines the descriptive chemistry of the main group elements and their compounds; periodic trends in reactivity, structure and physical properties. Other topics include: electronic configuration, an introduction to symmetry operations and symmetry elements, bonding theories (molecular orbital theory), acid-base theory, and special topics (industrial application, bioinorganic chemistry). PREREQUISITE: Chemistry 112 Three lecture hours and four laboratory hours a week</p>	<p><u>Proposed revision with changes underlined and deletions indicated clearly</u> 2720 INORGANIC CHEMISTRY I This course examines the descriptive chemistry of the main group elements and their compounds; periodic trends in reactivity, structure and physical properties. Other topics include: electronic configuration, an introduction to symmetry operations and symmetry elements, bonding theories (molecular orbital theory), acid-base theory, and special topics (industrial application, bioinorganic chemistry). <u>introduces transition metals and their coordination compounds. Topics include: isomerism, stereochemistry, crystal field theory and HSAB theory. The course also examines specific reactions such as ligand substitution, oxidative addition, reductive elimination, and insertion reactions. Other topics include: symmetry, point groups, symmetry in spectroscopy, as well as an introduction to bioinorganic chemistry.</u> PREREQUISITE: Chemistry 1120 Three lecture hours and four laboratory hours a week</p>
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Rationale for Change: To more accurately describe the current course content, as it has evolved over the past three years.

Effective Date: September 2019

Implications for Other Programs: None

Impact on Students Currently Enrolled:

Authorization	Date:
Departmental Approval: Dr. Rabin Bissessur	November 28, 2017
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Dr. Kathy Gottschall-Pass	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

CALENDAR & CURRICULUM CHANGE

Motion #7

Revision is for a: **Course Description Change**

Faculty/School/Department: **Science**

Department/Program(s)/Academic Regulations: **Chemistry Department**

MOTION: To revise the course description for CHEM 3740 Inorganic Chemistry II.

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
<p>374 INORGANIC CHEMISTRY II</p> <p>This course introduces the chemistry of the transition metals, focusing on coordination and organotransition metal compounds. It discusses the geometry, bonding models (ligand field theory, molecular orbital theory, isolobal analogy), and electronic properties of the transition metals and their compounds. It examines specific families with respect to their chemical and physical properties and their reactivity (ligand substitution, oxidative addition, reductive elimination, insertion reactions) as related to their structure and bonding. Other topics include application to industrial processes and bioinorganic chemistry.</p> <p>PREREQUISITE: Chemistry 272 with a minimum of 60%, and Chemistry 361 must be taken at least concurrently. Three lecture hours and three hours laboratory a week</p>	<p>3740 INORGANIC CHEMISTRY II</p> <p>This course introduces the chemistry of the transition metals, focusing on coordination and organotransition metal compounds. It discusses the geometry, bonding models (ligand field theory, molecular orbital theory, isolobal analogy), and electronic properties of the transition metals and their compounds. It examines specific families with respect to their chemical and physical properties and their reactivity (ligand substitution, oxidative addition, reductive elimination, insertion reactions) as related to their structure and bonding. <u>examines the descriptive inorganic and organometallic chemistry of the main group elements and their compounds. Topics include: periodic trends in reactivity, structure and physical properties. Emphasis will be on molecular chemistry, but there will be some coverage of solid-state compounds such as borane clusters, silicates and aluminosilicates. The course also introduces the crystal structure of metallic and ionic solids, as well as band theory.</u></p> <p>PREREQUISITE: Chemistry 2720 with a minimum of 60% and Chemistry 3610 must be taken at least concurrently. Three lecture hours and three hours laboratory a week.</p>

Rationale for Change: To more accurately describe the current course content, as it has evolved over the past three years.

Effective Date: September 2019

Implications for Other Programs: None

Impact on Students Currently Enrolled: None

Authorization	Date:
Departmental Approval: Dr. Rabin Bissessur	September 28, 2017
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Dr. Kathy Gottschall-Pass	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

NEW COURSE PROPOSAL

Motion #8

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 1010 Introduction to PEI's Living Climate Lab be approved as proposed.

Course Number and Title	ACC 1010 Introduction to PEI's Living Climate Lab
Description	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.
Cross-Listing	
Prerequisite/Co-Requisite	
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** No

If there is an enrolment limit, please explain.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: A field trip course requiring bus transportation.

In offering this course will UPEI require facilities or staff at other institutions: No

If yes, please explain.

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

NEW COURSE PROPOSAL

Motion #8

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 1010 Introduction to PEI's Living Climate Lab

The Library does have some existing resources to support the new *Bachelor of Science in Applied Climate Change and Adaptation* degree, but given the rate of development within this area additional resources are required to ensure current resources are accessible. This budget is recommended to support the program:

One time cost of \$1500 to purchase updated monographs for the program in the first year and **\$1,500 annually** thereafter to maintain the currency of the monograph collection. To ensure ongoing access to existing databases and subscriptions **\$3,500 annually including a 5% yearly increase** is requested.

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts, EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts a number of projects for UPEI's Climate Lab including the Atlantic Climate Adaptation Solutions Association site, which is a primary document repository for the region (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs – Monographs required
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #9

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 1020 Introduction to Community Climate Program Technologies be approved as proposed.

Course Number and Title	ACC 1020: Introduction to Community Climate Program Technologies
Description	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.
Cross-Listing	
Prerequisite/Co-Requisite	
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** No

If there is an enrolment limit, please explain.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: Access to equipment to be used in other courses including drones, climate stations, RTK GPS, forest biodiversity monitoring, etc.

In offering this course will UPEI require facilities or staff at other institutions: No

If yes, please explain.

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 1020: Introduction to Community Climate Program Technologies

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs – Updated monographs are needed in this area.
 - Subscriptions – Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #10

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 1030 Surveying Cultural Landscapes in the Environmental Humanities be approved as proposed.

Course Number and Title	ACC 1030: Surveying Cultural Landscapes in the Environmental Humanities
Description	This experiential-based course uses an interdisciplinary approach to explore the ways in which human culture has responded to and been shaped by aspects of the natural environment. After an introductory look at the history of the human response to nature, we will focus on modern and contemporary responses from the areas of philosophy and ethics, visual arts, literature, anthropology, architecture, biology, and music.
Cross-Listing	
Prerequisite/Co-Requisite	
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** No
If there is an enrolment limit, please explain.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: Bus for transportation to field sites.

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 1030: Surveying Cultural Landscapes in the Environmental Humanities

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 618 online and print books published since 2008 for a subject search on human ecology.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Four hundred thirteen journals have ecology in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts, EconLit with Full Text, and Academic Search Complete
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs – Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #11

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 2020 Impacts of Climate Policy on Environmental Management be approved as proposed.

Course Number and Title	ACC 2020: Impacts of Climate Policy on Environmental Management
Description	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 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.
Cross-Listing	
Prerequisite/Co-Requisite	
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** No
If there is an enrolment limit, please explain.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required:

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

<u>Authorization</u>	<u>Date:</u>
Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 2020: Impacts of Climate Policy on Environmental Management

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 550 online and print books published since 2008 for a subject search on environmental management.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. One hundred three journals have environmental management in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs - Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #12

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 2030 Indigenous Knowledge in Climate Change and Adaptation be approved as proposed.

Course Number and Title	ACC 2030: Indigenous Knowledge in Climate Change and Adaptation
Description	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-Listing	
Prerequisite/Co-Requisite	
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** No

If there is an enrolment limit, please explain.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes, and will be taught by the new indigenous faculty member (search ongoing).

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: Bus for multiple study tours.

In offering this course will UPEI require facilities or staff at other institutions: No

If yes, please explain.

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

NEW COURSE PROPOSAL

Motion #12

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL
ACC 2030: Indigenous Knowledge in Climate Change and Adaptation

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 51 online and print books published since 2008 for a keyword search on Indigenous peoples and climate.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text; The Indigenous Studies Portal (iPortal) is a database of electronic resources focusing primarily on First Nations and Aboriginals of Canada with a secondary focus on North American materials and beyond - a search for the term climate returns over 300 results.
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs - Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #13

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 2160 Work Integrated Learning I be approved as proposed.

Course Number and Title	ACC 2160: Work Integrated Learning I
Description	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. Eight weeks full-time work experience.
Cross-Listing	
Prerequisite/Co-Requisite	Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Pass/Fail

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: None

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018



NEW COURSE PROPOSAL

Motion #13

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 2160: Work Integrated Learning I

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs - Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses): None

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #14

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 3010 Global Climate Change Vulnerability and Adaptation be approved as proposed.

Course Number and Title	ACC 3010: Global Climate Change Vulnerability and Adaptation
Description	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.
Cross-Listing	
Prerequisite/Co-Requisite	ENV 3110; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40

Is there an Enrolment Cap: Yes

If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: None

In offering this course will UPEI require facilities or staff at other institutions: No

If yes, please explain.

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 3010: Global Climate Change Vulnerability and Adaptation

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain)– N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs – Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #15

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 3020 Climate Future and Modelling be approved as proposed.

Course Number and Title	ACC 3020: Climate Future and Modelling
Description	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. Alternating classroom and laboratory.
Cross-Listing	
Prerequisite/Co-Requisite	ENV 3110; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: Access to UPEI COADE database of Global Climate Model results.

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 3020: Climate Future and Modelling

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain)– N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs - Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement?

The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #16

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That the course entitled ACC 3030 Climate Change Surveillance be approved as proposed.

Course Number and Title	ACC 3030: Climate Change Surveillance
Description	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. Three hours lecture, three hours laboratory a week
Cross-Listing	
Prerequisite/Co-Requisite	ACC 1020; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: Climate stations, sea level monitors, brometric pressure sensors, and other equipment. Access to on-line database storage server.

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 3030: Climate Change Surveillance

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source, and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs – Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #17

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 3040 Climate Change Statistics in R be approved as proposed.

Course Number and Title	ACC 3040: Climate Change Statistics in R
Description	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. Three hours a week on-line, three hours laboratory
Cross-Listing	
Prerequisite/Co-Requisite	MATH 1910, CS 1910 and STAT 1910; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: Internet access as relies heavily on on-line course.

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

<u>Authorization</u>	<u>Date:</u>
Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 3040: Climate Change Statistics in R

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>). The Library has provided ongoing support for a climate station harvesting database and storage of climate datasets and records for the Climate Lab. If this service is expanded, then additional support may be required.

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs - Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses):
 - R software needed for library computer lab, Collaboratory, Language Lab and Learning Commons computers. Free open source software is available.

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #18

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 3050 Renewable Energy and Clean Technologies be approved as proposed.

Course Number and Title	ACC 3050: Renewable Energy and Clean Technologies
Description	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.
Cross-Listing	
Prerequisite/Co-Requisite	ACC 1020 and PHYS 2630; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: Bus transportation for multiple study tours.

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 3050: Renewable Energy and Clean Technologies

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 340 online and print books published since 2008 for a subject search on renewable energy sources.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Twenty-one journals have renewable energy in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Sage Premier Collection, Academic Search Complete, Business Source and Films on Demand, IEEE IEL Online, ASME Digital Collection, INSPEC, ACM Digital Library, Compendex (Engineering Village)
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs – Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #19

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That the course entitled ACC 3060 Visualization of Climate Change be approved as proposed.

Course Number and Title	ACC 3060: Visualization of Climate Change
Description	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. Three hours lecture, three hours laboratory per week.
Cross-Listing	
Prerequisite/Co-Requisite	CS 1910; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: High speed internet access for on-line aspects of the course including access to virtual reality shareware; computer tablet for each student; large computer displays for screen and table workstations; specialized GIS software; game controllers for visualization aspects

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

<u>Authorization</u>	<u>Date:</u>
Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 3060: Visualization of Climate Change

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books with the subject term climate change, 104 online and print books with data visualization in the title, and 188 online and print books with the subject term geographic information systems published since 2008
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and , Safari, CRCNetBase
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs – Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other – ArcGIS software licenses may be required if that platform is used.
- Physical Space in Library (other than holdings, explain):
 - A suggestion: The Robertson Library would be interested in exploring the creation of a GIS/Data Visualization lab within the Library to support this program and other program that may potentially leverage GIS and/or data in their course offerings. Capital costs would include renovations, furnishings, software, and equipment.
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses):
 - GIS software for library computer lab and/or collaboratory computers. Free open source software is available, but the library will need to use the same software required by the course curriculum.

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.



Academic Planning and Curriculum Committee
March 20, 2018

NEW COURSE PROPOSAL

Motion #19

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #20

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That the new course entitled ACC 3080 Reducing Greenhouse Gas Emissions be approved as proposed.

Course Number and Title	ACC 3080: Reducing Greenhouse Gas Emissions
Description	This course will examine the 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. Students will assess how to stabilize atmospheric CO2 concentration at no greater than 450ppmv without replacing existing nuclear power capacity as it retires and without resorting to carbon capture and storage.
Cross-Listing	
Prerequisite/Co-Requisite	ENV 3110 and ACC 3020; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program’s objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: None

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

<u>Authorization</u>	<u>Date:</u>
Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean’s Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean’s Approval: N/A	N/A
Registrar’s Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 3080: Reducing Greenhouse Gas Emissions

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 111 online and print books published since 2008 for a subject search on greenhouse gas mitigation.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs – Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other – Suggestion: Given the experiential nature of the program, it may want to consider the purchase of CO2 kits to facilitate student collection of data, estimate \$200/kit.
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #21

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That the new course entitled ACC 3090 Geographic Information Systems for Climate Change be approved as proposed.

Course Number and Title	ACC 3090: Geographic Information Systems for Climate Change
Description	Geographic Information 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. Three hours on-line and three hours laboratory.
Cross-Listing	
Prerequisite/Co-Requisite	Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: A computer tablet for each student, internet access for on-line course delivery, and specialized GIS software.

In offering this course will UPEI require facilities or staff at other institutions: Yes. A GIS trainer unless new specialized faculty are hired.

Authorization	Date:
Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018



NEW COURSE PROPOSAL

Motion #21

**LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL
ACC 3090: Geographic Information Systems for Climate Change**

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change. A subject search on geographic information systems retrieved 188 online and print books published since 2008.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs – Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): See ACC 3060 re: a GIS/Data lab. The Robertson Library would be interested in exploring the creation of a GIS/Data Visualization lab within the Robertson Library to support this program and other program that may potentially leverage GIS and/or data in their course offerings. Capital costs would include renovations, furnishings, software, and equipment.
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses):
 - GIS software for library computer lab and/or collaborative computers. Free open source software is available, but the library will need to use the same software required by the course curriculum.

Summary of additional budget allocation required:

- One-time: : _____ For each of _____ consecutive years
 - Tablets for checkout to support class assignments. The library will purchase the same tablets used in class.
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

NEW COURSE PROPOSAL

Motion #21

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #22

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course ACC 3100 Climate Change Impacts on Biodiversity be approved as proposed.

Course Number and Title	ACC 3100: Climate Change Impacts on Biodiversity
Description	This course will assess biodiversity conservation and policy responses to global climate change; integrate our knowledge of likely future changes on biodiversity; guide the design of adaptation strategies; and establish a framework for future collaborative research on climate change and biodiversity. A field component of the course will establish a biodiversity-monitoring plot using methods developed by The Smithsonian Institution. Three lecture hours a week with three hours field/laboratory work.
Cross-Listing	
Prerequisite/Co-Requisite	BIO 3270; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: Field equipment including measuring tapes, dbh tapes, clinometers, species id cards, laser range finders, plus specialized software for biodiversity inventory.

In offering this course will UPEI require facilities or staff at other institutions: Yes
If yes, please explain. Smithsonian Institution biodiversity expert to assist with monitoring protocols.

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

NEW COURSE PROPOSAL

Motion #22

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 3100: Climate Change Impacts on Biodiversity

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change. A subject search for biological diversity retrieved 19 online and print books.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs – Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #23

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 3120 Climate Change Management and Adaptation in Canada be approved as proposed.

Course Number and Title	ACC 3120: Climate Change Management and Adaptation in Canada
Description	This course introduces approaches to environmental management in Canada focused on climate change aspects. Specifically, the course will examine various environmental laws, regulations, policies and legislation; the application of legislation to proposed projects; the principles and fundamentals of completing environmental audits; and the mainstreaming of adaptation into government programming.
Cross-Listing	
Prerequisite/Co-Requisite	ACC 2020; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: None

In offering this course will UPEI require facilities or staff at other institutions: Yes
If yes, please explain. Expert trainer from CSA or ISO on environmental auditing.

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

[Click here to enter text.](#)

ACC 3120: Climate Change Management and Adaptation in Canada

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs - Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #24

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 3140 Business Risk Assessment Under Climate Change be approved as proposed.

Course Number and Title	ACC 3140: Business Risk Assessment Under Climate Change
Description	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.
Cross-Listing	
Prerequisite/Co-Requisite	ENV 3110; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: None

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

<u>Authorization</u>	<u>Date:</u>
Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 3140: Business Risk Assessment Under Climate Change

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change and 33 titles with the subject term risk management.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs - Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #25

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 3160 Work Integrated Learning II be approved as proposed.

Course Number and Title	ACC 3160: Work Integrated Learning II
Description	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. Eight weeks full-time work experience.
Cross-Listing	
Prerequisite/Co-Requisite	ACC 2160; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Pass/Fail

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: None

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

<u>Authorization</u>	<u>Date:</u>
Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 3160: Work Integrated Learning II

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs – Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #26

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 4010 Oceans, Coastal Systems and Climate Change be approved as proposed.

Course Number and Title	ACC 4010: Oceans, Coastal Systems and Climate Change
Description	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.
Cross-Listing	
Prerequisite/Co-Requisite	PHYS 2630; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: Boat time for coastline study tour

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 4010: Oceans, Coastal Systems and Climate Change

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change. A subject search for fisheries or aquaculture retrieved 386 online and print books published since 2008.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Fifty-four journals have aquaculture in the journal title and 94 journals have fisheries in the title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain)– N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs - Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #27

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 4020 Uncertainty and Probability in Climate Change be approved as proposed.

Course Number and Title	ACC 4020: Uncertainty and Probability in Climate Change
Description	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. Three hours on-line, three hours laboratory per week.
Cross-Listing	
Prerequisite/Co-Requisite	STAT 1910 and ACC 3060; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: None

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 4020: Uncertainty and Probability in Climate Change

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs – Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #28

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 4040 Computer Programming to Visualize Climate Change be approved as proposed.

Course Number and Title	ACC 4040: Computer Programming to Visualize Climate Change
Description	An emerging approach to enhancing participation and building awareness is the use of 3D landscape visualisation 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. Three on-line hours, three hours laboratory per week.
Cross-Listing	
Prerequisite/Co-Requisite	CS 1910, ACC 3040, ACC 3050 AND ACC 3060; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: Internet access, Xbox game controllers

In offering this course will UPEI require facilities or staff at other institutions: Yes Virtual reality industry trainers on Unity software

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

NEW COURSE PROPOSAL

Motion #28

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 4040: Computer Programming to Visualize Climate Change

Existing resources:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain)– N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs - Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses):
 - The program may require the installation of Unity. There is currently a free version for beginners, students, and hobbyists.
 - Suggestion: That virtual reality equipment, such as Samsung ODyssey, HTC Vive, Oculus Rift, or other appropriate VR hardware be purchased.

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #29

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 4060 Measuring Your Carbon Footprint through Carbon Accounting and Carbon Trading be approved as proposed.

Course Number and Title	ACC 4060: Measuring Your Carbon Footprint through Carbon Accounting and Carbon Trading
Description	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.
Cross-Listing	
Prerequisite/Co-Requisite	ACC 3140; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40

Is there an Enrolment Cap: Yes

If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: None

In offering this course will UPEI require facilities or staff at other institutions: Yes. CSA or ISO expert in carbon accounting

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 4060: Measuring Your Carbon Footprint through Carbon Accounting and Carbon Trading

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change. There are 72 works with the phrase “carbon footprint” and 25 that include the phrase “carbon trading”.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs – Sufficient, but dependencies
 - Subscriptions – Sufficient, but dependencies
 - Databases – Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #30

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 4070 Climate Extremes be approved as proposed.

Course Number and Title	ACC 4070: Climate Extremes
Description	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.
Cross-Listing	
Prerequisite/Co-Requisite	STAT 1910 and ACC 3030; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: None

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

Authorization	Date:
Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 4070: Climate Extremes

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change. There are 173 works that feature the subject Hurricanes.10 that feature tornadoes.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs – Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #31

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 4080 Climate Change Impacts and Adaptation be approved as proposed.

Course Number and Title	ACC 4080: Climate Change Impacts and Adaptation
Description	Adaptation strategies, limits to adaptation, and approaches to adaptation planning will be covered. Students will use regional scenarios of future climate change and the guidelines set by the Intergovernmental Panel on Climate Change to conduct a rapid assessment of climate change impacts and potential adaptation strategies for the PEI economy and ecology, designated for a local entity.
Cross-Listing	
Prerequisite/Co-Requisite	ACC 3020 and ACC 3030; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: None

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

NEW COURSE PROPOSAL

Motion #31

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 4080: Climate Change Impacts and Adaptation

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain)– N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs – Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____
 -

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #32

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 4090 Climate Change and Sustainable Tourism be approved as proposed.

Course Number and Title	ACC 4090: Climate Change and Sustainable Tourism
Description	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.
Cross-Listing	
Prerequisite/Co-Requisite	ACC 3140; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: None

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

<u>Authorization</u>	<u>Date:</u>
Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

NEW COURSE PROPOSAL

Motion #32

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 4090: Climate Change and Sustainable Tourism

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 58 online and print books published since 2008 for a subject search on ecotourism.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. One hundred seventy-seven journals have tourism in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs - Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #33

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 4110 Climate Change and Human Health be approved as proposed.

Course Number and Title	ACC 4110: Climate Change and Human Health
Description	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.
Cross-Listing	
Prerequisite/Co-Requisite	ACC 2030; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: None

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 4110: Climate Change and Human Health

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 25 online and print books published since 2008 for a subject search on climactic change, health aspects. A subject search for medical climatology retrieved 10 online and print books published since 2008.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs - Current print and ebooks are needed in this area.
 - Subscriptions – Sufficient, but dependencies
 - Databases – Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #34

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled ACC 4120 International Climate Diplomacy be approved as proposed.

Course Number and Title	ACC 4120: International Climate Diplomacy
Description	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.
Cross-Listing	
Prerequisite/Co-Requisite	ACC 2020; Admission to the ACC Program
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** Yes
If there is an enrolment limit, please explain. The cohort is limited to 40.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: None

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

<u>Authorization</u>	<u>Date:</u>
Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

ACC 4120: International Climate Diplomacy

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 243 online and print books published since 2008 for a subject search on climate change. For climate and the subject politics and government there are 80 titles published since 2008.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. Seventy-five journals have climate in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs – Sufficient, but dependencies
 - Subscriptions - Sufficient, but dependencies
 - Databases - Sufficient, but dependencies
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

NEW COURSE PROPOSAL

Motion #35

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new course entitled PHYS 2630 Atmospheric and Ocean Physics be approved as proposed.

Course Number and Title	PHYS 2630: Atmospheric and Ocean Physics
Description	The course is an introduction to fluid dynamics to describe atmospheric and ocean circulation, and interactions with the cryosphere; thermodynamics, cosmic and solar radiation and the global energy balance; physics and role of atmospheric aerosols and clouds in the climate system; instrumentation and measurement physics with a focus on temperature, humidity, pressure and solar radiation; computational physics and modeling of climate properties and processes. Field trips.
Cross-Listing	
Prerequisite/Co-Requisite	CHEM 1110, AND MATH 1120 OR MATH 1910
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** No

If there is an enrolment limit, please explain.

Rationale for New Course: The course was developed specifically for the new Bachelor of Science in Applied Climate Change and Adaptation to support the program's objectives and learning outcomes.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required:

In offering this course will UPEI require facilities or staff at other institutions: No

If yes, please explain.

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

PHYS 2630: Atmospheric and Ocean Physics

Existing resources as of January 2017:

- Collections
 - Books: The book collection contains 105 online and print books published since 2008 for a subject search on oceanography.
 - Journals: The Robertson Library provides access to 867 journals within the area of environmental sciences. One hundred eight journals have oceanography in the journal title. The library provides access to 185 of the 229 journals listed in the category of environmental sciences in the 2016 Journal Citation Report.
 - Databases: GreenFile; CAB Abstracts; EconLit with Full Text
 - Videos: Films on Demand - 182 Weather & Climate streaming videos, 1,275 Environmental Science streaming videos
- Subscription Dependencies (in interdisciplinary packages)
 - ScienceDirect, Wiley, Springer, Academic Search Complete, Business Source and Films on Demand
- Physical Space in Library (other than holdings, explain) – N/A
- Library Administrative/Research Support: The Library hosts the Atlantic Climate Adaptation Solutions Association site, which is a document repository (<https://atlanticadaptation.ca/>).

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - Monographs - Sufficient
 - Subscriptions - Sufficient
 - Databases - Sufficient
 - Other - None
- Physical Space in Library (other than holdings, explain): None
- Library Administrative/Research Support: The Librarian that works with the Environmental Studies program will provide support for the new Bachelor of Science in Applied Climate Change and Adaptation program.
- Other One-Time or Ongoing Library expenses (e.g. software licenses)

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: _____
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement? The budget request as described in ACC 1010 will support this program.

Date Received by Liaison/Collections Librarian	January 24, 2018
Name of Librarian to be Contacted for Questions	Kim Mears
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	February 12, 2018

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new calendar entry for the admission requirements to the Bachelor of Science in Applied Climate Change and Adaptation in the Faculty of Science be approved as proposed.

Proposed New Calendar Entry

Bachelor of Science in Applied Climate Change and Adaptation

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

(ii) 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.

(iii) 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.

NEW CALENDAR ENTRY

Motion #36

Rationale for New Calendar Entry: An entry is required to list the program information for the new Bachelor of Science in Applied Climate Change and Adaptation.

Effective Date: May 2018

Implications for Other Programs: n/a

Impact on Students Currently Enrolled: n/a

Resources Required: n/a

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

Form Version: September 2017

Faculty/School: **Science**

Department/Program(s): **Bachelor of Science in Applied Climate Change and Adaptation**

MOTION: That a new calendar entry for the Bachelor of Science in Applied Climate Change and Adaptation in the Faculty of Science be approved as proposed.

Proposed New Calendar Entry

APPLIED CLIMATE CHANGE AND ADAPTATION

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 127 semester hours of required courses

REQUIRED COURSES FOR APPLIED CLIMATE CHANGE AND ADAPTATION

Applied Climate Change and Adaptation

ACC 1010 Introduction to PEI's Living Climate Lab
ACC 1020 Introduction to Community Climate Program Technologies
ACC 1030 Surveying Cultural Landscapes in the Environmental Humanities
ACC 2020 Impacts of Climate Policy on Environmental Management
ACC 2030 Indigenous Knowledge in Climate Change and Adaptation
ACC 2160 Work Integrated Learning I
ACC 3010 Global Climate Change Vulnerability and Adaptation
ACC 3020 Climate Future and Modelling
ACC 3030 Climate Change Surveillance
ACC 3040 Climate Change Statistics in R
ACC 3050 Renewable Energy and Clean Technologies
ACC 3060 Visualization of Climate Change
ACC 3080 Reducing Greenhouse Gas Emissions
ACC 3090 Geographic Information Systems for Climate Change

Proposed New Calendar Entry

ACC 3100 Climate Change Impacts on Biodiversity
ACC 3120 Climate Change Management and Adaptation in Canada
ACC 3140 Business Risk Assessment Under Climate Change
ACC 3160 Work Integrated Learning II
ACC 4010 Oceans, Coastal Systems and Climate Change
ACC 4020 Uncertainty and Probability in Climate Change
ACC 4040 Computer Programming to Visualize Climate Change
ACC 4060 Measuring Your Carbon Footprint through Carbon Accounting and Carbon Trading
ACC 4070 Climate Extremes
ACC 4080 Climate Change Impacts and Adaptation
ACC 4090 Climate Change and Sustainable Tourism
ACC 4110 Climate Change and Human Health
ACC 4120 International Climate Diplomacy

REQUIRED COURSES FROM OTHER DEPARTMENTS

Biology

BIO 1010 Current Issues in Environmental Biology
BIO 3270 Field Coastal Ecology

Chemistry

CHEM 1110 General Chemistry I
CHEM 2020 Environmental Chemistry

Environmental Studies

ENV 1010 Introduction to Environmental Studies
ENV 3110 Understanding Climate Change

Mathematical & Computational Sciences

MATH 1910 Single Variable Calculus I
CS 1910 Computer Science I
STAT 1910 Introduction to Probability and Statistics

Philosophy

PHIL 2030 Environmental Philosophy

Physics

PHYS 2630 Atmospheric and Ocean Physics

UPEI Courses & Writing Intensive Course

One of:
UPEI 1010 Writing Studies
UPEI 1020 Engaging Ideas and Cultural Contexts
UPEI 1030 Engaging University Contexts and Experience; AND
One writing intensive course

ELECTIVE COURSES FROM OTHER DEPARTMENTS

Economics

ECON 1010 Introductory Microeconomics

Proposed New Calendar Entry

English

ENG 2060 Critical Approaches to Texts I

Environmental Studies

ENV 2120 Earth's Physical Environment

ENV 3210 Natural Hazards

ENV 3420 Environment and Development

ENV 3510 Sustainable Community Planning

History

HIST 1010 Canadian History Pre-Confederation

Mathematical & Computational Sciences

MATH 1920 Single Variable Calculus II

Philosophy

PHIL 1050 Technology, Values, and Science

Physics

PHYS 1210 Physics for Life Sciences I

Psychology

PSY 1010 Introduction to Psychology: Part I

Sociology & Anthropology

SAN 2660 Science, Culture, and Society

COURSE SEQUENCE

The following is the sequence for completion of courses

Semester 1

ACC 1010 Introduction to PEI's Living Climate Lab

CHEM 1110 General Chemistry I

ENV 1010 Introduction to Environmental Studies

MATH 1910 Single Variable Calculus I

One of the following electives:

ECON 1010 Introductory Microeconomics

HIST 1010 Canadian History—Pre-Confederation

PHIL 1050 Technology, Values and Society

PHYS 1210 Physics for Life Sciences I

PSY 1010 Introduction to Psychology: Part I

Semester 2

ACC 1020 Introduction to Community Climate Program Technologies

ACC 2030 Indigenous Knowledge in Climate Change and Adaptation

BIO 1010 Current Issues in Environmental Biology

CS 1910 Computer Science I

Proposed New Calendar Entry

One of the following UPEI courses:
UPEI 1010 Writing Studies
UPEI 1020 Engaging Ideas and Cultural Contexts
UPEI 1030 Engaging University Contexts and Experiences

Semester 3

CHEM 2020 Environmental Chemistry
STAT 1910 Introduction to Probability and Statistics
PHIL 2030 Environmental Philosophy
PHYS 2630 Atmospheric and Ocean Physics

One of the following electives:

ENG 2060 Critical Approaches to Texts I
ENV 2120 Earth's Physical Environment
SAN 2660 Science, Culture and Society

Semester 4

ACC 1030 Surveying Cultural Landscapes in the Environmental Humanities
ACC 2020 Impacts of Climate Policy on Environmental Management
BIO 3270 Field Coastal Ecology
ENV 3110 Understanding Climate Change

One of the following electives:

ENV 3210 Natural Hazards
ENV 3420 Environment and Development
ENV 3510 Sustainable Community Planning
MATH 1920 Single Variable Calculus II

Summer Session

ACC 2160 Work Integrated Learning I

Semester 5

ACC 3010 Global Climate Change Vulnerability and Adaptation
ACC 3020 Climate Future and Modelling
ACC 3030 Climate Change Surveillance
ACC 3050 Renewable Energy and Clean Technologies
ACC 3100 Climate Change Impacts on Biodiversity

Semester 6

ACC 3040 Climate Change Statistics in R
ACC 3060 Visualization of Climate Change
ACC 3090 Geographic Information Systems for Climate Change
ACC 3120 Climate Change Management and Adaptation in Canada
ACC 3140 Business Risk Assessment Under Climate Change

Summer Session

ACC 3160 Work Integrated Learning II

Semester 7

ACC 3080 Reducing Greenhouse Gas Emissions

Proposed New Calendar Entry

ACC 4010 Oceans, Coastal Systems and Climate Change
ACC 4020 Uncertainty and Probability in Climate Change
ACC 4040 Computer Programming to Visualize Climate Change
ACC 4090 Climate Change and Sustainable Tourism

Semester 8

ACC 4060 Measuring Your Carbon Footprint through Carbon Accounting and Carbon Trading
ACC 4070 Climate Extremes
ACC 4080 Climate Change Impact and Adaptation
ACC 4110 Climate Change and Human Health
ACC 4120 International Climate Diplomacy

APPLIED CLIMATE CHANGE AND ADAPTATION COURSES

ACC 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.

Three hours a week, field trips; Three semester hours

ACC 1020 Introduction to Community Climate Program 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.

Three hours a week, field trips; Three semester hours

ACC 1030 Surveying Cultural Landscapes in the Environmental Humanities

This experiential-based course uses an interdisciplinary approach to explore the ways in which human culture has responded to and been shaped by aspects of the natural environment. After an introductory look at the history of the human response to nature, we will focus on modern and contemporary responses from the areas of philosophy and ethics, visual arts, literature, anthropology, architecture, biology, and music.

Three hours a week; Three semester hours

ACC 2020 Impacts of Climate Policy on Environmental Management

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 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.

Three hours a week; Three semester hours

ACC 2030 Indigenous Knowledge in Climate Change and Adaptation

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.

Three hours a week; Three semester hours

Proposed New Calendar Entry

ACC 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

ACC 3010 Global Climate Change Vulnerability and Adaptation

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: ENV 3110; Admission to the ACC Program

Three hours a week; Three semester hours

ACC 3020 Climate Future 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: ENV 3110; Admission to the ACC Program

Three hours a week, alternating classroom and laboratory; Three semester hours

ACC 3030 Climate Change Surveillance

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 ACC Program

Three hours lecture, three hours laboratory a week; Three semester hours

ACC 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, CS 1910 and STAT 1910; Admission to the ACC Program

Three hours a week on-line, three hours laboratory; Three semester hours

ACC 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: ACC 1020 and PHYS 2630; Admission to the ACC Program

Three hours a week, field trips; Three semester hours

ACC 3060 Visualization of 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

Proposed New Calendar Entry

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: CS 1910; Admission to the ACC Program

Three hours lecture, three hours laboratory per week; Three semester hours

ACC 3080 Reducing Greenhouse Gas Emissions

This course will examine the 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. Students will assess how to stabilize atmospheric CO2 concentration at no greater than 450ppmv without replacing existing nuclear power capacity as it retires and without resorting to carbon capture and storage.

PREREQUISITE: ENV 3110 and ACC 3020; Admission to the ACC Program

Three hours a week; Three semester hours

ACC 3090 Geographic Information Systems for Climate Change

Geographic Information 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 ACC Program

Three hours on-line and three hours laboratory; Three semester hours

ACC 3100 Climate Change Impacts on Biodiversity

This course will assess biodiversity conservation and policy responses to global climate change; integrate our knowledge of likely future changes on biodiversity; guide the design of adaptation strategies; and establish a framework for future collaborative research on climate change and biodiversity. A field component of the course will establish a biodiversity-monitoring plot using methods developed by The Smithsonian Institution.

PREREQUISITE: BIO 3270; Admission to the ACC Program

Three hours a week with three hours field/laboratory work; Three semester hours

ACC 3120 Climate Change Management and Adaptation in Canada

This course introduces approaches to environmental management in Canada focused on climate change aspects. Specifically, the course will examine various environmental laws, regulations, policies and legislation; the application of legislation to proposed projects; the principles and fundamentals of completing environmental audits; and the mainstreaming of adaptation into government programming.

PREREQUISITE: ACC 2020; Admission to the ACC Program

Three hours a week; Three semester hours

ACC 3140 Business Risk Assessment Under Climate Change

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: ENV 3110; Admission to the ACC Program

Three hours a week; Three semester hours

ACC 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.

Proposed New Calendar Entry

PREREQUISITE: ACC 2160 and Admission to the ACC Program
Eight weeks full-time work experience; Three semester hours

ACC 4010 Oceans, Coastal Systems and Climate Change

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: PHYS 2630; Admission to the ACC Program
Three hours a week; Three semester hours

ACC 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 ACC Program
Three hours on-line, three hours laboratory per week; Three semester hours

ACC 4040 Computer Programming to Visualize Climate Change

An emerging approach to enhancing participation and building awareness is the use of 3D landscape visualisation 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 ACC Program
Three on-line hours, three hours laboratory per week; Three semester hours

ACC 4060 Measuring Your Carbon Footprint through Carbon Accounting and Carbon Trading

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: ACC 3140; Admission to the ACC Program
Three hours a week; Three semester hours

ACC 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 ACC Program
Three hours a week; Three semester hours

ACC 4080 Climate Change Impacts and Adaptation

Adaptation strategies, limits to adaptation, and approaches to adaptation planning will be covered. Students will use regional scenarios of future climate change and the guidelines set by the Intergovernmental Panel on Climate Change to conduct a rapid assessment of climate change impacts and potential adaptation strategies for the PEI economy and ecology, designated for a local entity.

PREREQUISITE: ACC 3020 and ACC 3030; Admission to the ACC Program
Three hours a week; Three semester hours

Proposed New Calendar Entry
<p>ACC 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</p>
<p>ACC 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</p>
<p>ACC 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 ACC Program Three hours a week; Three semester hours</p>

Rationale for New Calendar Entry: An entry is required to list the program information for the new Bachelor of Science in Applied Climate Change and Adaptation.

Effective Date: May 2018

Implications for Other Programs: Increased enrolment in required courses.

Impact on Students Currently Enrolled: n/a

Resources Required: High speed internet service to the satellite campus to ensure effective delivery of on-line teaching components as well as integrated database learning exercises. Equipment including high performance drones, GPS systems, ecological monitoring instruments, climate stations, water surveillance, GIS display systems, database servers, etc. Bus and boat transportation for delivery of study tours for many courses. Specialized software including virtual reality, GIS, statistics, etc. Specialized training needs for some courses requiring professional lecturers for some course modules. Dedicated computer and smart phone systems for each student in cohort as integrated into learning design and execution of all courses.

Authorization

Date:

Departmental Approval: Adam Fenech, UPEI Climate Lab	January 24, 2018
Faculty/School Approval: Science Council	February 1, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass	February 1, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

CALENDAR & CURRICULUM CHANGE

Motion #38

Revision is for a: **Course Deletion**

Faculty/School/Department: **Science**

Department/Program(s)/Academic Regulations: **School of Mathematical and Computational Sciences**

MOTION: That the deletion of the course AMS 2400 be approved.

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
<p><u>Reproduction</u></p> <p>AMS-2400 - FINANCIAL MATHEMATICS & INVESTMENTS Advanced topics of Theory of Interest as initially covered in AMS 2160 including time value of money, annuities, loans, bonds, general cash flows, portfolios and immunization concepts, as well as an introduction to capital markets, analysis of equity and fixed income investments, and an introduction to derivative securities including futures, forwards, swaps and options. Three lecture hours plus a two hour lab per week PREREQUISITE: AMS 2160</p>	<p><u>Revised</u></p> <p>AMS-2400 – FINANCIAL MATHEMATICS & INVESTMENTS Advanced topics of Theory of Interest as initially covered in AMS 2160 including time value of money, annuities, loans, bonds, general cash flows, portfolios and immunization concepts, as well as an introduction to capital markets, analysis of equity and fixed income investments, and an introduction to derivative securities including futures, forwards, swaps and options. Three lecture hours plus a two hour lab per week PREREQUISITE: AMS 2160</p>

Rationale for Change: To meet changes to accreditation requirements from the Society of Actuaries

Effective Date: May 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None

<i>Authorization</i>	<i>Date:</i>
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018



CALENDAR & CURRICULUM CHANGE

Motion #39

Revision is for a: **Course Deletion**

Faculty/School/Department: **Science**

Department/Program(s)/Academic Regulations: **Mathematical and Computational Sciences**

MOTION: That the deletion of the course AMS 2860 be approved.

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
<p><u>Reproduction</u></p> <p>AMS-2860 - ACTUARIAL MATHEMATICS LAB I This lab features problem-solving sessions for the professional examination on financial mathematics of the Society of Actuaries and the Casualty Actuarial Society. Semester hours of credit: 1 PREREQUISITE: AMS 2160 3 hours credit</p>	<p><u>Revised</u></p> <p>AMS-2860 - ACTUARIAL MATHEMATICS LAB I This lab features problem-solving sessions for the professional examination on financial mathematics of the Society of Actuaries and the Casualty Actuarial Society. Semester hours of credit: 1 PREREQUISITE: AMS 2160 3 hours credit</p>

Rationale for Change: No Longer needed as Labs are now attached to specific courses.

Effective Date: May 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None

<i>Authorization</i>	<i>Date:</i>
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018



CALENDAR & CURRICULUM CHANGE

Motion #40

Revision is for a: **Course Deletion**

Faculty/School/Department: **Science**

Department/Program(s)/Academic Regulations: **School of Mathematical and Computational Sciences**

MOTION: That the deletion of the course AMS 3730 be approved.

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
<p><u>Reproduction</u></p> <p>AMS-3730 - ADVANCED INSURANCE AND ACTUARIAL PRACTICES This course is a study of cash flow projection methods for pricing, reserving and profit testing. Topics include: deterministic, stochastic and stress testing; pricing and risk management of embedded options in insurance products; mortality and maturity guarantees for equity-linked life insurance. Three lecture hours per week PREREQUISITE: AMS 3510</p>	<p><u>Revised</u></p> <p>AMS-3730 - ADVANCED INSURANCE AND ACTUARIAL PRACTICES This course is a study of cash flow projection methods for pricing, reserving and profit testing. Topics include: deterministic, stochastic and stress testing; pricing and risk management of embedded options in insurance products; mortality and maturity guarantees for equity-linked life insurance. Three lecture hours per week PREREQUISITE: AMS 3510</p>

Rationale for Change: To meet changes to accreditation requirements from the Society of Actuaries

Effective Date: May 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: Students currently enrolled in a program with this course as a degree requirement will be allowed to substitute a course at same level.

<i>Authorization</i>	<i>Date:</i>
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

NEW COURSE PROPOSAL

Motion #41

Faculty/School: **Science**

Department/Program(s): **School of Mathematical and Computational Sciences**

MOTION: That a new course entitled AMS 2030 INTERMEDIATE MICROECONOMICS I be approved as proposed.

Course Number and Title	AMS 2030 INTERMEDIATE MICROECONOMICS I
Description	Initial reading will be provided to cover for some of the material normally covered in ECON 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 ECON 2030) Three hours a week
Cross-Listing	ECON 2030
Prerequisite/Co-Requisite	Enrolled in BSc. in Actuarial Science or Financial Mathematics
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 40 **Is there an Enrolment Cap:** No
If there is an enrolment limit, please explain. Click here to enter text.

Rationale for New Course: To meet changes to accreditation requirements from the Society of Actuaries

Effective Date: September 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None

Resources Required: None. Will be taught with Econ 2030

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

<u>Authorization</u>	<u>Date:</u>
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

AMS 2030 INTERMEDIATE MICROECONOMICS I

Library Resource Requirements *(to be completed by the liaison and/or collections librarian)*

Existing resources:

- Collections - Holdings, Subscriptions, Other
 - **A subject search for “Microeconomics” in our Library catalog retrieves over 200 books. We also have a number of reference sources such as *Dictionary of Economics, The Princeton Encyclopedia of the World Economy, and Concise Encyclopedia of Economics.***
- Subscription Dependencies (in interdisciplinary packages)
 - **We subscribe to a number of both subject-specific databases that would provide sufficient academic content in the area of Microeconomics, such as EconLit and EconPapers. We also subscribe to multiple large interdisciplinary packages that cover Economics, such as SpringerLINK, SAGE, Oxford University Press Journals, Wiley, and Science Direct.**
- Physical Space in Library (other than holdings, explain) - **N/A**
- Library Administrative/Research Support
 - **The liaison librarian for Economics would be able to provide research support for coursework in Microeconomics and Actuarial Science.**

New resources needed to support this proposal:

- Capital Requirements *(other than new course-specific)*
- Collections:
 - Monographs - **N/A**
 - Subscriptions - **N/A**
 - Databases - **N/A**
 - Other
- Physical Space in Library (other than holdings, explain) - **N/A**
- Library Administrative/Research Support - **N/A**
- Other One-Time or Ongoing Library expenses (e.g. software licenses) - **N/A**

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual:
 - Per-year percentage increase in annual: _____

Does the budget allocation for library resources in this proposal meet the requirement?

At this current time, we have sufficient resources to support undergraduate research in Economics.

Date Received by Liaison/Collections Librarian	January 10, 2018
Name of Librarian to be Contacted for Questions	Meghan Landry
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	January 24, 2018

NEW COURSE PROPOSAL

Motion #42

Faculty/School: **Science**

Department/Program(s): **School of Mathematical and Computational Sciences**

MOTION: That a new course entitled AMS 2040 INTERMEDIATE MACROECONOMICS I be approved as proposed.

Course Number and Title	AMS 2040 INTERMEDIATE MACROECONOMICS I
Description	Initial reading will be provided to cover for some of the material normally covered in Econ 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 ECON 2040) Three hours a week
Cross-Listing	ECON 2040
Prerequisite/Co-Requisite	Enrolled in BSc. in Actuarial Science or Financial Mathematics
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 20 **Is there an Enrolment Cap:** No
If there is an enrolment limit, please explain. Click here to enter text.

Rationale for New Course: To meet changes to accreditation requirements from the Society of Actuaries

Effective Date: September 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None

Resources Required: None. Will be taught with Econ 2040

In offering this course will UPEI require facilities or staff at other institutions: No
If yes, please explain.

<i>Authorization</i>	<i>Date:</i>
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

NEW COURSE PROPOSAL

Motion #42

LIBRARY RESOURCE REQUIREMENTS FOR A NEW COURSE PROPOSAL

AMS 2040 INTERMEDIATE MACROECONOMICS I

Library Resource Requirements *(to be completed by the liaison and/or collections librarian)*

Existing resources:

- Collections - Holdings, Subscriptions, Other
 - **A subject search for “Macroeconomics” in our Library catalog retrieves over 500 books. We also have a number of reference sources such as *Dictionary of Economics*, *The Princeton Encyclopedia of the World Economy*, and *Concise Encyclopedia of Economics*.**
- Subscription Dependencies (in interdisciplinary packages)
 - **We subscribe to a number of both subject-specific databases that would provide sufficient academic content in the area of Macroeconomics, such as EconLit and EconPapers. We also subscribe to multiple large interdisciplinary packages that cover Economics, such as SpringerLINK, SAGE, Oxford University Press Journals, Wiley, and Science Direct.**
- Physical Space in Library (other than holdings, explain) - **N/A**
- Library Administrative/Research Support
 - **The liaison librarian for Economics would be able to provide research support for coursework in Macroeconomics and Actuarial Science.**

New resources needed to support this proposal:

- Capital Requirements *(other than new course-specific)*
- Collections:
 - Monographs - **N/A**
 - Subscriptions - **N/A**
 - Databases - **N/A**
 - Other
- Physical Space in Library (other than holdings, explain) - **N/A**
- Library Administrative/Research Support - **N/A**
- Other One-Time or Ongoing Library expenses (e.g. software licenses) - **N/A**

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual:
 - Per-year percentage increase in annual: _____
 -

Does the budget allocation for library resources in this proposal meet the requirement? **At this current time, we have sufficient resources to support undergraduate research in Economics.**

Date Received by Liaison/Collections Librarian	January 10, 2018
Name of Librarian to be Contacted for Questions	Meghan Landry
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	January 24, 2018



NEW COURSE PROPOSAL

Motion #43

Faculty/School: **Science**

Department/Program(s): **School of Mathematical and Computational Sciences**

MOTION: That a new course entitled AMS 4040 ADVANCED GGY AXIS be approved as proposed.

Course Number and Title	AMS 4040 ADVANCED GGY AXIS
Description	This course covers advanced applications of the software package GGY AXIS in the form of actuarial case studies in pricing and reserving. Three lecture hours a week
Cross-Listing	
Prerequisite/Co-Requisite	AMS 3040, AMS 3510, and AMS 4540
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 20 **Is there an Enrolment Cap:** No
If there is an enrolment limit, please explain.

Rationale for New Course: To introduce students to doing advanced actuarial calculations with GGY Axis, a commonly used software package in the Insurance sector.

Effective Date: September 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None

Resources Required: Staffing resources allocated to support the Actuarial Science program

In offering this course will UPEI require facilities or staff at other institutions: Choose an item.
If yes, please explain.

<u>Authorization</u>	<u>Date:</u>
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

LIBRARY RESOURCE REQUIREMENTS FOR NEW COURSE PROPOSALS

AMS 4040, AMS 4600, AMS 4610, AMS 4700, STAT 2350

Existing resources:

- Collections - Holdings, Subscriptions, Other
 - **We subscribe to several large eBook platforms and there is very little coverage for Actuarial Sciences (eg. only 1 title from 2017, 2 from 2016, etc.).**
- Subscription Dependencies (in interdisciplinary packages)
 - **We subscribe to a number of both subject-specific databases that would provide some academic content in the area of Actuarial Science, such as CRCNetbase, MathSciNet, and INSPEC. We also subscribe to multiple large interdisciplinary packages that cover Math and Science, such as SpringerLINK, Wiley, and Science Direct.**
- Physical Space in Library (other than holdings, explain) - **N/A**
- Library Administrative/Research Support:
 - **The liaison librarian for Math & Computational Sciences would provide research support for coursework in Actuarial Science.**
 - **We provide access, via our subject guides, to a large open textbook platform of approved Mathematics textbooks by the American Institute of Mathematics, VassarStats and other freely available sources.**
 - **The Library helps manage the Secure Island Data Repository (SIDR) infrastructure and it includes a Hadoop cluster. The Hadoop cluster could potential be used as a learning / research tool in relation to big data analytics.**

New resources needed to support this proposal:

- Capital Requirements (*other than new course-specific*)
- Collections:
 - **Monographs - The Library currently lacks books, reference sources and handbooks in Actuarial Science. The purchase of an online reference resource such as Wiley's *StatsRef: Statistics Online*, would be help fill this current gap as it includes both the *Encyclopedia of Actuarial Science* and the *Encyclopedia of Quantitative Risk Analysis and Assessment*. The cost of this collection is currently \$11,644 USD.**
 - Subscriptions - **N/A**
 - Databases - **An upgrade from Business Source Complete to Business Source Ultimate would provide access to unique journal titles in the areas of Statistics, Actuarial Science, Risk Management, Finance, and Insurance. This upgrade is estimated at \$4,000 USD.**
 - Other
- Physical Space in Library (other than holdings, explain) - **N/A**
- Library Administrative/Research Support
 - **The liaison librarian will create and make available an Actuarial Science subject guide to assist students in locating resources.**
- Other One-Time or Ongoing Library expenses (e.g. software licenses) - **N/A**

Summary of additional budget allocation required:

- One-time: _____ For each of _____ consecutive years
- Annual: **\$10,000 CAD + Budget previously described in original Mathematical and Computational Sciences proposal**

NEW COURSE PROPOSAL

Motion #43

- Per-year percentage increase in annual: **5% (given subscription costs rise each year between 3 and 7 % annually in order to sustain access to the content an annual increase is required)**
-

Does the budget allocation for library resources in this proposal meet the requirement?

In the 2015-2016 academic year, a proposal for the new School of Mathematical Sciences was proposed and the Robertson Library prepared a Library Resource Requirement form that was completed on April 15, 2015 and appeared in the March 8, 2016 APCC package. In this form, it was highlighted that existing resources in Business Analytics and Actuarial Science were insufficient and additional resources would be needed. It was proposed that in the first two years, \$5,000 would be allocated each year to help support the cost of purchasing new reference materials and electronic books. In the third and fourth year, \$15,000 would be for the acquisition of new online databases and subscriptions. The fifth year would see \$20,000 with increases every year after that to account for annual increases in annual subscriptions. As of yet no funds have been transferred to support the purchase of resources for the program and no new resources have been purchased. The discussions regarding a proposed professional Masters program in Actuarial Science increases the need to address the budget requirements.

These new accreditation requirements for the Major in Actuarial Science are an opportunity to address the current gap and provide the necessary funds to support these courses. Given that our purchases are almost always ongoing costs (eg. databases, subscriptions, etc.) program resource budgets need to include an annual increase to ensure access to the content is maintained. Annual publisher/vendor increases are typically in the 3-7% range (and sometimes higher) and we have identified 5% as an annual increase.

The \$10,000 budget proposed for these new courses, along with the funds identified in the original undergraduate program proposal and reiterated in this document, and the necessary annual increase will be used to purchase new resources and to help support access to existing subscriptions and databases.

Date Received by Liaison/Collections Librarian	January 10, 2018
Name of Librarian to be Contacted for Questions	Meghan Landry
Approved by University Librarian or Designate - Name	Donald Moses
Date Approved by UL or Designate	January 24, 2018

NEW COURSE PROPOSAL

Motion #44

Faculty/School: **Science**

Department/Program(s): **School of Mathematical and Computational Sciences**

MOTION: That a new course entitled AMS 4600 PREDICTIVE ANALYTICS be approved as proposed.

Course Number and Title	AMS 4600 PREDICTIVE ANALYTICS
Description	This course is an introduction to topics such as model building process; problem definition, exploratory data analysis, and initial model selection; model selection; model validation; communication of results and uncertainties; sample project and report. Three lecture hours per week
Cross-Listing	
Prerequisite/Co-Requisite	STAT 3250
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 20 **Is there an Enrolment Cap:** No

If there is an enrolment limit, please explain.

Rationale for New Course: To meet changes to accreditation requirements from the Society of Actuaries

Effective Date: September 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None, students currently enrolled have the option of completing the program under old or new program requirements

Resources Required: Staffing resources allocated to support the Actuarial Science program

In offering this course will UPEI require facilities or staff at other institutions: No

If yes, please explain.

<u>Authorization</u>	<u>Date:</u>
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

NEW COURSE PROPOSAL

Motion #45

Faculty/School: **Science**

Department/Program(s): **School of Mathematical and Computational Sciences**

MOTION: That a new course entitled AMS 4610 PREDICTIVE ANALYTICS FOR ACTUARIES be approved as proposed.

Course Number and Title	AMS 4610 PREDICTIVE ANALYTICS FOR ACTUARIES
Description	This course covers advanced topics such as model building process; problem definition, exploratory data analysis, and initial model selection; model selection; model validation; communication of results and uncertainties; sample project and report. Three lecture hours per week plus a two hour lab per week
Cross-Listing	
Prerequisite/Co-Requisite	AMS 4600 and AMS 3510
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 20 **Is there an Enrolment Cap:** No

If there is an enrolment limit, please explain.

Rationale for New Course: To meet changes to accreditation requirements from the Society of Actuaries

Effective Date: September 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None, students currently enrolled have the option of completing the program under old or new program requirements

Resources Required: Staffing resources allocated to support the Actuarial Science program

In offering this course will UPEI require facilities or staff at other institutions: No

If yes, please explain.

Authorization	Date:
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018



NEW COURSE PROPOSAL

Motion #46

Faculty/School: **Science**

Department/Program(s): **School of Mathematical and Computational Sciences**

MOTION: That a new course entitled AMS 4700 SHORT TERM INSURANCE PRICING AND RESERVING be approved as proposed.

Course Number and Title	AMS 4700 SHORT TERM INSURANCE PRICING AND RESERVING
Description	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. Three lecture hours per week plus a two hour lab per week
Cross-Listing	
Prerequisite/Co-Requisite	AMS 2510
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 20 **Is there an Enrolment Cap:** No

If there is an enrolment limit, please explain.

Rationale for New Course: To meet changes to accreditation requirements from the Society of Actuaries

Effective Date: September 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None, students currently enrolled have the option of completing the program under old or new program requirements

Resources Required: Staffing resources allocated to support the Actuarial Science program.

In offering this course will UPEI require facilities or staff at other institutions: No

If yes, please explain.

Authorization	Date:
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

NEW COURSE PROPOSAL

Motion #47

Faculty/School: **Science**

Department/Program(s): **School of Mathematical and Computational Sciences**

MOTION: That a new course entitled STAT 3250 STATISTICS FOR RISK MODELLING be approved as proposed.

Course Number and Title	STAT 3250
Description	This course covers topics such as basics of statistical learning; linear models; time series models; principal components analysis; decision trees; cluster analysis; and an introduction to statistical learning, with applications in R. Three lecture hours per week plus a two hour lab per week
Cross-Listing	
Prerequisite/Co-Requisite	STAT 3240 and STAT 3910
Credit(s)	3
Notation	

This is: A Core Course

Grade Mode: Numeric (Standard)

Anticipated Enrolment: 20 **Is there an Enrolment Cap:** No

If there is an enrolment limit, please explain.

Rationale for New Course: To meet changes to accreditation requirements from the Society of Actuaries

Effective Date: September 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None, students currently enrolled have the option of completing the program under old or new program requirements

Resources Required: Staffing resources allocated to support the Actuarial Science program.

In offering this course will UPEI require facilities or staff at other institutions: No

If yes, please explain.

<u>Authorization</u>	<u>Date:</u>
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018



CALENDAR & CURRICULUM CHANGE

Motion #48

Revision is for a: **Course Description Change**

Faculty/School/Department: **Science**

Department/Program(s)/Academic Regulations: **Mathematical and Computational Sciences**

MOTION: That the name and description of AMS 2160 be changed as shown below.

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
<p><u>Reproduction</u></p> <p>AMS-2160 - MATHEMATICS OF FINANCE This first course in the mathematics of finance includes topics such as measurement of interest; annuities and perpetuities; amortization and sinking funds; rates of return; bonds and related securities; life insurance. Three lecture hours a week PREREQUISITE: Math 1910</p>	<p><u>Revised</u></p> <p>AMS-2160 – MATHEMATICS OF FINANCE FINANCIAL MATHEMATICS I This first course in the mathematics of finance <u>financial mathematics</u> includes topics such as measurement of interest; <u>the growth of money</u>; annuities and perpetuities; <u>amortization and sinking funds</u>; rates of return; bonds <u>and related securities</u>; <u>life insurance</u>. <u>loan repayment</u>; <u>bonds</u>; <u>common and preferred stocks</u>; <u>the term structure of interest rates</u>; <u>interest rate sensitivity</u>; <u>using duration and convexity to approximate change in present value</u>; <u>interest rate swaps</u>; <u>and determinants of interest rates</u>. Three lecture hours <u>plus a two hour lab per week</u> PREREQUISITE: Math 1910 3 hours credit</p>

Rationale for Change: To meet changes to accreditation requirements from the Society of Actuaries

Effective Date: September 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None

<i>Authorization</i>	<i>Date:</i>
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

CALENDAR & CURRICULUM CHANGE

Motion #49

Revision is for a: **Pre-requisite Addition/Change**

Faculty/School/Department: **Science**

Department/Program(s)/Academic Regulations: **Mathematical and Computational Sciences**

MOTION: That the course prerequisite change for AMS 2410 be approved as proposed.

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
<p><u>Reproduction</u></p> <p>AMS-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 2400 Three lecture hours plus a two hour lab per week</p>	<p><u>Revised</u></p> <p>AMS-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. <u>PREREQUISITE: AMS 2400 AMS 2160</u> Three lecture hours plus a two hour lab per week 3 hours credit</p>

Rationale for Change: AMS 2400 is being deleted

Effective Date: September 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None

<i>Authorization</i>	<i>Date:</i>
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

CALENDAR & CURRICULUM CHANGE

Motion #50

Revision is for a: **Pre-requisite Addition/Change**

Faculty/School/Department: **Science**

Department/Program(s)/Academic Regulations: **School of Mathematical and Computational Sciences**

MOTION: That the prerequisite, description and name of AMS 2510 be changed as proposed below.

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
<p>Reproduction AMS 2510 ACTUARIAL SCIENCE 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, 1/mthly 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 2400 and STAT 3210 Three lecture hours plus a two hour lab per week</p>	<p>AMS 2510 <u>ACTUARIAL SCIENCE-I LONG TERM ACTUARIAL MATHEMATICS I</u> 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, 1/mthly <u>monthly</u> 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 2400 and STAT 3210 <u>AMS 2160</u> Three lecture hours plus a two hour lab per week 3 hours credit</p>

Rationale for Change: To meet changes to accreditation requirements from the Society of Actuaries

Effective Date: September 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None

Authorization	Date:
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

CALENDAR & CURRICULUM CHANGE

Motion #51

Revision is for a: **Pre-requisite Addition/Change**

Faculty/School/Department: **Science**

Department/Program(s)/Academic Regulations: **Mathematical and Computational Sciences**

MOTION: That the course prerequisite and course name of MCS 2050 be changed as proposed below and the course be renumbered as AMS 3040.

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
<p><u>Reproduction</u></p> <p>MCS 2050 GGY AXIS TECHNOLOGY LAB An introduction to the software package GGY AXIS. Topics include the basic functions and commands, programming and problem-solving using GGY AXIS. PREREQUISITE: CS 1910 and AMS 2510 Two lab hours per week for 6 weeks Semester hours of credit: 1</p>	<p><u>Revised</u></p> <p>MCS 2050 AMS-3040 <u>INTRODUCTION TO GGY AXIS TECHNOLOGY LAB</u> An introduction to the software package GGY AXIS. Topics include the basic functions and commands, programming and problem-solving using GGY AXIS. PREREQUISITE: CS 1910 and AMS 2510 Two lab hours per week for 6 weeks Semester hours of credit: 1</p>

Rationale for Change: Course requires advanced Actuarial Science knowledge and so is moved to 3000 level. Also, as taught, it doesn't fit the standard "Technology Lab" model and is renamed.

Effective Date: September 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None

Authorization	Date:
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018



CALENDAR & CURRICULUM CHANGE

Motion #52

Revision is for a: **Pre-requisite Addition/Change**

Faculty/School/Department: **Science**

Department/Program(s)/Academic Regulations: **Mathematical and Computational Sciences**

MOTION: That the prerequisite, name, and description of AMS 3310 be approved as proposed.

Reproduction of Current Calendar Entry	Proposed revision with changes underlined and deletions indicated clearly
<p>Reproduction AMS-3310 - ADVANCED CORPORATE FINANCE FOR ACTUARIES This course covers various advanced topics in corporate finance, with emphasis on theories of corporate incentives and asymmetric information. Illustrative applications using cases are provided. Topics include: capital budgeting, real options, investment decision using Markowitz and utility theory, the Capital Asset Pricing Model, Arbitrage Pricing Theory, market efficiency and capital structure and dividend policy. Other topics may include time value of money, capital budgeting, cost of capital, security issuance, capital structure, payout policy and dividends, short-term finance, and risk management. Where suitable, topics are treated from a mathematical and quantitative perspective. Three lecture hours per week PREREQUISITE: AMS 2400 and BUS 2310</p>	<p>AMS-3310 - ADVANCED CORPORATE FINANCE FOR ACTUARIES This course covers various advanced topics in corporate finance, <u>with emphasis on theories of corporate incentives and asymmetric information. Illustrative applications using cases are provided. Topics include: capital budgeting, real options, investment decision using Markowitz and utility theory, the Capital Asset Pricing Model, Arbitrage Pricing Theory, market efficiency and capital structure and dividend policy. Other topics may include time value of money, capital budgeting, cost of capital, security issuance, capital structure, payout policy and dividends, short term finance, and risk management. 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.</u> Where suitable, topics are treated from a mathematical and quantitative perspective. Three lecture hours per week <u>plus a two hour lab per week</u> PREREQUISITE: AMS 2400 and BUS 2310 3 hours credit</p>

Rationale for Change: To meet changes to accreditation requirements from the Society of Actuaries

Effective Date: September 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None

Authorization	Date:
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018



CALENDAR & CURRICULUM CHANGE

Motion #53

Revision is for a: **Pre-requisite Addition/Change**

Faculty/School/Department: **Science**

Department/Program(s)/Academic Regulations: **Mathematical and Computational Sciences**

MOTION: That the name, description and prerequisite AMS 3510 be changed as proposed below.

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
<p><u>Reproduction</u></p> <p>AMS 3510 ACTUARIAL SCIENCE II This course will discuss: policy values, annual, 1/mthly 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 251 and STAT 322 Three lecture hours plus a two hour lab per week</p>	<p><u>Revised</u></p> <p>AMS 3510 ACTUARIAL SCIENCE <u>LONG TERM ACTUARIAL MATHEMATICS II</u> This course will discuss: policy values, annual, 1/mthly <u>monthly</u> 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 and STAT 3220 Three lecture hours plus a two hour lab per week 3 hours credit</p>

Rationale for Change: To meet changes to accreditation requirements from the Society of Actuaries

Effective Date: September 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None

<i>Authorization</i>	<i>Date:</i>
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

CALENDAR & CURRICULUM CHANGE

Motion #54

Revision is for a: **Pre-requisite Addition/Change**

Faculty/School/Department: **Science**

Department/Program(s)/Academic Regulations: **Mathematical and Computational Sciences**

MOTION: That the prerequisite and lab hours for AMS 4540 be changed as shown below.

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
<p><u>Reproduction</u> AMS-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. Three lecture hours per week PREREQUISITE: AMS 3510 and STAT 3220</p>	<p><u>Revised</u> AMS-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. Three lecture hours per week <u>plus a two hour lab per week</u> PREREQUISITE: AMS 3510 and STAT 3220 <u>3910</u> 3 hours credit</p>

Rationale for Change: To meet changes to accreditation requirements from the Society of Actuaries

Effective Date: September 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None, students currently enrolled have the option of completing the program under old or new program requirements

<i>Authorization</i>	<i>Date:</i>
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018



CALENDAR & CURRICULUM CHANGE

Motion #55

Revision is for a: **Course Description Change**

Faculty/School/Department: **Science**

Department/Program(s)/Academic Regulations: **Mathematical and Computational Sciences**

MOTION: That the course description change for AMS 4550 be approved as proposed.

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
<p>Reproduction AMS-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. Three lecture hours per week PREREQUISITE: AMS 4540 3 hours credit</p>	<p>Revised AMS-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. Three lecture hours per week <u>plus a two-hour lab per week</u> PREREQUISITE: AMS 4540 3 hours credit</p>

Rationale for Change: To meet changes to accreditation requirements from the Society of Actuaries

Effective Date: September 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None, students currently enrolled have the option of completing the program under old or new program requirements

Authorization	Date:
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

CALENDAR & CURRICULUM CHANGE

Motion #56

Revision is for a: **Course Description Change**

Faculty/School/Department: **Science**

Department/Program(s)/Academic Regulations: **Mathematical and Computational Sciences**

MOTION: That the course description and prerequisites for Math 1910 be revised as follows.

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
<p>Reproduction MATH 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 and a passing grade on the Assessment Test. Four lecture hours and one tutorial hour per week</p>	<p>Revised MATH 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 and a passing grade on the Assessment Test. Four lecture hours and one tutorial hour per week <u>(Note: An Assessment Test will be administered during the first week of classes and students who do not pass the Assessment Test will be required to attend an additional Pre-Calculus Review tutorial if they wish to remain in the course.)</u></p>

Rationale for Change: This allows students who fail the assessment test to get the background knowledge they need to succeed in the course, but allows them to remain in the course, and so remain in other courses which have Math 1910 as a co-requisite and so continue to advance in their degree program.

Effective Date: September 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None

Authorization	Date:
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018

CALENDAR & CURRICULUM CHANGE

Motion #57

Revision is for a: **Calendar Entry Change**

Faculty/School/Department: **Science**

Department/Program(s)/Academic Regulations: **Mathematical and Computational Science**

MOTION: That the Bachelor of Science in Actuarial Science degree requirements be modified as proposed below.

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
<u>Reproduction</u>	<u>Revised</u>
Credits	Credits
The Common Core 23	The Common Core 23
MATH 2910 - Multivariable and Vector Calculus 4	MATH 2910 - Multivariable and Vector Calculus 4
STAT 2220 - Introductory Statistics II 3	STAT 2220 - Introductory Statistics II 3
STAT 3210 - Probability and Mathematical Statistics I 3	STAT 3210 <u>2910</u> - Probability and Mathematical Statistics I 3
STAT 3220 - Probability and Mathematical Statistics II 3	STAT 3220 <u>3910</u> - Probability and Mathematical Statistics II 3
STAT 3240 - Applied Regression Analysis 3	STAT 3240 - Applied Regression Analysis 3
MATH 2620 - Linear Algebra II 3	MATH 2620 - Linear Algebra II 3
MATH 2720 - Mathematical Reasoning 3	MATH 2720 - Mathematical Reasoning 3
MATH 3010 - Differential Equations 3	MATH 3010 - Differential Equations 3
At least one of:	At least one of:
MCS 2020 - Matlab Technology Lab	MCS 2020 - Matlab Technology Lab
MCS 2040 - Visual Basic in Excel Technology Lab	<u>MCS 2030 R Technology Lab</u>
OR MCS 2050 - GGY AXIS Technology Lab 1	<u>OR MCS 2040 - Visual Basic in Excel Technology Lab</u>
AMS 2160 - Mathematics of Finance 3	OR MCS 2050 - GGY AXIS Technology Lab 1
AMS 2400 - Financial Mathematics & Investments 3	<u>AMS 3040 - Introduction to GGY Axis Lab 1</u>
AMS 2410 - Financial Economics I 3	AMS 2160 - Mathematics of Finance <u>Financial Mathematics I</u> 3
AMS 3410 - Financial Economics II 3	AMS 2400 - Financial Mathematics & Investments 3
AMS 2510 - Actuarial Science I 3	AMS 2410 - Financial Economics I 3
AMS 3510 - Actuarial Science II 3	AMS 3410 - Financial Economics II 3
AMS 3310 - Advanced Corporate Finance for Actuaries 3	AMS 2510 - <u>Long Term</u> Actuarial <u>Mathematics Science I</u> 3
AMS 3730 - Advanced Insurance and Actuarial Practices 3	AMS 3510 - <u>Long Term</u> Actuarial <u>Mathematics Science II</u> 3
AMS 4540 - Loss Models I 3	AMS 3310 - Advanced Corporate Finance for Actuaries 3
AMS 4550 - Loss Models II 3	AMS 3730 - Advanced Insurance and Actuarial Practices 3
AMS 4580 - Credibility Theory 3	AMS 4540 - Loss Models I 3
STAT 4110 - Statistical Simulation 3	AMS 4550 - Loss Models II 3
STAT 4330 - Time Series I 3	<u>STAT 3250 - Statistics for Risk Modelling 3</u>
STAT 4410 - Stochastic Processes 3	<u>AMS 4600 - Predictive Analytics 3</u>
MCS 3920 - Numerical Analysis 3	<u>AMS 4610 - Predictive Analytics for Actuaries 3</u>
ECON 1010 - Introductory Microeconomics 3	<u>AMS 4700 - Short-term Insurance Pricing and Reserving 3</u>
ECON 1020 - Introductory Macroeconomics 3	<u>AMS 4040 - Advanced GGY Axis 3</u>
ACCT 1010 - Introduction to Accounting 3	AMS 4580 - Credibility Theory 3
BUS 2310 - Corporate Finance 3	<u>At least one of:</u>
MCS 3050 - Tutoring in Mathematical and Computational Sciences 1	STAT 4110 - Statistical Simulation 3
MCS 4210 - Professional Communication and Practice 3	OR STAT 4330 - Time Series I 3
Additional general electives 10	STAT 4410 - Stochastic Processes 3
Total Semester Hours of Credit 120	<u>STAT 4280 - Generalized Linear Models 3</u>
	ECON 1010 - Introductory Microeconomics 3

CALENDAR & CURRICULUM CHANGE

Motion #57

Reproduction of Current Calendar Entry	Proposed revision with changes underlined and deletions indicated clearly																		
	<table> <tr> <td>ECON 1020 – Introductory Macroeconomics</td> <td>3</td> </tr> <tr> <td>AMS 2030 – Intermediate Microeconomics I</td> <td>3</td> </tr> <tr> <td>AMS 2040 – Intermediate Macroeconomics I</td> <td>3</td> </tr> <tr> <td>ACCT 1010 - Introduction to Accounting</td> <td>3</td> </tr> <tr> <td>BUS 2310 - Corporate Finance</td> <td>3</td> </tr> <tr> <td>MCS 3050 - Tutoring in Mathematical and Computational Sciences</td> <td>1</td> </tr> <tr> <td>MCS 4210 - Professional Communication and Practice</td> <td>3</td> </tr> <tr> <td>Additional general electives</td> <td>40 <u>3</u></td> </tr> <tr> <td>Total Semester Hours of Credit</td> <td>120</td> </tr> </table>	ECON 1020 – Introductory Macroeconomics	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	40 <u>3</u>	Total Semester Hours of Credit	120
ECON 1020 – Introductory Macroeconomics	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	40 <u>3</u>																		
Total Semester Hours of Credit	120																		

Rationale for Change: To satisfy accreditation requirements of the Society of Actuaries

Effective Date: September 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None, students currently enrolled have the option of completing the program under old or new program requirements

Authorization	Date:
Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018



CALENDAR & CURRICULUM CHANGE

Motion #58

Revision is for a: **Calendar Entry Change**

Faculty/School/Department: **Science**

Department/Program(s)/Academic Regulations: **Mathematical and Computational Sciences**

MOTION: That the Bachelor of Science in Financial Mathematics degree requirements be modified as proposed below.

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
<u>Reproduction</u>	<u>Revised</u>
Credit Hours	Credit Hours
The Common Core 23	The Common Core 23
MATH 2910 - Multivariable and Vector Calculus 4	MATH 2910 - Multivariable and Vector Calculus 4
MATH 2620 - Linear Algebra II 3	MATH 2620 - Linear Algebra II 3
MATH 2720 - Mathematical Reasoning 3	MATH 2720 - Mathematical Reasoning 3
STAT 2220 - Introductory Statistics II 3	STAT 2220 - Introductory Statistics II 3
STAT 3210 - Probability and Mathematical Statistics I 3	STAT 3210 <u>2910</u> - Probability and Mathematical Statistics I 3
STAT 3220 - Probability and Mathematical Statistics II 3	STAT 3220 <u>3910</u> - Probability and Mathematical Statistics II 3
STAT 3240 - Applied Regression Analysis 3	STAT 3240 - Applied Regression Analysis 3
At least one of:	At least one of:
MCS 2020 - Matlab Technology Lab	MCS 2020 - Matlab Technology Lab
MCS 2030 - R Technology Lab	MCS 2030 - R Technology Lab
OR MCS 2040 - Visual Basic in Excel Technology Lab 1	OR MCS 2040 - Visual Basic in Excel Technology Lab 1
AMS 2160 - Mathematics of Finance 3	AMS 2160 - Mathematics of Finance <u>Financial Mathematics I</u> 3
AMS 2400 - Financial Mathematics & Investments 3	AMS 2400 - Financial Mathematics & Investments 3
AMS 2410 - Financial Economics I 3	AMS 2410 - Financial Economics I 3
AMS 3410 - Financial Economics II 3	AMS 3410 - Financial Economics II 3
AMS 4080 - Financial Mathematics II 3	AMS 4080 - Financial Mathematics II 3
AMS 4090 - Financial Mathematics III 3	AMS 4090 - Financial Mathematics III 3
AMS 4780 - Quantitative Risk Management 3	AMS 4780 - Quantitative Risk Management 3
AMS 3910 - Mathematical Modelling 3	AMS 3910 - Mathematical Modelling 3
AMS 3310 - Advanced Corporate Finance for Actuaries 3	AMS 3310 - Advanced Corporate Finance for Actuaries 3
MATH 3010 - Differential Equations 3	MATH 3010 - Differential Equations 3
MATH 3510 - Real Analysis 3	MATH 3510 - Real Analysis 3
MATH 4710 - Partial Differential Equations 3	MATH 4710 - Partial Differential Equations 3
STAT 4330 - Time Series I 3	STAT 4330 - Time Series I 3
At least one of:	At least one of:
STAT 4410 - Stochastic Processes 3	STAT 4410 - Stochastic Processes <u>3</u>
OR MATH - 3920 Numerical Analysis 3	OR MATH - 3920 Numerical Analysis 3
ECON 1010 - Introductory Microeconomics 3	ECON 1010 - Introductory Microeconomics 3
ECON 1020 - Introductory Macroeconomics 3	ECON 1020 - Introductory Macroeconomics 3
At least one of:	ECON 1020 - Introductory Macroeconomics 3
ECON 2510 - Money and Financial Institutions 3	<u>AMS 2030 - Intermediate Microeconomics I 3</u>
OR ECON 4050 - Financial Economics 3	<u>AMS 2040 - Intermediate Macroeconomics I 3</u>
ACCT 1010 - Introduction to Accounting 3	At least one of:
BUS 2310 - Corporate Finance 3	ECON 2510 - Money and Financial Institutions

CALENDAR & CURRICULUM CHANGE

Motion #58

<u>Reproduction of Current Calendar Entry</u>	<u>Proposed revision with changes underlined and deletions indicated clearly</u>
At least one of: BUS 3330 - Integrated Cases in Corporate Finance BUS 3660 - Entrepreneurial Finance BUS 4210 - Personal Finance BUS 4390 - International Finance OR BUS 4820 - International Strategy and Finance 3 MCS 3050 - Tutoring in Mathematical and Computational Sciences 1 MCS 4210 - Professional Communication and Practice 3 Additional general electives 10 Total Semester Hours of Credit 120	OR ECON 4050 - Financial Economics 3 ACCT 1010 - Introduction to Accounting 3 BUS 2310 - Corporate Finance 3 At least one of: BUS 3330 - Integrated Cases in Corporate Finance BUS 3660 - Entrepreneurial Finance BUS 4210 <u>3340</u> - Personal Finance BUS 4390 - International Finance OR BUS 4820 <u>4890</u> - International Strategy and Finance 3 MCS 3050 - Tutoring in Mathematical and Computational Sciences 1 MCS 4210 - Professional Communication and Practice 3 Additional general electives 10 <u>16</u> Total Semester Hours of Credit 120

Rationale for Change: To adapt to changing course structure in Actuarial Science and Statistics.

Effective Date: September 2018

Implications for Other Programs: None

Impact on Students Currently Enrolled: None, students currently enrolled have the option of completing the program under old or new program requirements

Authorization

Date:

Departmental Approval: Gordon MacDonald	January 4, 2018
Faculty/School Approval: Science Council	January 11, 2018
Faculty Dean's Approval: Kathy Gottschall-Pass, Interim Dean	January 11, 2018
Graduate Studies Dean's Approval: N/A	N/A
Registrar's Office Approval: Pam McGuigan	March 13, 2018
APCC Meeting Date Approval	March 20, 2018