Minutes of the Eleventh Senate Meeting

Held Wednesday, May 25, 2011

ITEC Lecture Theatre, Robertson Library, 2:00 pm

Present: D. Buck, P. Callbeck, B. Campbell, L. Chilton, D. Coll, D. Dahn, B. Deziel, G. Doran, I. Dowbiggin, T. Goddard, K. Gottschall-Pass, F. Gray, K. Kielly, N. Kujundzic, R. Kurial, C. Lacroix, R. Livingstone, J. MacAulay, R. MacDonald, W. MacLauchlan, M. Murray, J. Randall, D. Reynolds, K. Schultz, M. Shaver, H. Stryhn, M. Sweeney-Nixon

Regrets: K. Critchley, R. Domike, B. MacLaine, S. Thomas

Absent: B. Banks, G. Bradshaw, W. Bradley, B. Davetian, S. Dawson, L. Edwards, M Leggott, A. López, K. Murnaghan, R. Saada, D. Seeler, D. Sims

Guest: J. Coles

The Chair called the meeting to order.

1. Approval of Agenda

Moved (R. Kurial/B. Campbell): to approve the agenda.

Carried

2. Approval of Minutes of March 11, 2011

Moved (T. Goddard/M. Murray): to approve the minutes of March 11, 2011 with the following changes, spelling mistakes in Jane Magrath's name and the word "abstention" on the last page of the minutes.

Carried

Approval of Minutes of April 29, 2011

Moved (R. Livingstone/D. Dahn): to approve the minutes of April 29, 2011 with the following change, on page 2, under Education, on the third line, "language" should read "langue".

Carried.

3. Business Arising from the Minutes from the meetings mentioned above

Today, there are 913 graduates for the 2011 Convocation.

4. 1. President's Report

- UPEI's 2011 Convocation was a total success, and feedback was positive. The Convocation Committee has refined the format and timing to a perfect two hours, and the spirit and tone are always the subject of favourable comments from people who've attended Convocation at multiple universities. Congratulations to everyone involved.
- UPEI Research Breakfast, the 27th since the tradition was started in 1998, featured presentations from two UPEI faculty, Jo-Ann MacDonald and Bill Whelan. We owe many thanks to Dean Richard Kurial and Jane MacKay for their tireless efforts to organize these events. Job well done.
- UPEI Graduate Student Research Day have taken place in various programs over the past six weeks. These are great occasions to highlight graduate student scholarship and successes.
- Chemcon 2011 Conference was hosted by UPEI this year, first time since 1999. The conference was the result of the hard work of two UPEI chemistry students, Nicole MacPhee and Mitch Perry, and faculty members.
- There will be a reception to welcome Dr. Ian Gardiner, UPEI's Canada Excellence Research Chair, at the Atlantic Veterinary College on Monday, May 30.
- There will be a reception to recognize UPEI's institutional membership in the Royal Society of Canada on May 31, 2011
- Next week, there will be a 12-person Visiting Committee from the Canada Foundation Innovation
- UPEI has received an award for improving campus accessibility
- With various spring and summer camps starting up, there is a lots of activity on campus, our recruitment people are involved with all the activity
- Joel Ward, graduate of UPEI, was – until the elimination of his team the Nashville Predators – scoring leader in the NHL Playoffs.

5. Senate Committee Reports

Nominating Report

Moved (T. Goddard/K. Gottschall-Pass): that Lisa Chilton serve on the Library Committee.
Carried

Academic Review and Planning Committee
Seventh Curriculum Report

Faculty of Arts
Department of Political Studies

Moved (R. Kurial/M. Murray): to change or delete the following prerequisites:
PST 282 – Remove prerequisite PST 251
PST 302 – One of Political Studies 201, 262, ~~301~~ or permission of the instructor
PST 321 – Political Studies 201, 262, ~~302~~, or permission of the instructor
PST 351 – Remove prerequisite PST 262 and permission of instructor

PST 352 – Remove prerequisite PST 262 and permission of instructor
PST 353 – One of Political Studies 201, 262, ~~351, 352~~ or permission of the instructor
PST 371 – Remove prerequisite PST 102 or permission of instructor
PST 391 – Remove prerequisite PST 282 or permission of instructor
PST 392 – Remove prerequisite PST 282 or permission of instructor
PST 393 – Remove prerequisite PST 282
PST 414 – Remove prerequisite Fourth-Year Standing or permission of instructor
PST 434 – Add prerequisite Political Studies 253 or permission of the instructor
PST 435 – Add prerequisite Political Studies 253 (and place under Political Theory Group)
PST 442 – Remove prerequisite Political Studies 441 or permission of the instructor
PST 471 – Remove prerequisite Political Studies 282 or permission of the instructor
PST 472 – Remove prerequisite Political Studies 282 or permission of the instructor
PST 475 – Political Studies 282 ~~and 393~~
PST 481 – Remove prerequisite Political Studies 282 or permission of the instructor
PST 482 – Remove prerequisite Political Studies 282 or permission of the instructor
M. Sweeney Nixon asked is it accurate that the 400 level courses do not need prerequisites. R. Kurial responded that it is possible to be successful in these 400 level courses without prerequisites. Students have been gaining access to these senior level courses for years via permission of the instructor. This motion will enable students in other faculties to take Political Studies courses as electives on their degrees, and increase enrolments in Political Studies.

Carried

Department of Psychology

Moved (R. Kurial/M. Murray): to approve the following new course.

Psychology 363 – Touch, Taste, Smell, Hear

Carried

Faculty of Science

Department of Chemistry

Moved (C. Lacroix/M. Shaver): to approve the addition of Chemistry 361 as a prerequisite for Chemistry 322.

Carried

Department of Family & Nutritional Sciences

Moved (C. Lacroix/K. Gottschall-Pass): to delete the words ~~combined average~~ to <u>grade</u> on the third line under the note regarding 100 level family science and foods and nutrition courses on page 125 of the 2010-2011 Academic Calendar.

Carried

- to change course descriptions for the following -

FN 101 Nutrition for Living - This course is an introduction to the study of nutrition as it relates to health and health promotion. Topics include factors influencing food use; personal dietary assessment and selection of a healthy diet; ~~the essential nutrients~~; nutrition labels; nutrition and physical activity; nutrition throughout the life cycle; and prevention of chronic disease~~; and food insecurity and hunger~~.

FN 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~~; and time and resource management as it relates to food preparation~~

FN 211 Introductory Nutrition I - This course is a study of applied human nutrition with a focus on carbohydrates, lipids, proteins, and select micronutrients ~~vitamins and alcohol~~; requirements and food sources of these nutrients~~;~~ and their role ~~of these nutrients~~ in chronic disease prevention; digestion, absorption and metabolism; and assessment of nutritional status

FN 302 Advanced Foods - This course is an advanced study of the physical, chemical, and biological properties of foods through food experimentation; objective and subjective testing of food attributes with emphasis on sensory analysis; and principles of research methodology as applied to foods. Current trends ~~relating to the food system~~ are discussed. A product development project is required.

FN 434 Community Nutrition - This course is an introduction to the field of community nutrition, which is the study of the prevention of nutritional problems and the promotion of health through organized community efforts. Students develop an increased awareness of the theory and practice of community nutrition, including how it fits within the framework ~~of health promotion and the current health system. Students are introduced to the theoretical and practical aspects of the community nutrition program planning, marketing and evaluation~~. Topics include ~~the health care system;~~ nutrition programs and policies at the provincial, national, and international levels; food insecurity; and working with diversity~~; and entrepreneurship~~

FN 472 Current Issues in Nutrition - This course is an advanced study of current issues in nutrition research. ~~Emphasis is placed on the role of micronutrients (vitamins and minerals) and nutraceuticals in human health and disease.~~ Students use independent research and problem-solving skills to critique literature, present seminars, and write a scientific paper.

FN/FSC 261 Communications - This course is an introduction to the basic principles of communication. The course balances communication theory and research with skills acquisition and practice to help students communicate more effectively in a variety of professional settings. Students are provided with an opportunity to develop skills in interpersonal and group communication, public speaking, and interviewing~~, and using mass media~~.

FN/FSC 331 Introduction to Research Methods - This course is an introduction to research intended to enable students to read critically and evaluate current research ~~in Family and Nutritional Sciences and related disciplines~~. Students are introduced to various types of research designs ~~in foods and nutrition and family science~~, research terminology, and the components of the research process.

FN 312 Nutrition and Dietary Behaviour - This course studies the factors influencing human dietary behaviour and ultimately nutritional health. Topics include the food system, development of food preferences, food and culture, school food issues, food insecurity, food and the media, and sensory influences on dietary behavior

FN 351 Nutritional Assessment - This course is an advanced study of current issues in nutrition assessment. Topics include dietary, anthropometric, laboratory and clinical methods currently in use to assess nutritional status at the population and individual level; ~~sources of error; and~~ challenges in interpreting nutritional assessment data; and nutrition counseling.

- to change title and course description

FN 241 Human Development ~~and the Family~~

This course explores human development from conception to old age, including physical, cognitive, and psychological aspects. Topics include attachment across the lifespan; various theories used to study human development; gender; the aging process; and societal factors affecting human development. The reciprocal relationship between human development and their ~~family~~ environments is emphasized ~~and the roles of human service agencies, schools, and the health profession in meeting the developmental needs of individuals in their families are explored~~.

- to update cross-listing of the following courses -

FN/FSC 331 Cross-listed with Foods and Nutrition/Kinesiology (cf. Foods and Nutrition/Kinesiology 331)

FSC 241 Cross-listed with Kinesiology (cf. Kinesiology 241)

Motion to update cross-listing and change the prerequisite -

FSC 382 - Cross-listed with Foods and Nutrition/Kinesiology (cf. Foods and Nutrition/Kinesiology 382)

PREREQUISITE: Family Science 381 or permission of the instructor

- to change the following prerequisite and contact hours –

FN 422 - PREREQUISITES: Foods and Nutrition 321

Two lecture hours, ~~seven~~ six hours laboratory

- to change the following perquisites -

FN 472 - PREREQUISITES: Foods and Nutrition 212 ~~and Foods and Nutrition/Family Science 331~~, or permission of the instructor

FS/FN 331 - PREREQUISITE: Math 221. Preference for admission will be given to students registered in the Family Science, Foods and Nutrition, Child and Family Studies, Kinesiology or Radiography programs

FSC 412 - PREREQUISITE: Family Science/Kinesiology 241

FSC 471 - PREREQUISITE: Family Science/Kinesiology 241

- to add the following note to

FN 382 - NOTE: Students should have completed all first and second year content courses in their respective discipline prior to registration in this course.

- to change the following prerequisite and NOTE -

FS 241 - PREREQUISITE: Family Science 114, a student in the Bachelor of Child and Family Studies or Kinesiology 101

NOTE: Credit will not be allowed for Family Science/Kinesiology 241 if a student has already received credit for Psychology 201

- to change contact hours –

FS 412 - Two lecture hours per week and 80 hours of field placement

- to change the paragraph under Bachelor of Child and Family Studies on page 121 of the 2011-2012 Academic Calendar –

Bachelor of Child and Family Studies

The Bachelor of Child and Family Studies is a two-year post-diploma degree available to graduates of diploma programs in early childhood education at Holland College or similar post-secondary institutions. ~~Students seeking admission to this program must satisfy general UPEI admission requirements~~. Successful completion of a grade 12 math course (or an equivalent course) is strongly recommended~~. Applicants must demonstrate a minimum average of 70% in their college program. Applicants who completed their college program before grades were implemented will submit a portfolio of their training and experience. Admission of applicants who will not complete the degree within a 10 year period from the beginning of their college program will be considered on an individual basis. Evidence of on-going professional development in the discipline will be required for such applicants. All applicants will submit a personal statement including their career objectives and reasons for applying to this degree program~~. Students in the Bachelor of Child and Family Studies must complete a total of 60 semester hours at UPEI.

- to change the mission statement for Family & Nutritional Sciences (first two paragraphs) on page 120 of the 2010-2011 Academic Calendar - The mission of the Department of Family and Nutritional Sciences is to promote the health and optimal development of individuals, families and communities by:

- Preparing students to be leaders in their chosen discipline or profession
- Generating new knowledge through outstanding scholarship
- Forming strong links with the community and engaging in professional service

~~The Department of Family and Nutritional Sciences exists to provide an opportunity for students to acquire the knowledge, skills and understanding necessary to develop their full potential and prepare them to enable others to achieve optimal health and quality of life through the effective use of everyday resources in a rapidly changing environment.~~

The overall aim of the Department is to provide a liberal university education which draws from a broad academic base: the biological, physical and social sciences; humanities; and professional studies. The curriculum reflects current scientific knowledge in Foods and Nutrition, Family Science and Kinesiology, disciplines which are concerned with improving the life conditions of individuals, families, and communities. ~~through optimal access and use of everyday resources.~~

- to revise the list of required courses under Child and Family Studies as well as the course sequence for first year on page 121 of the 2010-2011 Calendar –

Required courses for the Child and Family Studies Degree:
Family Science 221 (Family Resource Management)
Family Science 241 (*formerly 341*) (Human Development ~~and the Family~~)
Family Science 242 (Dynamics of Family Living)
Family Science 331 (Introduction to Research Methods)
Family Science 381 (Professional Practice with Children and Families)
Family Science 382 (Program Planning and Evaluation)
Family Science 411 (Field Placement I)
Family Science 471 (Parent-Child Interaction)
One 3 semester hour Family Science elective at the 300 or 400 level
Math 101 or 111 (Elements of Math or Finite Mathematics)
Math 221 (Introductory Statistics I)
English 101 (Academic Writing)
1 English elective
7 free electives
NOTES:
1. Suggested electives for those planning to apply to the Bachelor of Education Program at UPEI are found under the Admissions for Bachelor of Education.
~~2. Students are strongly encouraged to complete University 103~~
COURSE SEQUENCE
First Year
Family Science 221 (Family Resource Management)
Family Science 241 (formerly 341) (Human Development ~~and the Family~~)
Family Science 242 (Dynamics of Family Living)
Family Science 381 (Professional Practice with Children and Families)
Family Science 382 (Program Planning and Evaluation)
Math 101 or 111 (Elements of Math or Finite Mathematics)

Math 221 (Introductory Statistics I)
English 101 (Academic Writing)
1 English elective
1 free elective

- to edit the paragraphs regarding Dietetic Internship Program on page 124 of the 2010-2011 Academic Calendar –

Continuance Requirements

Once admitted to the program, students must continue in full-time enrollment between internship levels. An academic review of students' performance will take place at the end of each semester. Students are required to maintain an average overall grade of 75% and achieve a grade of no less than 75% in nutrition courses. Students who fail to meet these standards or who fail a required course(s) will not be permitted to begin the next internship level until standards are met.

Internship students must complete all of the regular requirements for a Bachelor of Science (Foods and Nutrition) degree. Foods and Nutrition 321 (formerly 222) Food Service Systems Management), and Foods and Nutrition 422 (Quantity Food Production), and Foods and Nutrition 431 (Evidence Based Practice in the Health Sciences) must be included within their degree program. It is recommended that internship students take Foods and Nutrition 312 (Nutrition and Dietary Behaviour) or Foods and Nutrition 371 (Lifespan Nutrition) as an elective. In addition to the above requirements, students must successfully complete three internship levels.

Internship Schedule

Students must complete three internship levels in the Integrated Dietetic Internship Program. The first and second internship levels are scheduled in the spring and summer months between the third and fourth academic years. The third internship level is completed following graduation. The first internship level will involve one week of professional practice course, followed by a four week placement, for a total of 5 weeks. This will be followed by two internship levels of ~~12~~ 4 and ~~24~~ 26-30 weeks in length, respectively, for a total of ~~36~~ 35 to ~~42~~ 39 weeks.

Carried

Department of Physics

Moved (C. Lacroix/D. Dahn): to change course descriptions for the following courses –

Physics 111 - This course emphasizes the fundamentals of mechanics and is intended as a first course in physics for students in the physical sciences and engineering, or who are planning to take Physics courses beyond the first-year level. Topics include vectors, kinematics, Newton's laws of motion, gravitation, circular motion, static equilibrium, moment of inertia, torque, rotational motion, and conservation of energy and momentum.

Physics 112 - This course is a continuation of Physics 111 and is intended for, but not restricted to, those students who wish to pursue further studies in the physical sciences or engineering. Topics include ~~torque and static equilibrium,~~ oscillations, wave motion, sound and light, thermodynamics, fluid mechanics, and electricity and magnetism.

Moved (C. Lacroix/M. Shaver): to approve the calendar entry for Master of Science Program

Current	**Changes proposed** **Note**: With the exception of the text highlighted, only the order of some paragraphs has been modified to reflect general structure of the MSc and then specific details for AVC and Science programs.
Master of Science Program (MSc) **VETERINARY MEDICINE GRADUATE STUDIES** **upei.ca/avc/info** **CHEMISTRY GRADUATE STUDIES** **Upei.ca/chemistry/msc.html** **BIOLOGY GRADUATE STUDIES** **Upei.ca/biology/mscbiology** **A) STRUCTURE OF THE PROGRAM** The MSc degree of the University of Prince Edward Island requires the demonstration of a reasonable mastery of a concentrated field of study. The latter is attested by the achieving of satisfactory standings in the minimum number of graduate courses required by the respective Faculty, the completion of a research project, and	**Master of Science Program (MSc)** **VETERINARY MEDICINE GRADUATE STUDIES** **upei.ca/avc/info** **FACULTY OF SCIENCE GRADUATE STUDIES** **Upei.ca/science/graduatestudies** **A) GENERAL STRUCTURE OF THE PROGRAM** The MSc degree of the University of Prince Edward Island requires the demonstration of a reasonable mastery of a concentrated field of study. The latter is attested by the achieving of satisfactory standings in the minimum number of graduate courses required by the respective Faculty, the completion of a research project, and the writing of a thesis based upon the research. There will be considerable interaction and co-operation among the departments/faculties to provide courses and research facilities to meet the needs of individual students and their research projects.

the writing of a thesis based upon the research.

The graduate students will register in one of the six academic departments listed below and in one of the designated areas of specialization:

Department of Biomedical Sciences
Animal Behaviour
Physiology, Pharmacology and Toxicology
Cell and Molecular Biology
Neuroscience
Endocrinology

Department of Pathology and Microbiology
Morphologic Pathology
Wildlife Pathology
Clinical Pathology
Parasitology
Virology
Bacteriology
Public Health
Immunology
Aquatic Animal Health
Biosecurity

Department of Companion Animals
Anesthesiology
Cardiology
Diagnostic Imaging
Small Animal Medicine
Small Animal Surgery

Department of Health Management
Epidemiology/Health Management
Animal Science and Animal Nutrition
Clinical sciences
Aquatic Animal Health
Animal Welfare
Biostatistics
Public Health

Faculty of Science
Molecular and Materials Science
Environmental Sciences
Human Development and Health

There will be considerable interaction and co-operation among the departments to provide courses and research facilities to meet the needs

In addition to the "General Regulations for Graduate Programs," described above, the following regulations apply specifically to the Master's degree:

Residency Requirements
Normally, at least two semesters of full-time study in residence at the University must be devoted to the Master's program if the student is admitted as a regular student. For a regular student admitted to a part-time study program, the residency period is based on the equivalence of three part-time semesters to one full-time semester. A student, admitted as a provisional student requiring two semesters in that category, must spend at least one additional semester as a regular full-time student to meet the residency requirement. Upon completion of the residency requirement the student is then eligible to become a candidate for the MSc degree.

Normally, the thesis must be formally submitted or the program be otherwise complete within 48 months of the completion of the residency requirement. Departure from these normal requirements requires approval from the Graduate Studies Committee.

B) COURSES

Prescribed Studies The proportion of weight attached to the research and thesis may vary, even within a department / faculty. Accordingly, the number of courses and/or general examinations may correspondingly vary. In no case, however, will the minimum requirements be less than those outlined in the following two paragraphs. For graduate credit, the courses selected must be acceptable to the department / faculty and the Graduate Studies Committee. The candidate must maintain an average grade of at least a B standing (see Grades in General Regulations section) in the substantive courses outlined below in order to maintain registration in the program.

A department / faculty may require examinations (oral and/or written), from time to time, to evaluate the student's progress in his/her overall program.

Additional Courses
In addition to these prescribed studies, the candidate may undertake to achieve satisfactory standings in courses supportive of the special discipline. These courses may be at either the undergraduate or the graduate level. The standings

of individual students and their research projects.

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In the Faculty of Veterinary Medicine, substantive courses are graduate level courses assigned a minimum of two credit hours. Students are required to complete courses totaling a minimum of twelve credit hours. Within this course obtained in them will not affect the average grade of the prescribed studies.

C) THE THESIS

Research Normally, the equivalent of at least two full-time semesters must be devoted to research in fulfilment of the thesis requirement. Summers during which research work is actively conducted may be counted as research semester equivalents, even though courses would not normally be offered at that time. In order to avoid undue prolongation of the time required to complete the degree, the research topic should be identified early and approved by the Supervisory Committee. Research involving the use of animals must follow the Guidelines of the Canadian Council on Animal Care.

Thesis
Each candidate for the degree of Master of Science is required to submit a thesis based upon the research conducted under supervision as described above. The thesis must demonstrate the candidate's capacity for original and independent work, and should include a critical evaluation of work which has previously been done in the field of his or her research. The thesis should emphasize any new conclusions which may be drawn from the candidate's own research.

General specifications as to paper, format, order, and binding are available from the Office of the Program Administrator.

Procedures
The thesis may be handed in at any time of the year, but candidates must bear in mind the desirability of having the final examination as much in advance of the deadline date for thesis submission as possible. Candidates are advised to inform themselves of the deadlines schedule, a copy of which may be obtained in the Office of the Program Administrator. It is desirable that each candidate initiate discussion about examination dates with the Supervisor early in the final semester.

The candidate should keep in close touch with the Supervisor and the Supervisory Committee, throughout the preparation of the thesis. The final draft of the thesis, after it has been reviewed by all members of the Supervisory Committee, is sent when ready for examination, to the members of the

complement there must be at least four substantive courses and the appropriate departmental Seminar course (one credit). Only one of the substantive courses may be a Directed Studies Course. All students are expected to complete VHM 801 (Veterinary Biostatistics) and VBS 803 (Principles of Biomedical Research) unless comparable training has been completed prior to entry into the program.

In the Faculty of Science, students are required to take a minimum of three graduate level courses, all of which are to be regarded as substantive. A Seminar course (BIO 890 or CHEM 890) is required. Students may take only one Directed Studies course (BIO 881, CHEM 881, VBS 881-882, VCA 881-882, VHM 881-882, or VPM 881-882) for credit. Students lacking an Honours degree or background in one or more area may, at the discretion of the Supervisory Committee, be required to take the appropriate undergraduate level course(s), in addition to the required courses. All graduate students must receive non-credit WHMIS (Workplace Hazardous Materials Information System) training in their first year.

A department may require examinations (oral and/or written), from time to time, to evaluate the student's progress in his/her overall program.

Additional Courses
In addition to these prescribed studies, the candidate may undertake to achieve satisfactory standings in courses supportive of the special discipline. These courses may be at either the undergraduate or the graduate level. The standings obtained in them will not affect the average grade of the prescribed studies.

When a student is required to register in a seminar or colloquium course in more than one semester, the record will show a grade or a designation of "In Progress" for semesters prior to completion of the course and "Pass" or "Fail" (or a numerical grade in the case of Chemistry 890) for the final semester. With the consent of the Supervisory Committee, and of the instructor and the Department Chair concerned, a student may register for, and audit, all or part of a course. It is

Master's Examination Committee (see below).

Following the Master's Examination, the candidate, if successful, arranges for the preparation of the thesis in final form, and for its submission to the Program Administrator (see below). The thesis in final form must include any minor corrections or revisions indicated during the Examination. Approval of the thesis takes the form of a Certificate of Approval, signed by the Examination Committee.

The Master's Examination
The final oral examination, devoted chiefly to the defence of the thesis, is an examination identified as the Master's Examination and carried out by the Master's Examination Committee.

The Department Chair selects the Examination Committee at the request of the Supervisor and is responsible for notifying the Program Administrator of its composition. The Examination is normally open to the public; however, members of the audience may question the candidate only upon invitation of the Chair of the Committee.

The Examination is passed and the thesis approved if there is no more than one negative vote, an abstention being regarded as a negative vote. The report, from the Department Chair to the Program Administrator, records the result as "unsatisfactory" or "satisfactory." If the result is "unsatisfactory," the candidate may be given the opportunity by the Master's Examination Committee of a second attempt. A second "unsatisfactory" result will terminate candidacy at this university.

FACULTY OF VETERINARY MEDICINE MSc PROGRAM

The graduate students will register in one of the four academic departments listed below and in one of the designated areas of specialization:

Department of Biomedical Sciences
Animal Behaviour
Physiology, Pharmacology and Toxicology
Cell and Molecular Biology
Neuroscience
Endocrinology

understood that the student will attend lectures as prescribed, but will not write any examination or receive any grade. Such a course may be recorded as an additional course, identified by AUD.

C) THE THESIS

Research Normally, the equivalent of at least two full-time semesters must be devoted to research in fulfilment of the thesis requirement. Summers during which research work is actively conducted may be counted as research semester equivalents, even though courses would not normally be offered at that time. In order to avoid undue prolongation of the time required to complete the degree, the research topic should be identified early and approved by the Supervisory Committee. Research involving the use of animals must follow the Guidelines of the Canadian Council on Animal Care.

Thesis
Each candidate for the degree of Master of Science is required to submit a thesis based upon the research conducted under supervision as described above. The thesis must demonstrate the candidate's capacity for original and independent work, and should include a critical evaluation of work which has previously been done in the field of his or her research. The thesis should emphasize any new conclusions which may be drawn from the candidate's own research.

General specifications as to paper, format, order, and binding are available from the Office of the Program Administrator.

Procedures
The thesis may be handed in at any time of the year, but candidates must bear in mind the desirability of having the final examination as much in advance of the deadline date for thesis submission as possible. Candidates are advised to inform themselves of the deadlines schedule, a copy of which may be obtained in the Office of the Program Administrator. It is desirable that each candidate initiate discussion about examination dates with the Supervisor early in the final semester.

The candidate should keep in close touch with the

Department of Pathology and Microbiology
Morphologic Pathology
Wildlife Pathology
Clinical Pathology
Parasitology
Virology
Bacteriology
Public Health
Immunology
Aquatic Animal Health
Biosecurity

Department of Companion Animals
Anesthesiology
Cardiology
Diagnostic Imaging
Small Animal Medicine
Small Animal Surgery

Department of Health Management
Epidemiology/Health Management
Animal Science and Animal Nutrition
Clinical sciences
Aquatic Animal Health
Animal Welfare
Biostatistics
Public Health

~~In the Faculty of Veterinary Medicine,~~ Substantive courses are graduate level courses assigned a minimum of two credit hours. Students are required to complete courses totaling a minimum of twelve credit hours. Within this course complement there must be at least four substantive courses and the appropriate departmental Seminar course (one credit). Only one of the substantive courses may be a Directed Studies Course. All students are expected to complete VHM 801 (Veterinary Biostatistics) and VBS 803 (Principles of Biomedical Research) unless comparable training has been completed prior to entry into the program.

When a student is required to register in a seminar or colloquium course in more than one semester, the record will show a grade or a designation of "In Progress" for semesters prior to completion of the course and "Pass" or "Fail" for the final semester.

Supervisor and the Supervisory Committee, throughout the preparation of the thesis. The final draft of the thesis, after it has been reviewed by all members of the Supervisory Committee, is sent when ready for examination, to the members of the Master's Examination Committee (see below).

Following the Master's Examination, the candidate, if successful, arranges for the preparation of the thesis in final form, and for its submission to the Program Administrator (see below). The thesis in final form must include any minor corrections or revisions indicated during the Examination. Approval of the thesis takes the form of a Certificate of Approval, signed by the Examination Committee.

The Master's Examination

The final oral examination, devoted chiefly to the defence of the thesis, is a departmental examination identified as the Master's Examination and carried out by the Master's Examination Committee.

In the Faculty of Veterinary Medicine, the Master's Examination Committee normally consists of five members as follows:

i. two graduate faculty of the Department, who are not members of the Supervisory Committee, one of whom is appointed by the Department Chair to act as chair of the Master's Examination and to make the arrangements therefore;
ii. the Supervisor of the candidate's research;
iii. one additional member of the Supervisory Committee;
iv. one member of the graduate faculty from a department other than that in which the student is registered.

In the Faculty of Science, the Master's Examination Committee normally consists of five members as follows:

i. three members of the Supervisory Committee, including the Supervisor of the candidate's research;
ii. one member from a department other than that in which the student is

With the consent of the Supervisory Committee, and of the instructor and the Department Chair concerned, a student may register for, and audit, all or part of a course. It is understood that the student will attend lectures as prescribed, but will not write any examination or receive any grade. Such a course may be recorded as an additional course, identified by AUD.

~~In the Faculty of Veterinary Medicine,~~ The Master's Examination Committee normally consists of five members as follows:

i. two graduate faculty of the Department, who are not members of the Supervisory Committee, one of whom is appointed by the Department Chair to act as chair of the Master's Examination and to make the arrangements therefore;
ii. the Supervisor of the candidate's research;
iii. one additional member of the Supervisory Committee;
iv. one member of the graduate faculty from a department other than that in which the student is registered.

FACULTY OF SCIENCE MSc PROGRAM

The graduate students will register in one of the designated areas of specialization listed below:

Molecular and Macromolecular Science (**MMS**)
Environmental Sciences (**ESC**)
Human Development and Health (**HDH**)

~~In the Faculty of Science,~~ Students are required to take a minimum of three graduate level courses, all of which are to be regarded as substantive. A Seminar course (~~BIO 890 or CHE 890~~ MMS 890 or ESC 890 or HDH 890) is required. Students may take only one Directed Studies course (~~BIO 881 or CHE 881,~~ MMS 881 or ESC 881 or HDH 881, or alternatively, VBS 881 or 882, VPM 881 or 882, VCA 881 or 882, VHM 881 or 882) for credit. Students lacking an Honours degree or background in one or more area may, at the discretion of the Supervisory Committee, be required to take the appropriate undergraduate level course(s), in addition to the required courses. All graduate students must receive non-credit WHMIS

registered. This external examiner may be from the University of Prince Edward Island, or from another University or Research Institute, as is deemed appropriate; iii. the Coordinator of Graduate Studies (or designate), who will Chair the Master's Examination Committee. The Department Chair selects the Examination Committee at the request of the Supervisor and is responsible for notifying the Program Administrator of its composition. The Examination is normally open to the public; however, members of the audience may question the candidate only upon invitation of the Chair of the Committee. The Examination is passed and the thesis approved if there is no more than one negative vote, an abstention being regarded as a negative vote. The report, from the Department Chair to the Program Administrator, records the result as "unsatisfactory" or "satisfactory." If the result is "unsatisfactory," the candidate may be given the opportunity by the Master's Examination Committee of a second attempt. A second "unsatisfactory" result will terminate candidacy at this university. **ADDITIONAL INFORMATION** For information about programs in individual faculties, please click on the following links	(Workplace Hazardous Materials Information System) training in their first year. When a student is required to register in a seminar or colloquium course in more than one semester, the record will show a grade or a designation of "In Progress" for semesters prior to completion of the course and "Pass" or "Fail" (or a numerical grade in the case of ~~CHE 890~~ MMS 890) <u>for the final semester. Enrolment in the Seminar course implies the student will participate as a presenter in at least one Graduate Studies Day.</u> The seminar course includes the participation of the student in With the consent of the Supervisory Committee, and of the instructor and the Department Chair concerned, a student may register for, and audit, all or part of a course. It is understood that the student will attend lectures as prescribed, but will not write any examination or receive any grade. Such a course may be recorded as an additional course, identified by AUD. ~~In the Faculty of Science,~~ <u>T</u>he Master's Examination Committee normally consists of five members as follows: i. three members of the Supervisory Committee, including the Supervisor of the candidate's research; ii. one member of <u>the area of specialization but</u> from a department other than that <u>of the student's supervisor</u> ~~in which the student is registered~~. This external examiner may be from the University of Prince Edward Island, or from another University or Research Institute, as is deemed appropriate; iii. the Coordinator of Graduate Studies (or designate), who will Chair the Master's Examination Committee.

Carried

Moved (C. Lacroix/M. Shaver): to approve the revised calendar entry for Master of Science program on page 257 of the 2010-2011 Academic Calendar -

MSc program – <u>revised</u> calendar entry for courses

Source: http://www.upei.ca/registrar/4_grad_vetscience#Biologygradcourses

~~BIOLOGY DEPARTMENT~~

FACULTY OF SCIENCE

ENVIRONMENTAL SCIENCES (ESC)

HUMAN DEVELOPMENT AND HEALTH (HDH)

MOLECULAR AND MACROMOLECULAR SCIENCES (MMS)

~~BIO~~ HDH 811 ADVANCED TOPICS IN CELL AND MOLECULAR BIOLOGY

This course enhances student knowledge of cell and molecular biology from a research perspective. Current advances in cell and molecular biology, including biotechnology and cytogenetics, are emphasized. Topics vary yearly according to the needs of the participating students. A combination of formal lectures, directed readings, and group discussion of journal articles is used. Students are expected to prepare written reports or present seminars.

PREREQUISITE: Admission to a graduate program in Science and permission of the instructor.

HOURS OF CREDIT: 3

NOTE: Responsibility for this course rests with the department of Biology.

~~BIO~~ ESC 812 ADVANCED TOPICS IN ECOLOGY AND ENVIRONMENTAL SCIENCES

This course covers advances in practical and theoretical aspects of aquatic and terrestrial ecology, and represents one of the three general axes of research expertise within the Department. A combination of formal lectures, directed readings, and group discussion of journal articles is used. Students are expected to prepare written reports or present seminars.

PREREQUISITE: Admission to a graduate program in Science or permission of the instructor.

HOURS OF CREDIT: 3

NOTE: Responsibility for this course rests with the department of Biology.

~~BIO~~ ESC 813 ADVANCED TOPICS IN PLANT SCIENCE

This course covers current advances in botany, including plant development and morphology, anatomy and physiology, pollination biology, and biotechnology. A combination of formal lectures, directed readings, and group discussion of journal articles is used. Students are expected to prepare written reports or present seminars.

PREREQUISITE: Admission to a graduate program in Science and permission of the instructor.

NOTE: Responsibility for this course rests with the department of Biology.

~~BIO~~ HDH 825 ADVANCED TECHNIQUES IN SCANNING ELECTRON MICROSCOPY

This course covers the principles of scanning electron microscopy, including techniques used for the preparation of biological or other materials for microscopy and the use of specialized software to analyze surface features of samples. Students learn to operate the instrument over the full spectrum of use, generating their own images and interpreting patterns. A microscopical investigation of material relevant to the student's discipline forms the basis of a course project.

PREREQUISITE: Admission to the graduate program or Permission of the instructor

HOURS OF CREDIT: 3

NOTE: Responsibility for this course rests with the department of Biology.

~~BIO~~ ESC 862 ADVANCED FRESHWATER ECOLOGY

This course provides advanced study in the ecology of freshwater habitats, particularly those found on Prince Edward Island. The first part of the course concentrates on the physical, chemical, and biological characteristics of fresh waters, classfication of freshwater habitats, and applied limnology. A laboratory/field component includes an introduction to water analysis techniques and field equipment, field water analysis, the collection and analysis of biological samples, and the physical properties of water. The second part is a field/lab project on a limnological topic tailored to the student's individual program, and consists of an experimental or observational study coupled with a comprehensive literature review, project write-up, and oral presentation.

NOTE: Credit is not given for both Biology 462 (Limnology) and Biology 862 and ESC 862

NOTE: Responsibility for this course rests with the department of Biology.

~~BIO~~ ESC 865 ADVANCES IN MARINE ECOLOGY

This course provides an update on relevant areas of ongoing marine research. The first part of the course concentrates on marine ecology topics including benthic-pelagic coupling, dispersal and adult-larval interactions, animal-sediment relationships, biodiversity ecosystem services, encrusting communities and their interactions, and aquatic invasive species. The second part includes participation in regular discussion sessions based on analysis of advanced literature relevant to the discipline and to the student's particular research. Assignments include an essay relevant (but not restricted) to a student's field of research, and a seminar on a topic relating general ecological hypotheses to the topic addressed in the essay.

NOTE: Credit will not be given for both Biology 465 (Marine Community Ecology) and ESC 865.

PREREQUISITE: Entry into a graduate program at UPEI and permission of the instructor.

HOURS OF CREDIT: 3

3 hours lecture and 3 hours lab/field trip per week, plus discussion group.

NOTE: Responsibility for this course rests with the department of Biology.

~~BIO~~ ESC 881 DIRECTED STUDIES IN ~~BIOLOGY~~ ENVIRONMENTAL SCIENCES

Under the supervision of a faculty member, a graduate student independently pursues an area of interest in depth. The course includes an extensive literature review of the specific discipline, directed research on the topic, or collection and analysis of data. The student may be required to present a written report and/or present a seminar in the area. Topics must not be a part of the student's thesis research although they may be in a complementary area. Course outlines must be approved by the supervisory committee, the department Chair, and the Dean of Science.

PREREQUISITE: Admission in the graduate program in Biology and permission of instructor.

HOURS OF CREDIT: 3

~~BIO~~ HDH 881 DIRECTED STUDIES IN ~~BIOLOGY~~ HUMAN DEVELOPMENT AND HEALTH

Under the supervision of a faculty member, a graduate student independently pursues an area of interest in depth. The course includes an extensive literature review of the specific discipline, directed research on the topic, or collection and analysis of data. The student may be required to present a written report and/or present a seminar in the area. Topics must not be a part of the student's thesis research although they may be in a complementary area. Course outlines must be approved by the supervisory committee, the department Chair, and the Dean of Science.

PREREQUISITE: Admission in the graduate program in Biology and permission of instructor.

HOURS OF CREDIT: 3

~~BIO~~ ESC 890 SEMINAR ~~IN BIOLOGY~~

In this course students attend seminars on current topics in their thesis areas ~~Biology~~ and deliver seminars ~~in their thesis areas~~. Techniques in preparing scientific communications (oral presentations and poster displays) are also covered.

PREREQUISITE: Admission to a graduate program in Science.

HOURS OF CREDIT: 3

NOTE: Responsibility for this course rests with the department of Biology.

HDH 890 SEMINAR – cross-listed

See ESC 890

~~CHEMISTRY DEPARTMENT~~

~~CHEM~~ MMS 881 DIRECTED STUDIES IN ~~CHEMISTRY~~ MOLECULAR AND MACROMOLECULAR SCIENCES

This course is a thorough study of a selected topic in ~~Chemistry~~ Molecular and Macromolecular Sciences. Entry to the course, and the course outline, are subject to the approval of the Supervisory Committee, ~~the Department Chair~~ and the Dean of Science. The course may include directed reading, directed research, and discussion with the instructor. The student may be required to prepare a written report and/or present a seminar in the area. Topics must not be directly related to the student's research project, although they may be in the same discipline.

PREREQUISITE: Admission to the graduate program and permission of the instructor.

HOURS OF CREDIT: 3

~~CHEM~~ MMS 882 ADVANCED TOPICS IN ~~CHEMISTRY~~ MOLECULAR AND MACROMOLECULAR SCIENCES

This course covers current advances and advanced topics in a discipline of ~~**Chemistry**~~ Molecular and Macromolecular Sciences and is a thorough study of specific topics. It is offered to graduate students at the discretion of the Department, and covers areas of specialization not covered in other graduate courses. The course discusses recent advances in an area of interest to the students but which are not part of the students' thesis research directly.

PREREQUISITE: Admission to the graduate program and permission of the instructor.

HOURS OF CREDIT: 3

NOTE: Responsibility for this course rests with the department of Chemistry.

~~CHEM~~ MMS 883 ADVANCED TOPICS IN COMPUTATIONAL CHEMISTRY

This course exercises the application of computational chemistry to structural and reactivity questions in organic and inorganic chemistry. Computational methods discussed include molecular mechanics, ab initio and semi-empircal calculations, and density functional theory. The objective is to gain an understanding of the application of these methods to chemical problems. The current literature is explored to illustrate the use of computational chemistry in research.

PREREQUISITE: Admission to MSc Program

HOURS OF CREDIT: 3

NOTE: Responsibility for this course rests with the department of Chemistry.

~~CHEM~~ MMS 884 ADVANCED SPECTROSCOPIC STRUCTURE ELUCIDATION

This course covers various forms of spectrometry used in the determination of structures in Organic and Inorganic Chemistry. Major topics include the theory and use of nuclear magnetic resonance (NMR) spectroscopy, in particular the use of 2D experiments; mass spectrometry and infrared spectroscopy. Particular emphasis is placed on developing the students' ability to interpret spectra and elucidate the structure of a molecule based on this evidence. Spectroscopic techniques for the study of transient species are also discussed, including: laser flash photolysis (LFP); laser-induced fluorescence (LIF); and stopped-flow and relaxation methods for fast reaction studies.

PREREQUISITE: Admission to the graduate program.

HOURS OF CREDIT: 3

NOTE: Responsibility for this course rests with the department of Chemistry.

~~CHEM~~ MMS 890 SEMINAR IN ~~CHEMISTRY~~ MOLECULAR AND MACROMOLECULAR SCIENCES

In this course students attend regular departmental seminars. Students are also required to present a

seminar on a topic within their discipline, but unrelated to their research project. Students must register for this course each semester, and receive a grade of "In Progress" until completion of their MSc programs.

PREREQUISITE: Admission to MSc Program in ~~Chemistry~~ Science

HOURS OF CREDIT: 3

NOTE: Responsibility for this course rests with the department of Chemistry and Physics.

Moved (C. Lacroix/M. Shaver): to approve the following new courses:

MMS 801 PHD THESIS

MMS 802 MOLECULES, MACROMOLECULES AND THE BUSINESS OF SCIENCE

MMS 803 DIRECTED STUDIES IN MOLECULAR AND MACROMOLECULAR SCIENCES

MMS 804 FIELD COURSE IN MARINE DRUG DISCOVERY

MMS 805 ADVANCED STUDIES IN NMR SPECTROSCOPY

MMS 806 ADVANCED TOPICS IN COMPUTATIONAL CHEMISTRY – See MMS 883

MMS 807 ADVANCED STUDIES IN INORGANIC REACTION MECHANISMS

MMS 808 GREEN CHEMISTRY

MMS 809 BIOMATERIALS

MMS 810 SOFT CONDENSED MATTER PHYSICS

MMS 811 ADVANCE TOPICS IN MATERIALS CHARACTERIZATION

MMS 824 ADVANCES STUDIES IN ENVIRONMENTAL TOXICOLOGY

MMS 813 ADVANCED TECHNIQUES IN SCANNING ELECTRONIC MICROSCOPY – See HDH 825

Carried

Moved (C. Lacroix/M. Shaver): to approve the calendar entry for the following -

DOCTOR OF PHILOSOPHY (PhD) IN MOLECULAR AND MACROMOLECULAR SCIENCES

Structure of the Program

The purpose of this PhD degree program is to provide a doctoral- level research experience for candidates, ensuring that they develop critical thinking, creativity and subject mastery through their program. A secondary objective is to provide a value-added degree containing a significant, Business component to the studies. This degree will offer graduate education at the PhD level that meets the needs of the global scientific business, industry, research and

academic environments in Molecular and Macromolecular Sciences, one of the constellations of research strength at UPEI.

This degree program is research-intensive and will require the student to develop a thesis based around an individual, independent thesis topic. This foundation will be complemented by graduate-level constellation-based courses and selected courses from the School of Business, a comprehensive examination and a final oral defense of the thesis.

Unless otherwise specified below, the "General Regulations for Graduate Programs" will apply to the Doctorate of Philosophy in Molecular and Macromolecular Sciences degree."

Admission Requirements

Acceptance into the program will be granted on the basis of qualifications and suitability to fit into the main research endeavours of MMS members who are members of the Graduate Faculty with a PhD/Masters supervisory role. Students must hold a Master of Science degree or its equivalent from a recognized university and have achieved at least a second class standing (70- 80%) for this degree. Students may also be admitted to the PhD program by registering in the existing MSc program in Science and transferring to the PhD program after eighteen (18) months upon the recommendation of their supervisory committee. In special circumstances, highly exceptional students with first-class BSc Honours degrees may be admitted directly to the PhD program (contact the office of the Dean of Science for specific criteria for admission). Evidence will be required that the applicant is capable of undertaking substantial original research. Admission to the MMS PhD program is granted on the basis of a recommendation of the Faculty of Science Graduate Studies Committee and explicit supervisory support from a faculty member within the Molecular and Macromolecular Sciences constellation. Faculty members must demonstrate research funding to cover four years of guaranteed stipend support or exhibit sufficient research progress that funding renewal is expected. Applicants are encourage to visit the Faculty of Science Graduate Studies website (http://www.upei.ca/science/graduatestudies), and contact faculty members within the MMS constellation to discuss research interests and to confirm the availability of a position within their group. Secondly, applicants will submit an application package including an application form, official university transcripts for the applicant's complete undergraduate and graduate (if any) record to date, three letters of reference, at least two of which should be from faculty members with a strong familiarity with the applicant's academic and research background, proof of English language proficiency such as TOEFL scores (for applicants whose first language is not English) which meet the minimum scores as listed under the general Admission Requirements in the university Calendar and evidence of the ability to conduct substantial original research including, but not limited to, theses, publications and research presentations.

Residency Requirements

Given the nature of the program, a minimum of six full terms (two fall, two winter, and two summer terms) is required to complete course work. A maximum period of seven (7) years from the date of registration will be allocated for the completion of the PhD program. Exceptional circumstances will be considered provided that they are supported by the student's

supervisor and properly communicated, discussed and supported by the supervisory committee. In all cases, extensions beyond this maximum period must be approved by the Faculty of Science Graduate Studies Committee and the Office of Graduate Studies.

Supervision

In the first semester of the PhD program, each student will be assigned a supervisory committee which will consist of the student's supervisor and three (3) members chosen from UPEI faculty or adjunct faculty within the MMS constellation or from the School of Business. It is expected that at least two members of the committee will be from the MMS constellation and that at least one member of the committee will have significant business experience, either as a member of the School of Business or as an adjunct or regular faculty member with industrial expertise. The majority of students' time will be engaged in developing their research project, but this experience will be supplemented by coursework in Science and Business; specific courses will be chosen in consultation with the supervisory committee.

Courses

Students will be required to take three (3) graduate-level courses in Molecular and Macromolecular Sciences, three (3) graduate-level courses in business, and one (1) capstone course that integrates science and business components. Each student must complete a minimum of three (3) courses within the first 18 months of the degree, which may be a combination of the science and business requirements but must include at least one MMS and one business course. In addition, students should have started their capstone project, although completion of this project is not a requirement for this period. Following this initial stage of research and coursework, each student will take a candidacy exam adjudicated by a Candidacy Examination Committee, and upon its successful completion will become a PhD candidate. Completion of the remaining required courses, further development of the research project, and preparation of a thesis within a maximum of seven (7) years will culminate in the defence of this body of work in a public forum, adjudicated by the student's supervisory committee and an external examiner who will be an expert in the student's field of research. If a student, for any reason, withdraws from the PhD program they may elect to enter the MSc program at UPEI if no such degree has been previously obtained.

Prescribed Courses

Graduate students are required to register for MMS 801 – PhD thesis throughout their degree program. Additional required constellation-based courses include MMS 802 – Molecules, Macromolecules and the Business of Science and MMS 803 – Directed Studies in Molecular and Macromolecular Sciences. Students are also required to take 2 additional MMS electives at the graduate level. Business requirements include BUS 603 – Marketing Management, BUS 701 – Biotechnology Management and Development and BUS 702 – Commercialization of Biotechnology and Innovations.

Research

Independent research will be the major focus of the PhD degree. Normally, the equivalent of at least nine full-time semesters must be devoted to research in fulfillment of the thesis requirement. Summers during which research work is actively conducted may be counted as research semester equivalents. In order to avoid undue prolongation of the time required to complete the degree, the research topic should be identified early and approved by the Supervisory Committee. The research should comprise an extensive body of original research in the candidate's field, making a true contribution exemplifying the student's depth of knowledge, creativity, innovation and proven ability to make significant scientific research contributions. Research progress will be monitored by biannual meetings of the Supervisory Committee as proscribed by the Faculty of Science Graduate Studies Committee. Research involving the use of hazardous materials must follow the Guidelines of the Workplace Hazardous Materials Information System.

Candidacy Examination

Doctoral students must complete a candidacy examination within two (2) years of entering the PhD program. Students who register as Masters students at UPEI and then transfer into the PhD program must complete their candidacy exam within three (3) years of registering as a graduate student at UPEI. Before the exam, the student must present a basic thesis proposal to the Supervisory Committee and obtain a recommendation that the student proceed with the oral candidacy exam. The supervisory committee will inform the Faculty of Science Graduate Studies Committee of this decision, and will suggest the make-up of the Candidacy Examination Committee. The Candidacy Examination Committee will consist of two (2) members of the Supervisory Committee and one (1) external faculty member from the University of Prince Edward Island who does not necessarily need to fall within the MMS research constellation; this third member could be from another scientific research constellation. A designate from the Faculty of Science Graduate Studies Committee will act as Chair of the examination.

The student will then distribute copies of a detailed thesis proposal to the Candidacy Examination Committee and the Faculty of Science Graduate Studies Committee. The latter will schedule a mutually agreeable time and place for the exam. This proposal must be received at least three weeks prior to the scheduled exam. The expanded thesis proposal should address not only the research plan, but also how the student's courses in both MMS and Business relate to the proposed work. The examination begins with a formal presentation by the student not to exceed 30 minutes followed by the candidate being asked to respond to questions from the Examination Committee on topics related to the proposed area of research, general topics in the student's field, as well as how these fields, and the proposed research, relate to business, technology transfer and entrepreneurship (1-2 hours). The questions, while broad in scope, will invariably focus on the student's research proposal and will evaluate the student's expertise in their field. The Examination Committee will then deliberate in a closed session to make a judgment of satisfactory or unsatisfactory. A judgment of satisfactory will result in the student being declared a PhD Candidate. If the judgment is unsatisfactory, the student will be required to re-take the exam within 4 months. A second unsatisfactory judgment will result in the student being required to withdraw from the PhD program. If the student has not previously completed an MSc degree, he or she is then free to enter the MSc program and transfer

research and academic coursework.

Thesis

Each candidate for the degree of Doctor of Philosophy in Molecular and Macromolecular Sciences is required to submit a thesis based upon the research conducted under supervision described above. The thesis must demonstrate the candidate's capacity for original and independent work, and should include a critical evaluation of work which has previously been done in the field of his or her research. The thesis should emphasize any new conclusions which may be drawn from the candidate's own research. While there is no requirement that the work conducted be directed towards industry, business or commercial applications, students are expected to address the significance and importance of their work to technology, industry and innovation in Canada and the world. General specifications as to type of paper, format, order and binding will be available as necessary.

Examination and Publication

The final oral examination of the PhD thesis will consist of a research seminar, followed by questions from the Doctoral Examination committee. The examination will be public, but members of the audience may only question the candidate upon invitation of the Chair of the Committee. The committee will be chaired by a representative from the Faculty of Science Graduate Studies Committee and will consist of a minimum of five members as follows: Two (2) representatives from the student's supervisory committee, One (1) internal examiner from the University of Prince Edward Island, preferably a faculty member with relevant research experience, One (1) external examiner from outside the University of Prince Edward Island, preferably from another University or Research Institute, as deemed appropriate, and the student's supervisor(s), sitting on the committee without voting power.

The external examiner will be chosen by the Faculty of Science Graduate Studies Committee from a list of three arms-length nominees who should be experts in the candidate's research field. The nominees will be suggested by the Supervisory Committee in consultation with the student. It is preferred if the external examiner can attend the examination in person, however the external examiner can participate via video or audio conference call if this is impractical. Following the examination, the candidate will leave the room and the committee will deliberate upon the decision.

The members of the Examination committee, including the External Examiner, report individually on both the defence and the thesis, the candidate being deemed to have passed if not more than one of the five Examiners votes negatively. An abstention is regarded as a negative vote. If successful, the candidate will be awarded his or her PhD degree and any business designations met by his or her course selection. If unsuccessful, the candidate will be permitted to re-take the examination within 6 months. If unsuccessful in the second attempt, the student will be required to withdraw from the PhD program. If the student has not previously completed an MSc degree, he or she is then free to enter the MSc program and transfer research and academic coursework.

GRADUATE COURSES: PHD IN MOLECULAR AND MACROMOLECULAR SCIENCES (MMS)

MMS 801 PHD THESIS

MMS 802 MOLECULES, MACROMOLECULES AND THE BUSINESS OF SCIENCE

MMS 803 DIRECTED STUDIES IN MOLECULAR AND MACROMOLECULAR SCIENCES

MMS 804 FIELD COURSE IN MARINE DRUG DISCOVERY

MMS 805 ADVANCED STUDIES IN NMR SPECTROSCOPY

MMS 806 ADVANCED TOPICS IN COMPUTATIONAL CHEMISTRY – See MMS 883

MMS 807 ADVANCED STUDIES IN INORGANIC REACTION MECHANISMS

MMS 808 GREEN CHEMISTRY

MMS 809 BIOMATERIALS

MMS 810 SOFT CONDENSED MATTER PHYSICS

MMS 811 ADVANCE TOPICS IN MATERIALS CHARACTERIZATION

MMS 824 ADVANCES STUDIES IN ENVIRONMENTAL TOXICOLOGY

MMS 813 ADVANCED TECHNIQUES IN SCANNING ELECTRONIC MICROSCOPY – See HDH 825

D. Buck commented that this program was approved in principle by Senate as a PhD with business ties. How does that relate to what we are looking at today? M. Shaver explained what has changed is the formal way the program can be advertised. There still are business ties but there won't be a reference to a Certificate in Business or an MBA. Also, there was a change of one optional course to become a core course. This program remains the only one of its kind in Canada.

Carried

Moved (T. Goddard/J. MacAulay): to revise the paragraph under Certificate Programs on page 101 of the 2010 – 2011 Academic Calendar –

CERTIFICATE PROGRAMS

The Education Faculty presently offers ~~two~~ three certificate programs: one in School Librarianship, ~~and~~ Inclusive Education, and Educational Leadership in Nunavut.

Carried

Moved (T. Goddard/J. MacAulay): to add the following entry to the Academic Calendar –

CERTIFICATE IN EDUCATIONAL LEADERSHIP IN NUNAVUT

The Certificate in Educational Leadership in Nunavut is designed to provide qualified teachers and educational leaders in Nunavut with the background, history, knowledge, skills and attitudes to provide culturally based, effective, and responsive, leadership in the school system. It includes five core courses from the introductory level through to specialized courses that focus on parental engagement, action research and approaches to school improvement that support the implementation of educational legislation and policy in Nunavut.

The required courses are as follows:

ED 509 Foundations of Transformational Leadership in Nunavut Education

ED 511 Proactive Instructional Leadership in Nunavut Communities

ED 512 Educational Leadership –Engaging Nunavut Parents, Elders and Community

ED 513 Leadership of the School Improvement Process in Nunavut Communities

ED 514 Action Research in Educational Leadership for Nunavut

Carried

Moved (T. Goddard/R. Kurial): to add **Education 464 Educating for Global Citizenship** to the International Education specialization

Carried

School of Business

Moved (D. Reynolds/K. Schultz): to change Note #9 under BBST to make it more clear for students –

"Required courses in years one and two of a Business degree are not eligible as Business, non-Business or free electives, unless specified in the BBST requirements.

Carried

Faculty of Veterinary Medicine

Moved (D. Reynolds/H. Stryhn): change contact hours for VHM 345 - Five-week module with ~~three~~ two hours of lecture per week

Carried

Moved (D. Reynolds/H. Stryhn): to approve the following new courses:

VHM 862 – Advanced Clinics in Food Animal Internal Medicine

VHM 863 - Advanced Clinics in Equine Internal and Preventative Medicine

VHM 864 – Recent Advances in Large Animal Medicine I

VHM 865 – Recent Advances in Large Animal Medicine II

VHM 866 – Recent Advances in Large Animal Medicine III

Carried

Moved (D. Reynolds/H. Stryhn): to approve changes to Admission requirements to PhD –

Admission Requirements

The normal basis for admission to PhD studies as a regular or a provisional student is a recognized thesis-based MSc degree obtained with an average of at least second class (B level, 70% to 79.9%) academic standing.

Transfer from MSc to PhD

An applicant enrolled in an MSc program who achieves a superior record (normally at least first class [80% or higher] academic standing in graduate course work) and shows a particular aptitude for research may, with recommendation of the Supervisory Committee and Department, apply to the Graduate Studies and Research Committee for transfer from the MSc to a PhD program without the requirement for completion of the MSc degree. Transfers are normally made within the same department. However, inter-departmental transfers will be considered by the Graduate Studies and Research Committee on a case-by-case basis, on the recommendation of both Departments. The application for transfer must be made no sooner than the end of the second semester and normally no later than the end of the sixth semester, and is effective in the semester following approval. All regulations relating to the PhD program apply from the effective date. However, admission to the doctoral program will be considered provisional until such time as the candidate passes the PhD Comprehensive Examination, as governed by departmental regulations. If the Comprehensive Examination is passed, the student will be transferred from provisional to regular PhD student status. Two failed attempts of the Comprehensive Examination will result in the provisional PhD student status being revoked and immediate reversion to MSc student status. All regulations relating the MSc degree apply from the date of reversion. There will be no refund of program fees.

Carried

Moved (D. Reynolds/H. Stryhn): to approve changes to the following course titles and descriptions –

VHM 848 - ADVANCED CLINICS IN LARGE ANIMAL INTERNAL MEDICINE I
This course provides training in large animal internal medicine and is offered in any academic semester based on student enrolment. Under close supervision of an ACVIM diplomate, students spend 12 weeks on the large animal medicine clinical service in the VTH. Using the problem-oriented approach, students examine patients, perform diagnostic procedures, interpret diagnostic tests, and diagnose and treat food animal and equine patients. Topics discussed in daily rounds include preventive medicine, infectious disease, diseases affecting performance or production, pharmacology, etc. Students are required to present an in-depth analysis of a clinical case once monthly in house officer rounds. Students enrolled in this course are expected to participate in emergency duty.

VHM 849 - ADVANCED CLINICS IN LARGE ANIMAL INTERNAL MEDICINE II
This course provides advanced training in large animal internal medicine and is offered in any academic semester based on student enrolment. Under the supervision of an ACVIM diplomate, students spend 12 weeks on the large animal medicine clinical service in the VTH. Using the problem-oriented approach, students examine patients, perform diagnostic procedures, interpret diagnostic tests, and diagnose and treat food animal and equine patients. Topics discussed in rounds include preventative medicine, infectious disease, diseases affecting performance or production, pharmacology, etc. Students are required to present an in-depth analysis of a clinical case once monthly in house officer rounds. Students enrolled in this course are expected to participate in emergency duty.

Carried

Eighth ARPC Report to Senate

J. Randall updated Senators on the policy for Quality Management of Academic Units. As indicated in the minutes of April 8, 2011, the changes as recommended by Senators have been made and a copy of the document will be forwarded back to Senate for information.

The VP Academic reported for information two agreements that the University has signed or is in the process of signing:

- A Graduate Recruitment Agreement between the Vietnam International Education Development, Ministry of Education and Training, Vietnam, and the University of Prince Edward Island has been signed.
- A Memorandum of Agreement between Kenyatta University, Nairobi, Kenya and the University of Prince Edward Island is ready for final signature.

6. Other Business

The President noted that being able to organize a meeting of Senate outside the normal academic year shows a great measure of collegiality and support for the work we undertake at Senate at UPEI. UPEI has demonstrated that demographics are not necessarily destiny and our enrolments have grown as well as our partnerships around the world. The President thanked Senators for their due diligence in ensuring the coherence of our academic programs.

7. Adjournment

The meeting adjourned at 3:55 p.m.

Respectfully Submitted,

Kathleen Kielly, Secretary of Senate
Registrar