

SCHOOL OF GRADUATE STUDIES

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Dean

Golfman, N., B.A. *Alberta*, M.A., Ph.D. *Western Ontario*; Professor,
Faculty of Arts, Department of English Language and Literature

Associate Dean

Murrin, F., B.Sc. (Hons.) *Memorial*, M.Sc. *Acadia*, Ph.D. *Queen's*;
Associate Professor, Faculty of Science, Department of Biology

Manager, Enrolment and Strategic Initiatives

Kim, A., B.Sc., M.B.A. *Memorial*

Manager, Fellowships and Awards

Lawlor, S., B.Comm. *Memorial*

Administrative Staff Specialist

Fagan, N.

1 The Memorial University of Newfoundland Code

The attention of all members of the University Community is drawn to the section of the University Calendar titled **The Memorial University of Newfoundland Code**, which articulates the University's commitment to maintaining the highest standards of academic integrity.

2 General Information and Regulations Governing All Graduate Students

2.1 School Description

Memorial University of Newfoundland's School of Graduate Studies (SGS) is home to over 3,000 graduate students enrolled in over 100 graduate diploma, and master's and doctoral degree programs.

The School is a central agency responsible for the collection, maintenance, and distribution of materials on graduate students. It maintains graduate files and administers graduate applications, admissions, comprehensive examinations, thesis examinations, and doctoral defences. SGS is also responsible for registrarial functions, graduate enrolment management, and recruitment, and administers graduate student funding including assistantships, external and internal scholarships, baseline fellowships, supervisor support, and Tricouncil global payments.

The School assists academic units in developing new program proposals and administers their approval. Through its Academic Council, SGS also provides a forum for representatives from all faculties, schools, and the Graduate Students' Union to discuss matters pertaining to graduate education. The Council ensures maintenance of standards across all graduate programs by considering policies relating to graduate studies, approving regulation changes and appeals, receiving reports from standing and ad hoc committees, and making recommendations on matters affecting graduate studies.

Additional information regarding the School of Graduate Studies is available at www.mun.ca/sgs/.

Students must meet all regulations of the School in addition to the **General Regulations**, the Degree Regulations and any additional requirements of the appropriate Department. For information concerning fees and charges refer to **Fees and Charges, UNIVERSITY REGULATIONS**.

2.2 Programs

The following graduate diploma and degree programs are offered by Memorial University of Newfoundland. Interdisciplinary study is encouraged by the University, and prospective applicants should make enquiries about their interests from all the areas of study concerned.

2.2.1 Graduate Diplomas

Clinical Epidemiology
Community Health and Humanities
Fisheries Resource Management
Post-Secondary Studies (Health Professional Education)
Post Masters Nurse Practitioner

2.2.2 Graduate Degrees

Master of Applied Science
Master of Applied Social Psychology (Co-operative)
Master of Applied Statistics
Master of Arts
Master of Arts and Education (Education and Francophone Literatures and Cultures)
Master of Business Administration
Master of Education
Master of Employment Relations
Master of Engineering
Master of Engineering Management
Master of Environmental Science
Master of Gender Studies
Master of Marine Studies (Fisheries Resource Management)
Master of Maritime Management
Master of Music
Master of Nursing
Master of Philosophy
Master of Physical Education
Master of Public Health
Master of Science
Master of Science in Kinesiology
Master of Science in Medicine
Master of Science in Pharmacy
Master of Social Work

Master of Technology Management
 Doctor of Philosophy
 Doctor of Psychology

2.3 Definition and Explanation of Terms Used in this Calendar

2.3.1 Special/Selected Topics Courses

Where a block of courses has been approved under a general heading such as selected topics, special areas, directed readings or like heading, each new course offered from that block of courses shall be approved in advance by the Faculty/School Council (or delegated Graduate Studies Committee). To ensure an orderly use of the courses and non-duplication between course numbers, titles and contents, the Council (or Committee) shall require the same quality and type of information as is needed for the approval of a regular course. (*Consult the School of Graduate Studies or Deputy Registrar for administrative procedures.*)

2.3.2 Dean of Graduate Studies

In all regulations following, reference to "the Dean" refers specifically to the Dean of Graduate Studies.

2.3.3 Credit Hour

A credit hour is the measure used to reflect the relative weight of a given course towards the fulfilment of appropriate degree, diploma, certificate, major, minor, or other program requirements. Normally, a course has a credit value of 3 credit hours. A weight of one credit hour normally means that the course meets for lectures one hour per week for the duration of a semester or two hours per week for the duration of a session. The number of hours of required instruction, outside of lecture time, such as laboratory instruction, tutorials, etc. may or may not impact on the number of credit hours assigned to a particular course and academic units may recommend to the Senate a greater or lesser whole number of credit hours for a particular course.

2.3.4 Graduate Course

1. A graduate course comprises a unit/units of work in a particular subject normally extending through one semester, the completion of which carries credit toward the fulfilment of the requirements for a postbaccalaureate degree, diploma or certificate.
2. Accelerated courses are not normally permissible in graduate programs.
3. Courses required as part of a graduate student's program are known as program courses. Tuition for such courses is covered by the semester fee.
4. Courses which are not required as part of a graduate student's program are known as non-program courses. Students registering for such courses will be required to pay the appropriate per-course fee.

2.3.5 Policy Governing the Auditing of Courses

1. In order to audit any course, an individual must receive permission from the instructor in that course, the Supervisor/advisor and the administrative Head of the unit in which the course is offered. Matters to be considered shall include class size, impact on students registered for credit and other factors judged relevant by the academic unit; and permission cannot be given until the number of registrations for credit is known.
2. Individuals auditing courses shall limit their participation to that deemed appropriate by the instructor; auditors are not permitted to write formal examinations, nor to have their work formally assessed.
3. Students who require a testamur of audition may request the same from the instructor of the course. Students will not register for audit courses nor will a record of audit courses appear on students' transcripts.

2.3.6 Semester

A semester means a period of approximately 14 consecutive weeks during which the University is in regular session and in which period there are at least 12 teaching weeks as defined by the Senate. Normally the Fall semester commences in early September, the Winter semester in early January, and the Spring semester in early May.

2.3.7 Academic Year

The academic year is from September 1 of one year to August 31 of the following year.

2.3.8 Graduate Student

A graduate student is one who has been admitted to a graduate degree or a graduate diploma program.

A full-time graduate student is one who registers as such, devotes full time to his or her academic program and may not commit more than 24 hours a week working time, including teaching assistant or research assistant duties, to matters other than the degree program.

A part-time graduate student is one who is registered for the duration of a semester and is not classified as full-time.

2.3.9 Visiting Research Student

1. A student who is registered in good standing in a graduate program at another recognized institution who comes to Memorial University of Newfoundland to conduct research under the supervision of Memorial University of Newfoundland faculty members is considered to be a visiting research student. In order to obtain access to University resources, and where applicable, a study permit, such a student will be required to register each semester of their visit for GRAD 9900 using a Course Change Form.
2. To be eligible to register, a visiting research student must submit an Application for Admission form to the School of Graduate Studies, accompanied by: a) a letter from their home institution verifying graduate student status, and b) a letter from the host faculty member confirming the duration of the visit. The student will then be admitted to the School of Graduate Studies to a "non-degree" program.
3. Visiting research students will be exempt from tuition fees. However, all visiting research students will be required, as a condition of registration, to purchase health insurance (international students should contact the International Student Advisor, whereas Canadian citizens or permanent residents of Canada should contact the Graduate Students' Union for more information). If a visiting research student wishes to register for a course while at Memorial University of Newfoundland, s/he must meet the University admission requirements and pay the undergraduate per course fee as indicated under the **UNIVERSITY REGULATIONS - Fees**

and Charges in the University Calendar.

*Note: A student enrolled in a graduate program at another university who wishes to complete courses at Memorial University of Newfoundland for transfer of credit to his/her home institution is not considered to be a visiting research student under this definition. Such students should apply to the Office of the Registrar for admission to the University, and if admitted, will be governed by **GENERAL ACADEMIC REGULATIONS**. Fees will be assessed in accordance with the fee schedule for undergraduate courses as indicated under the **UNIVERSITY REGULATIONS - Fees and Charges** in the University Calendar.*

2.3.10 Program

1. A program, whether it comprises courses only, courses and comprehensive examination, or courses, internship, project, thesis research, paper folio is defined for each graduate student in accordance with Departmental and University Regulations. Each program of study is recommended by the appropriate academic unit, and must be approved in writing by the Dean of Graduate Studies before the beginning of the graduate student's second year of study.
2. Responsibility for the administration of the program shall rest with the Dean acting on behalf of the School.

Note: The following general statements concerning admission and Degree requirements should be supplemented by the detailed regulations governing each program.

2.3.11 Double Degree Programs

1. Memorial University of Newfoundland offers graduate students the opportunity to carry out a joint research project through a cotutelle agreement between Memorial University of Newfoundland and another recognized institution. The student would be expected to participate in research and fulfill degree requirements at both institutions. Students who successfully complete all program requirements would earn doctoral degrees from both institutions. Memorial University of Newfoundland's Guidelines for Cotutelle Agreements, approved by the Academic Council of the School of Graduate Studies, provides information on the details on the method of establishing such an agreement and program.
2. Upon successful completion of the program, Memorial University of Newfoundland and the cooperating institution will each issue its own doctoral degree certificate. On the certificate and subsequently on the university transcript, the following notation will be added: "This Ph.D. was awarded within a cotutelle agreement. The student was jointly enrolled at University XYZ and Memorial University of Newfoundland and successfully completed the degree requirements of both institutions."
3. Graduate students interested in this type of program should contact the School of Graduate Studies for further information.

3 General Regulations

3.1 Qualifications for Admission

3.1.1 Graduate Diploma Programs

To be considered for admission to a Graduate Diploma program, the minimum requirements will normally be a second-class degree from a university of recognized standing, in an appropriate area of study.

A candidate admitted to a Graduate Diploma program, who has demonstrated to the satisfaction of the Faculty/School/Department concerned their ability to pursue research at the master's level, may be permitted subsequently to transfer his/her candidature to that of a master's in the affiliated program area and will thereafter be awarded only the master's at the end of his/her candidature.

3.1.2 Master's Programs

To be considered for admission to a Master's program, the minimum requirements will normally be a second-class degree from a university of recognized standing, in an appropriate area of study.

3.1.3 Ph.D. and Psy.D. Programs

1. To be considered for admission to a Ph.D. program, the minimum requirements will normally be a Master's degree from a university of recognized standing, in an appropriate area of study. Other students may be considered for admission to a Ph.D. program provided that:
 - a. they have been registered in a Master's program for a minimum of 12 months, and have demonstrated to the satisfaction of the Faculty/School/Department concerned their ability to pursue research at the Doctoral level. Such transfer should take place no later than the 5th semester of the student's Master's program as indicated under **UNIVERSITY REGULATIONS - Fees and Charges** in the University Calendar; or
 - b. they hold a Bachelor's Degree with Honours, or equivalent, from a university of recognized standing, and that the Faculty/School/Department is satisfied of the students' ability to pursue research at the Doctoral level.
2. To be considered for admission to the Psy.D. program, the minimum requirements will normally be an undergraduate honours degree in Psychology that includes senior courses as indicated under the **Regulations Governing the Degree of Doctor of Psychology**.

3.1.4 Applicants Not Meeting Qualifications

Only in exceptional circumstances, and only upon the recommendation of the Faculty/School/Department concerned, will the Dean consider applicants who do not meet the requirements outlined above under **Qualifications for Admission**.

3.1.5 English Proficiency Requirements

Since English is the primary language of instruction at this University, all applicants seeking admission to the School of Graduate Studies must possess an adequate knowledge of written and spoken English as a prerequisite to admission. Regardless of country of origin or of citizenship status, applicants will be required to demonstrate proficiency in the English language. This demonstration may take one of the following forms:

1. Successful completion of the equivalent of three years of full-time instruction in an English language secondary institution as recognized by Memorial University of Newfoundland including successful completion of at least two courses in English Language and/or Literature at the Grade XII (or equivalent) level. Please note that these courses must be other than English as a Second Language (E.S.L.) courses.
2. Successful completion of a baccalaureate degree from a recognized University where English is the language of instruction and from

which transfer of credit may be allowed by Memorial University of Newfoundland.

3. Successful completion of a post-graduate degree program at a recognized University where English is the language of instruction and from which transfer of credit may be allowed by Memorial University of Newfoundland.
4. Submission of official results of the Test of English as a Foreign Language (TOEFL) with a paper-based score of 550 (or higher)/computer-based score of 213 (or higher) or Internet-based with a score of 80 (or higher) and the Test of Written English (TWE) with a score of 4 (or higher).
5. Submission of the official results of the Michigan Test of English Proficiency with a score of 85% (or higher).
6. Submission of the official results of the English Language Testing Service (ELTS) Test with an average band score of 6.5 or higher.
7. Submission of official results of the Carleton Academic English Language (CAEL) Assessment with a minimum score of between 50 and 60 in each of four bands, with at least 2 band scores of 60.
8. Submission of official results of the Canadian Test of English for Scholars and Trainees (CanTEST) with a Band Level 4.5 in the listening comprehension and reading comprehension sub-tests and a score of 4 in writing.
9. Only in exceptional circumstances and only upon the recommendation of the Department/Faculty/School concerned, will the Dean consider applicants who do not meet one of the requirements listed in 1-8 above.

3.1.6 Additional Requirements

Particular Departments/Faculties/Schools may require greater strength in English communicative skills than is indicated by the achievement of minimum scores outlined in 4., 5., 6., 7., and 8. above. Any such additional requirements are detailed in the appropriate section of the Calendar.

3.1.7 English Language Requirements Subsequent to Admission

1. Students who have been admitted under **English Proficiency Requirements**, Clauses 4. - 8. above, will be required to take an English language placement test on arrival at Memorial University of Newfoundland. On the basis of the test results, students may be required to complete successfully a course of language study designed to bring their English, in any or all of listening, speaking, reading, and writing, to a level required for graduate studies. A final assessment of the students' proficiency in these areas will normally be made no later than the end of the third semester following their first registration in the School of Graduate Studies. As a result of this assessment, and in consultation with the student's academic unit and the Department of English Language and Literature, there may be a recommendation for termination of the student's program.
2. Notwithstanding **Additional Requirements** above, if a student's Department is not satisfied with the student's ability to communicate in English, then the student may be required to complete successfully the relevant component(s) of the course of study referred to in **Additional Requirements**. The Department will be required to take this action within three semesters of the student's admission to a graduate program. At the end of this period the Department may recommend, but not require this procedure.

Note: Information regarding the TOEFL program is available on-line at www.toeflgoanywhere.org/. Information regarding the Michigan Test of English is available on-line at www.michigan-test.com. Information regarding the ELTS Test is available on-line at www.ielts.org.

3.1.8 Foreign Degree Transcripts

Students who have completed undergraduate programs at universities which issue documents in languages other than English or French shall submit notarized English translations of all supporting documentation, including, but not limited to, transcripts, degrees, and diplomas.

3.2 Procedure for Admission

1. Application for admission to graduate studies must be made online to the School of Graduate Studies at www.mun.ca/become/graduate/apply/. The application must be supported by an official transcript of the applicant's university record. If the applicant is a graduate of another university or college, a copy of the Calendar of that institution must be included upon request.
Most graduate programs have September start dates; however, some programs accept students for January and/or May admission. Deadlines for submission of applications can be as early as November for the following September; therefore, applicants should inquire about program start dates and application deadlines of the academic program of interest (see www.mun.ca/become/graduate/). Non-Canadian applicants should allow four to six months for processing of official documents with Immigration authorities.
2. Admission to graduate studies shall be upon acceptance by the Dean after assessment of the qualifications of the applicant but no candidate will be admitted unless the academic unit of specialization recommends acceptance along with a proposed program of study and a proposed Supervisor or advisor or, where appropriate, a tutor. Successful applicants will be notified by the Dean of Graduate Studies.
3. The applicant may be required to appear for an interview before a final offer of admission is made.
4. It is recommended that the applicant refer to the appropriate section of this Calendar to ascertain if additional testing information or documentation is required when making initial application.
5. The University reserves the right to refuse admission to any applicant.

3.3 Registration

3.3.1 Program Registration

1. All graduate students must be registered in each semester for the graduate program registration appropriate to their discipline (see note) until all academic requirements for the degree have been met, except during periods for which leaves of absence have been granted (see **Leaves of Absence**).

Note: e.g., Linguistics 9000, Chemistry 9000 or, in the case of Medicine, Medicine 9900.

2. A student registered in a graduate diploma, Master's, Ph.D., or Psy.D. program may not concurrently pursue studies leading to any other degree without the prior approval of the Dean.

3.3.2 Program Withdrawal

Students intending to withdraw from their program must inform the Dean of Graduate Studies in writing. The period of withdrawal from a program without incurring liability for that semester's fees is three weeks after the first day of lectures in the semester in question, as

stated in the **University Diary**. Requests received after the end of the regular registration period, and approved, will be charged an administration fee (see **Fees and Charges**).

3.3.3 Course Registration

Note: *For interdisciplinary programs, the Head of the academic unit is the Dean or Director of the Faculty/School administering the program.*

1. Students will register for courses at the times indicated in the **University Diary**.
2. Students not admitted to a graduate program may enroll in graduate courses with the permission of the Head of the appropriate academic unit.

3.3.4 Changes in Course Registrations

Note: *For interdisciplinary programs, the Head of the academic unit is the Dean or Director of the Faculty/School administering the program.*

1. Within two weeks following the first day of lectures in any semester, as stated in the **University Diary**, a graduate student may, upon the approval of the appropriate Head of academic unit, add a course or courses to his or her registration for that semester.
2. Within seven weeks after the first day of lectures in any semester, as stated in the **University Diary**, a graduate student may, upon the approval of the appropriate Head of academic unit, drop a course or courses from his or her registration for that semester without prejudice.
3. After the period described in 2. above has expired, and up until the last day of lectures, any student who is prevented from completing a course by illness, bereavement or other acceptable cause, duly authenticated in writing may, upon the recommendation of the Head of the appropriate academic unit, drop that course without academic prejudice.

Note: *A course cannot be dropped after the last day of lectures without the approval of the Dean of Graduate Studies.*

3.3.5 Period of Study

1. Each student in graduate studies shall spend such time in the program as decided by the academic unit of specialization and approved by the Dean, and be subject to the following minimum residency.
 - a. Except where provided for elsewhere in this calendar, each student for a Master's Degree shall normally spend at least two semesters in residence as a graduate student at this University.
 - b. Except where provided for elsewhere in this calendar, each student for a Ph.D. or Psy.D. shall normally spend at least three semesters in residence as a graduate student at this University.
 To be resident as a graduate student of this university a student must be registered as a graduate student at Memorial University of Newfoundland and participate in a community of learners and instructors (formally or informally) who are joined together by the practices and standards of a profession or an academic discipline. For most students this will involve taking courses or engaging in research while resident on campus. These attributes may, however, be found elsewhere and it is possible therefore that the residency requirement may be satisfied in an off campus location. In such cases the Dean of Graduate Studies must be satisfied that the attributes are met.
 - c. Except where provided for elsewhere in this Calendar, each student for a graduate diploma shall normally spend at least one semester in residence as a graduate student at this University.
2. The maximum period of a graduate program shall be seven years beyond first registration.

3.3.6 Leaves of Absence

3.3.6.1 General

1. A leave of absence is a period of time during which a student is not required to register; no fees are assessed; and the time granted is not counted in the maximum time period permitted for a graduate program (see **Period of Study**).
2. In the event that circumstances prevent a student from pursuing his/her program, the student may apply to the Dean of Graduate Studies for a leave of absence.
3. A student may normally apply for only one leave of absence during his/her program. The maximum leave of absence shall normally not exceed 12 months.
4. An application for leave will normally be made before the end of the registration period in the first semester for which leave is requested. Requests received after the end of the regular registration period, and approved, will be charged an administration fee (see **Fees and Charges**).

3.3.6.2 Parental

A student may apply for a leave of absence in the case of pregnancy/birth/adoption of a child. (Such leave will be considered separately from 3. above.)

3.4 Program Requirements

Note: *Every candidate shall complete a program of study as recommended by the Head of the academic unit, in consultation with the Supervisory Committee and approved by the Dean of Graduate Studies. See **Procedure For Admission**, Clause 2.*

3.4.1 Graduate Diploma and Master's Programs

1. Candidates should consult the appropriate Degree and Department/Faculty/School regulations for information concerning the specific program requirements.
2. Graduate diploma programs shall not normally comprise more than 50% of the master's in the same area.

3.4.2 Ph.D. and Psy.D. Programs

1. Each candidate is required to pass a comprehensive examination (see **Comprehensive Examinations, Ph.D. and Psy.D. Comprehensive Examination**).
2. Each candidate shall present a thesis embodying the results of original research.
3. Candidates should consult the appropriate Department/Faculty/School regulations for information concerning the number and specific credit hours that may be required for a program.

- Candidates may pursue a specified part of their research elsewhere provided that prior permission has been obtained from the Dean on the recommendation of the Head of the academic unit in consultation with the Supervisory Committee.

3.4.3 English Writing Requirement

Given the analytical and scholarly demands of study at the graduate level, graduate students are expected to demonstrate an advanced facility with written English in meeting the demands of their course work and, where applicable, in the writing of any end-of-program research report, folio, comprehensive examination, or thesis.

3.4.4 Changes in Programs

Any changes in the candidates's program of studies must be approved by the Dean of Graduate Studies on the recommendation of the appropriate academic unit.

3.4.5 Research Involving Animals

The Animal Care Service Department offers a seminar in animal care at least once annually. The seminar is administered by the School of Graduate Studies. All graduate students whose degree requirements involve experimentation on living vertebrate animals are required to attend this seminar normally at the first offering following commencement of their program.

3.4.6 Graduate Student Conduct

All graduate students shall adhere to Memorial University's policies and guidelines relating to academic scholarship, integrity and ethical conduct informing the design, conduct, and reporting of responsible research.

3.4.7 Year of Degree and Departmental Regulations

- A student completing a graduate degree program in the School of Graduate Studies will follow the degree and Faculty/School/Department regulations in effect in the year in which the student first registers for his/her current program. However, students may elect to follow regulations introduced subsequent to their initial registration.

Note: The foregoing notwithstanding, in the case of students who have submitted a thesis/report/folio, or students in a non-thesis program who have taken a comprehensive examination, the option of changing regulations is no longer available.

- When there is doubt as to which degree or Departmental regulations may be followed, the Academic Council of the School of Graduate Studies will decide which are the appropriate regulations.
- Notwithstanding these guidelines, the University may place limits on the time permitted to complete a program under any given set of regulations. In addition, detailed scheduling of courses and/or work periods may be changed as the University deems appropriate or necessary.

3.4.8 Transfer of Course Credits

All such transfers require the approval of the Dean of Graduate Studies, on the recommendation of the Head of the appropriate academic unit.

- A student who has successfully completed graduate courses at Memorial University of Newfoundland prior to admission to a graduate program may apply to transfer appropriate courses to that program, provided such courses have not been used to satisfy other Degree requirements.
- A student who has successfully completed graduate courses as part of one graduate program at Memorial University of Newfoundland, and who is subsequently admitted to another program, may apply to transfer appropriate courses to the current program, provided such courses have not been used to satisfy other Degree requirements.
- A student who has successfully completed graduate courses at another institution recognized by Senate may, on admission to a graduate program at Memorial University of Newfoundland, apply to transfer appropriate courses to the current program, provided such courses have not been used to satisfy other Degree requirements.
- Students who successfully complete a graduate diploma program may transfer the course credits earned in that program towards a master's degree if these credits meet the requirements of the master's in the affiliated area in which the graduate diploma was granted.

Affiliated Master's programs for graduate diploma programs currently offered by the School of Graduate Studies are as follows:

Medicine

Graduate Diploma in Clinical Epidemiology - Master of Science in Medicine (Clinical Epidemiology)

Graduate Diploma in Community Health - Master of Science in Medicine (Community Health) and Master of Public Health

Education

Graduate Diploma in Post-Secondary Studies (Health Professional Education) - Master of Education (Post-Secondary Studies)

Marine Studies

Graduate Diploma in Fisheries Resource Management - Master of Marine Studies (Fisheries Resource Management)

- In programs requiring a minimum of 12 credit hours or more, transfer of credit hours in graduate courses referred to in 1., 2., and 3. above shall not exceed 30% of the total number of credit hours required. In programs requiring fewer than 12 credit hours, a maximum of 3 credit hours in graduate courses referred to in 1., 2., and 3. above shall be considered eligible for transfer.
- Graduate courses referred to in 1., 2., 3., and 4. above shall not be considered eligible for transfer if they have been completed more than seven years prior to the date of admission into the current program.

3.5 Provision for Waiver of Regulations

Academic regulations notwithstanding, the University reserves the right in special circumstances, to modify, alter or waive any regulation in its application to individual students where, in the judgement of the appropriate University Officer or Committee, there is sufficient justification for doing so.

- Waivers of course prerequisites/co-requisites may be granted by the Head of an academic unit.
- Waivers of Departmental regulations may be granted by the Dean of Graduate Studies on the recommendation of the Head of an

academic unit.

- Requests for waiver of a degree or general regulation must be submitted to the Academic Council of the School of Graduate Studies.

3.6 Appeal of Regulations

3.6.1 General Information

- Every graduate student has the right to appeal decisions resulting from the application of University regulations.
- Appeals will be considered in the case of health issues, bereavement and/or other acceptable cause, duly authenticated.
- For assistance in the appeals process, students are advised to consult with the School of Graduate Studies.
- In preparing an appeal a student may consult advisors or facilitators. Such advisors or facilitators may include an international advisor, a faculty advisor, a counsellor, a representative from the Memorial University of Newfoundland Graduate Students' Union (GSU) or a faculty member who is familiar with the appeals process and who is willing to undertake the role of student advisor or facilitator.
- Appeals are made before specific committees that exist at the University to provide an objective review of cases. The appeals process is designed to assist students at critical points in their graduate program and to provide an accessible and transparent process for students. Refer also to **Appeal Procedures** for information concerning where appeals should be directed.
- The principle of fairness should be applied to all parties in appeals processes and decisions. Fairness includes, but is not limited to, such practices as all parties to the appeal receiving timely and adequate notice, all parties to the appeal having the opportunity to be heard, all parties to the appeal being made aware of the evidence considered by the committee, and no individual sitting in judgment on an appeal at a higher level who has already been a party to the decision at a lower level. Any member of a committee hearing an appeal, who was previously involved in a decision making process at a lower level of process, will abstain from voting.
- While the University makes provision for students to appeal regulations, the academic, financial or other consequences of the appeal process rests with the students.
- When an appeal is denied, the student will be advised in writing of the reasons for the decision and of further steps that can be taken in the appeals process. A student whose appeal is denied by the Executive Committee of Senate may appeal to the Senate. Appeals to the Senate will be heard in the first instance by the Senate Committee on Academic Appeals and that Committee will investigate the appeal and file a report to the Senate with its findings and recommendations as expeditiously as possible. Students have the right to appear in person before the Senate Committee on Academic Appeals, and have the right to be accompanied by another person in order to assist them with their presentation. Normally, however, the presentation of the student's case rests with the student. Advance notice of the student's intention to appear and the identity of the accompanying individual, if any, must be provided to the Secretary of the Senate Committee on Academic Appeals. Should the student's appeal be denied by the Senate, the student will be advised that within the University no further appeal is possible.
- Student appeals are heard anonymously. However, this provision ceases to apply to a student who elects to appear in person before the Senate Committee on Academic Appeals as outlined in Clause 8 above.

3.6.2 Appeal Procedures

- Normally, the responsibility for making an appeal before the appropriate committee of the University rests with the student.
- A student who is ineligible to officially register for courses but who wishes to attend classes, laboratories or other educational activities while an appeal is in progress can do so only with the written permission of the head of the academic unit concerned. Such permission will not be unnecessarily withheld.
- Any student whose request for waiver of regulations has been denied has the right to appeal. Normally, any such appeal should be made in writing, clearly stating the basis for the appeal, and should be directed as follows:
 - Appeals against decisions of the Head of an Academic Unit will be made directly to the Dean of Graduate Studies.
 - Appeals against decisions of the Dean may be made to the Appeals Committee, School of Graduate Studies. Letters of appeal should be directed to the Chair of the Appeals Committee, c/o School of Graduate Studies.
 - Appeals against decisions of the Executive Committee of the Academic Council may be made to the Appeals Committee, School of Graduate Studies. Letters of appeal should be directed to the Chair of the Appeals Committee, c/o School of Graduate Studies.
 - Appeals against decisions of the Appeals Committee, School of Graduate Studies, may be made to the Executive Committee of Senate, c/o Office of the Registrar.
- Appeals cannot be made on the basis of the grades awarded in individual courses. Dissatisfaction with grades is not sufficient grounds for an appeal.

Notwithstanding the above, and recognizing that the award of grades is an academic manner within the purview of experts in a discipline or subject area, students who wish to question the award of grades in individual courses are encouraged to consult with the following in the order given:

- The course instructor
- The Head of the appropriate academic unit
- The Dean of Graduate Studies

3.6.3 Information Required in Letters of Appeal

- All appeals must be made in writing, clearly stating the basis for the appeal, and must be directed to the secretary of the appropriate University committee.
- In the Letter of Appeal, the student must clearly and fully provide: name, current address, telephone number, Memorial University of Newfoundland email address, student ID number, the decision being appealed and the remedy being sought. The grounds for the appeal, including health issues, bereavement and/or other acceptable cause, must be stated in the Letter of Appeal. Students must present independent evidence to corroborate statements made in the Letter of Appeal. Preferably, this evidence will come from a professional, such as a health professional, a counsellor, or a professor. However letters from other knowledgeable parties may be acceptable.
- In cases where an appeal is made on health issues, the student must provide a certificate from a health professional in the form of a note or a letter. Such a note must be sufficiently specific to allow appropriate consideration of the student's case. The note must also

clearly state that, in the opinion of the health professional, the problem was serious enough to have interfered with the student's work. Students should refer to the policy respecting **Information Required for Certificates from Health Professionals** for more complete information.

4. Students claiming bereavement as grounds must provide proof of death and evidence of a close personal relationship between themselves and the deceased.
5. **Confidentiality:** The committees to which appeals are made do require substantial information about the reasons for the appeal in order to make their decisions. However, the committees also recognize the students' rights to confidentiality. With this in mind, a student may discuss the reasons for his or her appeal with a University, College or Institute counsellor, who, with the student's permission and provided sufficient reasons exist, may then write a letter to the appropriate committee confirming that there were sufficient grounds for an appeal, without disclosing the special personal and confidential details of the case.

3.6.4 Information Required for Certificates from Health Professionals

1. Students who request permission to drop courses, to withdraw from University studies, to have examinations deferred or to obtain other waivers of University, departmental or course regulations based on health issues are required by the University to provide, in support of the request, a certificate from a health professional in the form of a note or letter. Such notes must be sufficiently specific to allow a proper consideration of students' cases. The University requires that all such notes must be on letterhead, must be signed by the health professional, must confirm the specific dates on which the student visited the health professional and should include details on the following:
 - the degree to which the health issue (or treatment, in the case of medication, for example) is likely to have affected the student's ability to study, attend classes, sit examinations, or continue with research;
 - the length of time over which the student's abilities were likely hampered by the condition (e.g., recurring and severe back pain over a two-month period would likely have a more adverse effect on studies than a single episode of back pain requiring bed rest for a week; and
 - the fitness of the student to resume studies (it is in the student's best interest not to return to studies prematurely).
2. **Confidentiality:** The University respects the confidentiality of all material contained in notes. Student should request that their health professional retain a copy of the note in case the note needs to be verified or reissued at a later date.

3.7 Evaluation

Note: For interdisciplinary programs, the Head of the academic unit is the Dean or Director of the Faculty/School administering the program.

3.7.1 Evaluation Methods and Grading

1. Students shall write their examinations in graduate courses at a time to be determined by the Head of the academic unit on the recommendation of the Faculty member(s) concerned.
2. A written copy of the course outline, including method of evaluation in the course, shall be provided to each student in the course as early as possible, and in any case not later than two weeks after the start of the course.
3. The final evaluation submitted to the Registrar shall consist of one of the following letter grades with the appropriate numerical equivalent:

Letter Grades	Numeric Grades	Points Per Credit Hour
A	80-100%	4
B	65-79%	3
C	55-64%	2
D	50-54%	1
F	below 50%	0
PWD (pass with distinction) - indicates excellent performance	no numeric grade	not applicable
PAS (pass) - indicates performance meets expectations	no numeric grade	not applicable
FAL (fail) - indicates failing performance	no numeric grade	not applicable
DR (drop) - drop without academic prejudice	no numeric grade	not applicable
DRF (drop fail) - drop with academic prejudice	0%	0
ABS (absent) - absent for acceptable cause	no numeric grade	not applicable
INC (incomplete) - incomplete pending final grade	no numeric grade	not applicable

4. Supplementary examinations are not permitted.

3.7.2 Evaluation of Graduate Students

1. Failure to attain a final passing grade of A or B in a program course shall lead to termination of a student's program unless:
 - a. the regulations for a particular degree allow the student to repeat the course. Only one such repeat will be permitted in a student's program. Failure to obtain a grade of A or B in the repeated course shall lead to termination of the student's program.
 - b. the Dean of Graduate Studies approves a repeat of the course, upon the recommendation of the Supervisor and the Supervisory Committee supported by the Head of the Academic Unit, where 1.a. above does not apply. Such recommendations must provide sufficient grounds for a repeat. Only one such repeat will be permitted in a student's program. Failure to obtain a grade of A or B in the repeated course shall lead to termination of the student's program.

Note: In exceptional circumstances, the Dean of Graduate Studies may approve a substitute course in place of the repeat upon the recommendation of the Supervisory Committee and Supervisor supported by the Head of the Academic Unit. Failure to obtain a grade of A or B in the substituted course shall lead to termination of the student's program.

2. Failure in a non-program course will not normally result in termination of a student's program.

3. The Supervisor and the Supervisory Committee may recommend that a candidate be required to withdraw from the program, if after consultation with the candidate, the candidate's non-course work is deemed to have fallen below a satisfactory level.
4. When Departmental requirements for a degree requires an examination of a candidate's reading knowledge of a language(s) other than English, the examination shall be set and marked by the appropriate language Department, or by an authority as determined by the Head of the academic unit and Dean. The results of the examination will be transmitted to the candidate by the Dean.

3.7.3 Deferral of Examinations

1. Graduate students who are prevented by illness, bereavement or other acceptable cause, duly authenticated, from writing final examinations may apply, with supporting documents within one week of the original examination date to the appropriate Head of the academic unit to have their examinations deferred.
2. The Department's decision, including information on the appeals route open to the student in the case of a negative decision, must be communicated in writing to the student and to the Dean of Graduate Studies within one week of the receipt of the student's complete application.
3. In those cases where the Department accepts the extenuating circumstances the student may be permitted to write a deferred examination or, with the consent of both the Department and the student, the grade submitted may be based on term work alone.
4. An interim grade of 'ABS' will be assigned by the academic unit in the case of a student granted a deferred examination. This grade will be replaced by the final grade which must be received by the Office of the Registrar within one week following the commencement of classes in the next academic semester or session.
5. Students who are prevented by illness or bereavement or other acceptable cause, duly authenticated, from writing a deferred examination, may apply, in writing, with supporting documents within one week of the scheduled date of the deferred examination to the appropriate Department Head to have the examination postponed to a time not later than the last date for examinations in the semester following that in which the student was enrolled in the course.
6. The Department's decision, including information on the appeals route open to the student in the case of a negative decision, must be communicated to the Registrar, to the student and to the Dean of Graduate Studies within one week of the receipt of the student's complete application.

3.7.4 Incomplete Grades/Change of Grade

1. For good cause a grade of 'Incomplete' may, with the approval of the appropriate Department or academic unit, be submitted. This 'Incomplete' grade shall, however, be valid only for one week following the commencement of classes in the next academic session as stated in the **University Diary**. In the event that a mark has not been received by the Registrar within the prescribed deadline, the 'Incomplete' grade shall be changed to '0 F'.
2. Clause 1. notwithstanding, for acceptable cause an extension of time not exceeding the end of the semester following that in which the 'Incomplete' was given may be permitted by the Head of the academic unit. "Acceptable cause" in these cases must be duly authenticated and will be illness, bereavement, serious problems of a personal nature or the like.
3. Changes in grades for graduate courses must be submitted on the appropriate form, which must be signed by the course instructor and approved by the Head of the appropriate academic unit who will submit such changes to the Registrar.

Note: A grade of less than 65% cannot be changed without the approval of the Dean of Graduate Studies.

3.7.5 Re-Reading of Examination Papers

1. Students may apply to have a final examination paper re-read whether or not they have obtained a passing grade in that course.
2. Students who wish to have a final examination paper re-read must make written application to the Registrar enclosing a fee of \$50.00 per paper within one month of the release by the University of the grade reports. If the mark is raised after re-reading, the fee is refunded. If the mark is unchanged or lowered, the fee is forfeited.

3.8 Comprehensive Examinations

3.8.1 Master's Comprehensive Examination

1. The composition of the Comprehensive Examination Committee is specified in the Degree and Departmental regulations, and the Committee is appointed by the Dean. The Dean of Graduate Studies or delegate may exercise the right to attend. All members of the Committee including the Chairperson, but excluding the Dean of Graduate Studies, shall be voting members.
2. In this examination the candidates must demonstrate an advanced knowledge of the academic discipline as defined by the academic unit in which they are students. Therefore, in order to be eligible to sit the examination, all course requirements must be completed.
3. Members of the Comprehensive Examination Committee shall decide the results of the comprehensive examination as indicated in a.-d. below:
 - a. The category of 'pass with distinction' will be awarded to candidates who demonstrate superior knowledge of their chosen field. This category requires unanimous support of the Comprehensive Examination Committee.
 - b. The category of 'pass' will be awarded to candidates who demonstrate an acceptable knowledge of their chosen area and requires a simple majority vote.
 - c. The category of 're-examination' selects those candidates with an understanding of their research area that lacks sufficient depth and scope as indicated by a simple majority of the Comprehensive Examination Committee. Only one such re-examination is possible and students in this category are not eligible for the award of 'pass with distinction'. If a re-examination is to be held, it must be conducted not less than one month and not more than six months after the first examination. The decision of the voting members of the Committee following this re-examination can only be 'pass' or 'fail' decided by simple majority. Failure will lead to immediate termination of the candidate's program. There is no option for further re-examination.
 - d. Students awarded a 'fail' are deemed, by unanimous vote of the Comprehensive Examination Committee, to be unable to demonstrate an adequate understanding of their research area. The candidate's program is terminated. A simple majority vote will default to the award of 're-examination'.
4. The Chairperson of the Comprehensive Examination Committee shall report to the Head of the academic unit who shall report to the Dean. The result of the comprehensive examination(s) shall be reported to the candidate by the Dean.

3.8.2 Ph.D. and Psy.D. Comprehensive Examination

1. The candidate shall submit to a comprehensive examination, which may be written or oral or both as determined by the academic

unit. Candidates shall normally take the examination no later than the end of the seventh semester in the doctoral program. Unless an extension is approved by the Dean of Graduate Studies, failure to take the examination at this time will result in the termination of the candidate's program.

2. This examination, whether written or oral, shall be conducted by a Committee appointed by the Dean of Graduate Studies on the recommendation of the academic unit. It shall consist of the Head of the academic unit (or delegate) who shall be the Chairperson, the candidate's Supervisor [or, where a Supervisor has not yet been appointed, the Graduate Officer or Chair of the Graduate Studies (or equivalent) Committee], the Dean of Graduate Studies (or delegate), and at least three other members, the total voting members to be an odd number. All members of the Committee including the Chairperson, but excluding the Dean of Graduate Studies, shall be voting members.
3. In this examination, the candidate must demonstrate a mastery of those sub-disciplines appropriate to his/her research area, as defined by the academic unit in which he or she is a student. Those sub-disciplines upon which the candidate will be examined should be made known to the candidate no later than three months prior to the examination. The candidate must further be able to relate the specialization of his/her research to the larger context of these sub-disciplines.
4. Members of the Comprehensive Examination Committee shall decide the results of the comprehensive examination as indicated in a.-d. below:
 - a. The category of 'pass with distinction' will be awarded to candidates who demonstrate superior knowledge of their chosen field. This category requires unanimous support of the Comprehensive Examination Committee.
 - b. The category of 'pass' will be awarded to candidates who demonstrate an acceptable knowledge of their chosen area and requires a simple majority vote.
 - c. The category of 're-examination' selects those candidates with an understanding of their research area that lacks sufficient depth and scope as indicated by a simple majority of the Comprehensive Examination Committee. Only one such re-examination is possible and students in this category are not eligible for the award of 'pass with distinction'. If a re-examination is to be held, it must be conducted not less than one month and not more than six months after the first examination. The decision of the voting members of the Committee following this re-examination can only be 'pass' or 'fail' decided by simple majority. Failure will lead to immediate termination of the candidate's program. There is no option for further re-examination.
 - d. Students awarded a 'fail' are deemed, by unanimous vote of the Comprehensive Examination Committee, to be unable to demonstrate an adequate understanding of their research area. The candidate's program is terminated. A simple majority vote will default to the award of 're-examination'.
5. The Chairperson of the Comprehensive Examination Committee shall report to the Head of the academic unit who shall report to the Dean. The result of the comprehensive examination(s) shall be reported to the candidate by the Dean.

3.9 Supervision

3.9.1 Master's Candidates

Each Master's candidate shall be assigned a Supervisor by the Dean, on the recommendation of the Head of the academic unit, or the Dean of the faculty concerned.

3.9.2 Ph.D. and Psy.D. Candidates

1. Each candidate shall be assigned a Supervisor by the Dean, on the recommendation of the Head of the academic unit or the Dean of the faculty concerned.
2. A Supervisory Committee shall be appointed for each candidate by the Dean. The Supervisory Committee shall consist of the Supervisor (co-supervisors) who shall act as Chair, and normally at least two other members. In no circumstances may the Committee membership be fewer than two members. The membership of the Committee shall be nominated by the Head of the Department or the Dean of the faculty concerned, after consultation with the Supervisor and the candidate.
3. The Supervisory Committee shall forward its reports and recommendations to the Dean via the Head of the Department or the Dean of the faculty concerned.
4. The functions of the Supervisory Committee shall be, *inter alia*,
 - a. to decide, in consultation with candidates, the program of study, the subject of research, and the title of the thesis, and to recommend these for approval to the Dean;
 - b. to monitor the candidate's progress in their course programs and their research;
 - c. to report at least annually to the Dean on the candidates' progress and, at the same time, to advise on their continuation in the program; and to make such other reports and recommendations about the candidates to the Dean as it may deem necessary.
 - d. to recommend to the Dean, after consultation with the candidates, necessary changes in the program of study, the subject of research, or the title of the thesis;
 - e. to recommend to the Head of the academic unit or Dean of the faculty the timing of the comprehensive examination;
 - f. to report to the Dean that the thesis is ready for examination by completing a Supervisor Approval Form, which is to accompany the thesis upon its submission to the School of Graduate Studies; and
 - g. to recommend to the Dean suitable persons to act as members of the Thesis Examining Board.

3.9.3 Supervisory Reports

1. At least annually, the Supervisor, Supervisory Committee or the Department shall make evaluations of a student's progress in a program. Recommendations concerning continuation, amendment, or termination (see **Termination of a Graduate Program**) of a candidate's program, are sent to the Dean, who shall take appropriate action. Students shall be advised of the contents of this evaluation and the subsequent recommendation(s).
2. The Supervisor, Supervisory Committee or the Department, shall forward its reports and recommendations to the Dean via the Head of the academic unit or the Dean of the faculty concerned.

3.10 Theses and Reports

3.10.1 Thesis/Report Guide Supplement

The Thesis/Report Guide Supplement (www.mun.ca/sgs/go/guid_policies/guidelines_intro.php), approved by the Academic Council of

the School of Graduate Studies, provides the details for the examination process, general form and style of the thesis/report, required forms, number of copies, etc., required under this regulation.

3.10.2 Submission

1. Candidates must submit the thesis/report at least four months before the University Convocation at which the award of the Degree is expected (see **University Diary** in current edition of University Calendar for exact date). The School of Graduate Studies does not accept any responsibility for completing the prescribed procedure in time for the nearest Convocation unless theses or reports are submitted by the prescribed dates in any current academic year.
2. A thesis/report may not be submitted until the candidate has fulfilled:
 - a. All course requirements, if any
 - b. All language requirements, if any
 - c. The comprehensive examination, if required, and
 - d. All other academic requirements of the academic unit concerned.

3.10.3 Evaluation of Master's Theses and Reports

1. Final examiners for the thesis/report will be appointed by the Dean on the recommendation of the academic unit. There will be two examiners for a Master's thesis. Examiners shall normally be those who have completed a graduate degree at the doctoral level, including a thesis, in the discipline or cognate area. Those serving as examiners shall not have been involved in the preparation of the thesis/report.
2. Examination of the thesis/report will result in one of the following recommendations by each examiner. The thesis/report is:
 - a. acceptable without modifications; or
 - b. acceptable, modifications are required but the thesis does not have to be re-examined*; or
 - c. unacceptable, the thesis/report requires modification and re-examination**; or
 - d. totally unacceptable, the thesis/report is failed.***

*Modifications may include corrections of typographical errors and errors in nomenclature, improvement in phrasing, or rewriting of sections of the thesis/report. Modifications may be indicated in the text or listed separately;

**Modifications might include (but are not limited to) the rectification of one or more of the following deficiencies: (1) misinterpretation and/or misuse of the matter covered, omission of relevant materials, unfounded conclusions, illogicality of argument, improper analysis of data and the like, (2) bad writing, (3) unacceptable physical presentation. A detailed list of problems should be included with the report;

***A detailed list of the reason(s) for failure must be included in the report.

3. If all examiners recommend that the thesis/report is totally unacceptable, then the thesis will be failed, and shall not be re-examined.
4. If an examiner recommends that the thesis/report is unacceptable, and this recommendation is accepted by the Dean, then the student may apply to the Dean for permission to resubmit the thesis for re-examination in one of the following ways:
 - a. to submit a modified thesis/report to the original examiners.
 - b. to submit a modified thesis/report to new examiners.
 - c. to submit the original thesis/report to an Examination Board to be appointed by the Dean.
5. If a thesis/report is re-examined, the candidate will not be awarded a pass unless all examiners find the thesis acceptable.
6. Under no circumstances may a thesis/report be re-examined more than once.

3.10.4 Evaluation of Ph.D. and Psy.D. Theses

Candidates for the Degree of Doctor of Philosophy and the Degree of Doctor of Psychology must submit a written dissertation deemed acceptable by the University, and demonstrate their ability to defend their work in a public oral examination. For this reason, the final decision on whether a candidate will be recommended for the award of the degree is made only at the conclusion of the oral examination (see **The Examination Process**).

1. Responsibilities of the Thesis Examining Board

The work of each candidate will be assessed by a Thesis Examining Board. Its first responsibility is to determine whether the thesis successfully demonstrates the candidate's competence to undertake independent research work. The Board must be satisfied that the work contributes significantly to knowledge in the field of study; that the contribution is of high scholarly merit; that the candidate is aware of the pertinent published literature; that it is written in a satisfactory style; and that it is free from typographical and other mechanical errors. The second responsibility of the Board is to conduct a final oral examination of the candidate and to then recommend to the Dean of Graduate Studies whether the candidate should be awarded the Degree.

2. Composition of the Thesis Examining Board

The members of the Thesis Examining Board will be appointed by the Dean on the recommendation of the Head of the academic unit who will have consulted with the supervisory committee. The Board shall consist of four members. Normally these will be the candidate's Supervisor (who serves on the Board in a non-voting capacity), two examiners from within the University, and one from outside the University. However, when circumstances warrant, a second external examiner may be substituted for one of the internal examiners with permission of the Dean. Examiners shall normally be those who have completed a graduate degree at the doctoral level, including a thesis, in the discipline or cognate area. Members of the supervisory committee other than the Supervisor are ineligible for appointment to the Board. Those serving as examiners shall not have been involved in the preparation of the thesis/report.

3. The Examination Process

- a. The voting members of the Board shall submit written reports on the thesis containing an assessment of the quality of the written work and a recommendation as to whether the candidate should be permitted to proceed to an oral examination and defence of the work. An examiner may recommend:
 - i. that the candidate be allowed to proceed to the oral defence of the thesis*, or
 - ii. that the candidate not be allowed to proceed to the oral defence at this time**; or
 - iii. that the candidate should be failed.

*Any suggested corrections or revisions should be outlined in the examiner's report. It is understood that it will be the responsibility of the Supervisory Committee to discuss the suggested changes with the candidate, to determine which should be

incorporated in the thesis before its final submission.

******This recommendation reflects the examiner's opinion that further research, re-analysis of data, or thorough rewriting of the material is required. The thesis may, however, be re-submitted for examination.

- b. If all examiners recommend that the candidate should be failed, then the thesis shall not be re-examined.
- c. If an examiner recommends that the candidate not be allowed to proceed to the oral defence, and this recommendation is accepted by the Dean, then the student may apply to the Dean for permission to resubmit the thesis for re-examination in one of the following ways:
 - i. To submit a modified thesis to the original examiners,
 - ii. To submit a modified thesis to new examiners,
 - iii. To submit the original thesis to an Examination Board to be appointed by the Dean.
- d. No candidate will be permitted to re-submit a thesis more than once. In case of a re-submitted thesis an examiner may recommend only:
 - i. that the candidate be allowed to proceed to the oral defence of the thesis; or
 - ii. that the candidate should be failed.
- e. After receiving the reports from all three voting members of the Board the Dean will consider the recommendations and determine whether an oral defence of the thesis will be scheduled.
- f. The Final Oral Examination and Defence of Thesis will take place at a time and place to be determined by the Dean of Graduate Studies and will be chaired by the Dean or his/her delegate. The presence of all members of the Examining Board is normally required.
- g. Following the defence, the Board will meet *in camera* to render a final assessment of the thesis and the candidate's ability to defend his/her work. The Board may recommend one of the following outcomes:
 - i. Passed with distinction (Awarded to candidates who demonstrate superior knowledge of their chosen field; this category requires unanimous support of the Board. A simple majority vote will result in a recommendation of 'passed'.)
 - ii. Passed*
 - iii. Passed Subject to Conditions**
 - iv. Re-examination required***
 - v. Failed****

*This recommendation may have attached to it the requirement that the candidate complete certain specified revisions to the satisfaction of the Supervisory Committee, the Head of the academic unit and the Dean. These revisions must have been specified in the written appraisal submitted prior to the Oral Examination.

******This recommendation is made if there are revisions beyond those specified in the written appraisal submitted prior to the Oral Examination. This recommendation must have the conditions attached and cannot include the option of re-examination.

*******The members of the Thesis Examination Board may attach to this recommendation a list of any requirements which they feel are appropriate.

********Re-examination not permitted.
- h. If the members of the Board are unanimous in their recommendation, the Chair of the Examination may accept this recommendation and inform the candidate of the decision. In any other case, however, the delivering of any final decision shall be deferred pending further consultation within the School of Graduate Studies.
- i. No candidate shall be permitted more than two Oral Examinations.

3.10.5 Time Limit for Revision

The final version of Master's, Ph.D., and Psy.D. theses/reports found acceptable with or without corrections shall be submitted to the School of Graduate Studies within 6 months of the date on which the thesis/report and the student's examiners' reports are returned to the student's academic unit. If a corrected thesis/report is not submitted within 6 months the student is considered to have withdrawn from the program. After this time, the student must apply to be readmitted.

Master's, Ph.D., and Psy.D. theses/reports requiring re-examination shall be resubmitted to the School of Graduate Studies within 12 months of the date on which the thesis/report and the examiner's reports are returned to the student. Students requiring resubmission and re-examination of theses/reports must maintain their registration during this period. Failure to resubmit the revised thesis/report within 12 months will result in termination of the student's program.

Note: Please refer to **Registration** for regulations governing program registration.

3.10.6 Prepublication

Publication of material before submission of the thesis/report for examination is permitted. The School of Graduate Studies and Supervisor should be informed of such publication.

3.11 Graduation Procedure

Candidates expecting to graduate at any particular Convocation must apply online to the Office of the Registrar at www.mun.ca/regoff/ at least by the time of the submission of the Thesis, Project Report or Internship Report required by their program, or, if applicable, by the date of the final comprehensive examination.

3.12 Academic Misconduct

3.12.1 Principles

In the course of a graduate degree program students are expected to adhere to those principles which constitute proper academic conduct. Within the University Community there is a collective responsibility to maintain a high level of scholarly integrity. Dishonesty has no place in the academic community. Academic misconduct cannot be condoned or even appear to be condoned. Students have the responsibility to ascertain those actions which could be construed as dishonest or improper. Certain flagrant violations are listed below under **Academic Offences**. Students are reminded that for guidance on proper scholarly behaviour they should see assistance from their instructors and supervisors. The Graduate Students' Union will provide students with information on their legal rights and the

information that advice about acceptable writing standards is available through the Writing Centre.

3.12.2 General Information

1. These procedures shall apply to all academic offences relating to graduate studies involving, but not limited to, those students who either have been or who are enrolled at Memorial University of Newfoundland. Notification of an allegation of academic misconduct will be forwarded to the last known mailing address of the student as noted on the files at the Office of the Registrar, and to the official University email address of the student. The University reserves the right to implement action under these procedures where an allegation has been made against a student but where reasonable efforts to contact the student are unsuccessful.
2. Meetings and interviews stipulated in this regulation will be held in person, or at a distance using telephone or other interactive technologies.
3. A student who wishes to pursue research, or to attend classes, laboratories or other educational activities while an investigation under these procedures is being carried out, can normally do so with the understanding that if the allegation of academic misconduct is proven and the penalty involves either suspension or expulsion, credit will not be granted for work completed prior to a finding of guilt. This provision excludes students charged with an offence under the Code of Student Conduct. For information regarding the Code of Student Conduct contact the Office of Student Affairs and Services.
4. Although a student can continue in a program of studies, if eligible, while an investigation under these procedures is being carried out, the University does not accept liability for any consequences to the student's progress. However, the University may take these consequences into account, as appropriate and to the extent feasible, in cases where charges are dropped or the student is not found guilty. The consequences arising from an investigation and any negative decision rendered may include retroactive effects on grades, examination results or promotion within a program.
5. A student accused of academic misconduct may consult advisors or facilitators. Such advisors may include a representative from the Graduate Students' Union, an international student advisor, a faculty advisor, a University counselor or a faculty member who is familiar with these Regulations and who is willing to undertake the role of advisor whether resolution is sought through **Procedures for Resolution of Alleged Academic Offences at the Unit Level** or **Procedures for Resolution of Alleged Academic Offences by the School of Graduate Studies**.

3.12.3 General Procedure

1. When a member of the University community (faculty, staff, student) has grounds for belief that an academic offence has been committed there should be an attempt between the parties concerned to resolve allegations of minor offences. If the alleged offence is not deemed to be minor by the accuser, or resolution proves impossible, or one party is dissatisfied with the resolution, the matter shall be reported, without delay, to the head (or other appropriate officer) of the academic or administrative unit. If resolution is achieved and it is agreed that an academic offence has been committed, then the offence, together with the penalty applied, shall be reported to the head of the academic or administrative unit.
2. Where resolution is not achieved, and if in the judgment of the head of the academic or administrative unit, the alleged offence warrants resolution at the unit level, the individuals involved will be advised to attempt to resolve the matter through Procedures for Resolution of Alleged Academic Offences at the Unit Level. In the event that no resolution is possible through these procedures between the individual parties, the head of the academic or administrative unit will institute proceedings through the School of Graduate Studies.
3. If, in the judgment of the head of the academic or administrative unit, the alleged offence against University regulations is such as to warrant resolution through the School of Graduate Studies, the head of the academic or administrative unit will refer the matter to the Dean, and Procedures for Resolution of Alleged Academic Offences by the School of Graduate Studies will be implemented.
4. In all cases, it is the responsibility of the academic or administrative unit to ensure that fairness and impartiality are achieved in the treatment of students.

3.12.4 Academic Offences

In the following section the plural shall be deemed to include the singular.

Academic offences shall be deemed to include, but shall not be limited to, the following:

1. **Cheating:** This includes copying from another student's work or allowing another student to copy from one's own work; consulting with any unauthorized person during an examination or test, or using unauthorized aids; or knowingly recording or reporting false empirical or statistical data. The work referred to includes presentations, examinations, theses, assignments, work term reports, projects, internship reports, or any other tests or evaluations which are to be used in judging the student's performance in a course or program of study, or any special tests which the University may offer; or in any presentations or publications related to academic work.
2. **Impersonation:** Impersonating another student or allowing oneself to be impersonated. By impersonation is meant the imitation of a student or entrance into an arrangement with another person to be impersonated for purposes of taking examinations or tests or carrying out laboratory or other assignments.
3. **Plagiarism:** Plagiarism is the act of presenting the ideas or works of another as one's own. This applies to all material such as theses, essays, laboratory reports, work term reports, design projects, seminar presentations, statistical data, computer programs, and research results. The properly acknowledged use of sources is an accepted and important part of scholarship. Use of such material without acknowledgment, however, is contrary to accepted norms of academic behaviour. Information regarding acceptable writing practices is available through the Writing Centre at www.mun.ca/writingcentre/about/.
4. **Theft of examination papers or other material:** By theft is meant obtaining by an improper means examination papers, tests, or any other such material.
5. **Use and/or distribution of stolen material:** The use of material which the student knows to have been improperly obtained and/or the distribution of such material is considered to be an academic offence.
6. **Submitting false information:** This offence includes falsifying, submitting or causing to submit false academic transcripts, forms or records, credentials, medical or other certificates, or making a false or incomplete declaration to the University.
7. **Submitting work for one course, project or publication which has been or is being submitted to another course, project or publication without express permission to do so:** This includes the presentation of an essay, report or assignment to satisfy some or all of the requirements of a course when that essay, report, or assignment has been previously submitted or is concurrently being submitted for another course without the express permission of the professor(s) involved.
8. **Ethical Practice:** Failure to follow relevant University/Faculty/School guidelines on ethics, including but not limited to, ethical practice in research.

3.12.5 Procedures for Resolution of Alleged Academic Offences at the Unit Level

3.12.5.1 General Information

These procedures will not be applied to cases involving alleged offences on comprehensive examinations, examination of theses, allegations of impersonation or allegations of submission of forged documents. Such alleged offences are governed by the **Procedures for Resolution of Alleged Academic Offences by the School of Graduate Studies**. The principle that a resolution should be mutually satisfactory to both the accuser and the accused should be upheld throughout the attempt for resolution at the unit level.

3.12.5.2 Explanation of Procedures

If, upon receiving a report of an alleged academic offence, the Department Head or other appropriate academic officer, decide that an attempt should be made to resolve that matter within the Department the following procedures shall apply:

1. Normally within one week of notification, the head of the academic or administrative unit shall request a meeting with the accuser and the accused and at the meeting the head of the academic or administrative unit shall state the allegation, review the **Procedures for Resolution of Alleged Academic Offences at the Unit Level** including the range of applicable penalties, and arrange a second meeting between the accuser and the accused only.
2. At the second meeting the accuser and accused shall endeavour to obtain a mutually satisfactory resolution of the matter.
3. The accuser and accused shall report jointly to the head of the academic or administrative unit on the result of their second meeting.
4. If the report is of a resolution which the head of the academic or administrative unit considers to be fair and equitable the matter shall be considered closed. If the head of the academic or administrative unit considers the reported resolution to be unfair and/or inequitable he or she will endeavour to obtain an alternative satisfactory resolution directly with the parties.
5. Should all reasonable efforts to obtain a mutually satisfactory resolution at the unit level fail, the head of the academic or administrative unit will refer the case to the Dean of the School of Graduate Studies and shall inform the accuser and the accused accordingly. From this stage onward by the **Procedures for Resolution of Alleged Academic Offences by the School of Graduate Studies** will apply.
6. At any stage of the **Procedures for Resolution of Alleged Academic Offences at the Unit Level**, the student or the accuser may ask that the case be referred to the Dean, and thereafter the **Procedures for Resolution of Alleged Academic Offences by the School of Graduate Studies** will apply.
7. Should the accused be found guilty, a brief description of the offence and the penalty(ies) applied shall be forwarded by the head of the academic or administrative unit to the School of Graduate Studies.

3.12.5.3 Failure to Appear or Respond

1. If at any stage of the **Procedures for Resolution of Alleged Academic Offences at the Unit Level**, the accused fails to respond to a charge, without reasonable cause, within two weeks of notification of an allegation, action may be taken on the charge in the absence of the accused.
2. If at any stage of the **Procedures for Resolution of Alleged Academic Offences at the Unit Level**, the accuser fails to appear at a scheduled meeting to defend an allegation, without reasonable cause, the action will be dismissed.

3.12.5.4 Penalties in the Case of Resolution at the Unit Level

A student who has been found guilty of an academic offence will be subject to a penalty or penalties commensurate with the offence. Some cases may warrant more than one penalty for the same offence, and previous academic misconduct will be taken into account in determining the severity of penalties. The range of penalties and their determination is:

1. **Resubmission** of work with appropriate reduction in grade: will allow a student to complete and submit the work a second time.
2. **Reprimand**: This shall be in the nature of a warning in writing by the head of the academic or administrative unit to the student that his/her conduct has been unacceptable to the University.
3. **Reduction of grade**: A reduction of grade will apply to an examination, test, or assignment to which an offence is relevant, or to the entire course, and will be decided by the head of the academic or administrative unit. Since graduate students must obtain a grade of B or PASS in required courses a reduction of grade could lead to termination of program.

3.12.6 Procedures for Resolution of Alleged Academic Offences by the School of Graduate Studies

3.12.6.1 General Procedure

If the matter cannot be resolved following the **Procedures for Resolution of Alleged Academic Offences at the Unit Level**, or if, in the opinion of the head of the academic or administrative unit, the allegation involves a major breach of University regulations, or in cases involving alleged offences on comprehensive examinations, thesis examinations, allegations of impersonation or allegations of submission of forged or falsified documents, the following **Procedures for Resolution of Alleged Academic Offences by the School of Graduate Studies** shall apply.

3.12.6.2 Explanation of Procedures

1. If the head of the academic or administrative unit (in consultation with the Dean of his or her faculty or school) is satisfied that the student has a serious case to answer, that person shall inform the student in writing of the nature of the case against him or her. In addition, the head of the academic or administrative unit shall report to the Dean of Graduate Studies who will, normally within one week, appoint as an investigator a member of the Academic Misconduct Investigations Board of the School of Graduate Studies (Investigations Board). The investigator will interview separately the accuser and accused and relevant witnesses. At these interviews, the investigator, the accuser, the accused and relevant witnesses all have the right to be accompanied by a registered student or a member of the Faculty or Staff of the University.
2. Upon completion of these interviews, the investigator shall submit a written report of all findings to the Dean of Graduate Studies. The Dean of Graduate Studies shall present this report to both the accuser and accused for perusal and comment. Once in receipt of this report, the accuser and accused shall have two weeks in which to submit to the Dean of Graduate Studies any additional comments on the report that the person wishes to be considered. The investigator will be given the opportunity to correct any errors of fact should they arise from the comments of the accused and accuser prior to consideration of the allegation by the Investigations Board.
3. Upon receipt of all information from the investigator as well as comments from the accuser and accused, the Dean of Graduate

Studies shall present the documents to the Investigations Board for a decision.

4. The investigator for the case shall attend the meetings of the Investigations Board to answer questions and provide information pertinent to the case, but shall be absent from the formal discussion and voting.
5. Once a vote is taken, should the accused be found guilty, the Investigations Board shall take appropriate action in accordance with **Penalties in the Case of Resolution by the School of Graduate Studies**.

3.12.6.3 Failure to Appear or Respond

1. If at any stage of the **Procedures for Resolution of Alleged Academic Offences by the School of Graduate Studies**, the accused fails to respond to a charge, without reasonable cause, within two weeks of notification of an allegation, action may be taken on the charge in the absence of the accused.
2. If at any stage of the **Procedures for Resolution of Alleged Academic Offences by the School of Graduate Studies**, the accuser fails to appear at a scheduled interview to defend an allegation, without reasonable cause, the action will normally be dismissed; however, the investigation may proceed at the discretion of the Dean in consultation with the Investigations Board if the allegation or evidence warrants such action.

3.12.7 Penalties in the Case of Resolution by the School of Graduate Studies

A student who has been found guilty of an academic offence will be subject to a penalty or penalties commensurate with the offence. Enforcement of penalties resulting from **Procedures for Resolution of Alleged Academic Offences by the School of Graduate Studies** will be overseen by the Registrar. Some cases may warrant more than one penalty for the same offence, and previous academic misconduct will be taken into account in determining penalties. Penalties shall be imposed on the basis of the student's status at the time of the offence. The range of penalties and their determination is:

3.12.7.1 Reprimand

This shall be in the nature of a warning in writing by the Investigations Board to the student that his/her conduct has been unacceptable to the University.

3.12.7.2 Reduction of Grade

A reduction of grade will apply to an examination, test, or assignment to which an offence is relevant, or to the entire course, and will be decided by the Investigations Board. Since a passing grade for graduate students is at least a grade of B or Pass, a reduction of grade could lead to termination of program.

3.12.7.3 Change in Outcome of an Examination

This will apply to Comprehensive Examinations and the examination of **Theses and Reports** and could lead to termination of program.

3.12.7.4 Probation

This is a trial period the length of which will be determined by the Investigations Board. The Investigations Board will inform the student that the finding of any further academic offence during the period of probation may lead to suspension or expulsion.

3.12.7.5 Suspension

Suspension will apply to a course, department, faculty, school, or the University. The period of suspension will be determined by the Investigations Board and shall not exceed three consecutive semesters, and shall be part of the allowable time for a graduate program.

3.12.7.6 Expulsion

The recommendation for expulsion from the University will be made by the Investigations Board to the President for his/her final decision. Prior to the President's decision, the Investigations Board will notify the accused, in writing, of the recommendation for expulsion from the University. The accused will be allowed a period of two weeks following the date of release of such notification to lodge an appeal before the President's final decision concerning expulsion from the University. Any such appeal should be made in writing or email to the Executive Committee of Senate, c/o the Office of the Registrar.

3.12.7.7 Revocation of Degree

The recommendation for revocation of a degree previously awarded by the University will be made by the Investigations Board of the School of Graduate Studies to Senate for a final decision. Prior to Senate's decision, the Investigations Board of the School of Graduate Studies will notify the accused, in writing, of the recommendation for revocation of the degree. The accused will be allowed a period of two weeks following the date of release of such notification to lodge an appeal before the Senate's final decision concerning the revocation of the degree. Any such appeal should be made in writing to the Executive Committee of Senate, c/o the Office of the Registrar.

In the event that a student has been found guilty of an Academic Dishonesty Offence and when a penalty has been determined, a notation on the student's transcript may be made by the Registrar as provided for in **Transcript Entries** below.

3.12.8 Transcript Entries

Transcript entries shall relate to the penalty(ies) imposed as follows:

Penalty	Transcript Entry
Reprimand	No transcript entry
Reduction of Grade	Entry of final grade for course
Change in Outcome of an Examination	Entry of final outcome for the examination
Probation	"On probation at the University for academic misconduct until Day, Month, Year"
Suspension	"Suspended from the School of Graduate Studies for academic misconduct until Day, Month, Year"
Expulsion	"Expelled from the University for academic misconduct"
Revocation of Degree	"Degree revoked for Academic Dishonesty"
* The transcript entries for 'probation' or 'suspension' will be removed entirely upon the expiration of the penalty.	

3.12.9 Disposition of Documentation

The disposition of documents relating to allegations under these procedures shall be as follows:

1. The cases where the allegation was either found "not proven" or "unfounded" no documentation shall be retained in the student files.
2. In the case of a resolution effected through **Academic Misconduct - General Procedure or Procedures for Resolution of Alleged Academic Offences at the Unit Level**, a brief description of the offence and the penalty(ies) applied shall be forwarded by the head of the academic or administrative unit to and retained by the School of Graduate Studies, separate from the student files.
3. In the case of a resolution effected through the **Procedures for Resolution of Alleged Academic Offences by the School of Graduate Studies**, all documentation shall be retained in the School of Graduate Studies, separate from the student files.

3.12.10 Right of Appeal

Appeals against decisions of the Investigations Board of the School of Graduate Studies made under **Procedures for Resolution of Alleged Academic Offences by the School of Graduate Studies** shall be directed to the Executive Committee of Senate, c/o Office of the Registrar.

3.13 Termination of a Graduate Program

Grounds for termination of a graduate program are as follows:

1. a. Failure to comply with the conditions of admission into a program, unless the conditions of admission have been changed with approval of the academic unit and the School of Graduate Studies;
- b. Failure to register in any semester by the final date for adding courses (see **Registration, Program Registration 1.**);
- c. Failure to obtain the required grades in courses as stated in the appropriate degree regulations (see **Evaluation**);
- d. Failure in comprehensive examinations (see **Comprehensive Examinations**);
- e. Demonstrated lack of progress in a program supported by written documentation;
- f. Recommendation of the Supervisory Committee (see **Supervision**);
- g. Failure of Thesis, Project or Internship (see **Theses and Reports**);
- h. Academic misconduct as outlined under **General Regulations, Academic Behaviour** governing the School of Graduate Studies.
2. The foregoing notwithstanding the University reserves the right to require students to discontinue their program or to deny them admission where, in the opinion of the Academic Council of the School of Graduate Studies, following appropriate professional consultation, there is a reasonable likelihood that a student's health or conduct could result in endangering the lives, health or safety of other persons on campus or in settings related to the student's university studies.
3. The foregoing notwithstanding, the School of Graduate Studies reserves the right to require students to discontinue their studies, or to deny them re-admission, where a student has been determined to have engaged in unprofessional conduct. The code of ethics of each profession will serve as the guideline as to what constitutes unprofessional conduct. However, should there not be any statements of what constitutes unprofessional conduct, the following standard will apply:

Unprofessional Conduct: That conduct which involves a breach of the duties required by professional ethics.

- Notes: 1. If the University or a School or Faculty requires a student to discontinue his/her studies under any of the above clauses, that student must be advised in writing of the nature of the case against him/her and must be advised of the right to appeal before the penalty imposed takes effect.
2. Appeals against actions taken under Clause 2. should be directed to the Senate of the University. Any such appeal should be made in writing clearly stating the basis for the appeal and should be directed to the Secretary of Senate, c/o the Office of the Registrar.
3. Appeals against actions taken under Clause 3. should be directed to the Appeals Committee, School of Graduate Studies.

3.14 Provision for Reapplication

1. A student whose program of studies has been terminated for any of the reasons outlined under **Termination of a Graduate Program** may apply for admission to a new program of studies leading to the same degree.
2. Notwithstanding the above, a student whose program of studies has been terminated under **Termination of a Graduate Program, 1.b.**, shall be readmitted to the existing program only under the following conditions:
 - a. on the recommendation of the appropriate academic unit;
 - b. on the payment to the University of those registration fees which would have been payable had the student remained in continuous registration during the period since the termination of the program;
 - c. on the understanding that the time period during which the student was not registered shall be considered as part of the

maximum time permitted for the completion of the degree.

4 Regulations Governing the Degree of Master of Applied Science

The Degree of Master of Applied Science (M.A.Sc.) is a course-based Degree offered in three areas: Computer Engineering, Environmental Systems Engineering and Management, and Oil and Gas Engineering. For information on the research-focused Master of Engineering program, refer to the regulations governing the Degree of Master of Engineering.

4.1 Industrial Internship Option

The Faculty permits graduate students to undertake internships of work in industry. These internships will allow students to either (a) enhance the application of their knowledge and skills within industry, or (b) complete a research project defined by the industry. Encouragement to undertake an internship will be given only where it is clear that one of these expectations can be met.

Students registered in the M.A.Sc. program may, with the permission of their Board of Studies, the Dean of the Faculty of Engineering and Applied Science, and the Dean of Graduate Studies, select the Industrial Internship Option. Students pursuing this option must satisfy the degree regulations for an M.A.Sc. program. In addition, students in the Industrial Internship Option:

1. shall normally complete at least 18 credit hours of the courses required for their program with an average of 75% or higher prior to the internship; the remaining required courses may be taken on campus or by distance
2. shall normally spend at least two continuous semesters on campus on a full-time basis as a graduate student at this University
3. shall normally spend 4 to 8 months of their program at an internship in industry
4. shall submit monthly reports to a university supervisor appointed by their Board of Studies, and shall submit a concise progress report to their Board of Studies no later than the end of each semester while on an internship
5. shall normally not opt out once the internship starts.

Successful completion of an internship will be indicated by a descriptive notation on the student transcript.

4.2 Computer Engineering

4.2.1 Program of Study

1. The Faculty of Engineering and Applied Science offers a course-based program in Computer Engineering leading to the Degree of Master of Applied Science (M.A.Sc.) in Computer Engineering. The program is available only on a full-time basis.
2. The program is offered by the Faculty of Engineering and Applied Science and will be administered by a Board of Studies appointed by the Dean of Engineering and Applied Science.

4.2.2 Qualifications for Admission

1. Admission to the program is limited and competitive.
2. To be eligible for consideration for admission, applicants will have at least a second class engineering degree in computer engineering, computer science or electrical engineering; they will have background in many of the following areas: object-oriented programming, data structures, digital logic, computer organization, circuits and electronics, systems and signals, communications, discrete mathematics, probability and statistics and engineering design.
3. To be eligible for consideration for admission, applicants will meet the English Proficiency Requirements described under **English Proficiency Requirements**.

4.2.3 Degree Requirements

1. The degree program requires the completion of 36 credit hours, 6 of which comprise a project course.
 - a. Students are required to complete 9801, 9859, 9861, 9865, 9867, 9871, 9874 and 9876.
 - b. Three elective courses must be selected; each term the Board of Studies for the program will provide a selection of eligible courses, which may include ENGI 9821, ENGI 9822, ENGI 9868, ENGI 9869, ENGI 9872, ENGI 9875, ENGI 9877, ENGI 9878, ENGI 9879, ENGI 9880/83, ENGI 9888/91, CS 6752, CS 6756, PHYS 6102, and others designated by the Board of Studies for the program.
2. Normally students will take courses as shown in **Table I**. Students wishing to take courses in another sequence must request approval from the Board of Studies for the program.

Table I - M.A.Sc. in Computer Engineering Program

	Preparation	Core	Elective
Year 1 Spring	English		
Year 1 Fall		3	0
Year 1 Winter		2	1
Year 2 Spring		2	1
Year 2 Fall		ENGI 9801	1

4.2.4 Evaluation

Students must obtain a grade of at least 65% in all program courses to receive credit for the course towards their program requirements. Any student, who fails to receive 65% or more in a course, must repeat the course in the case of core courses, or must either repeat or replace the course with another program course in the case of elective courses. Any student who receives a grade of less than 65% in two courses or in a repeated course will be required to withdraw from the program.

4.2.5 Courses

980A/B Computer Engineering Project
 9802/05 (excluding 9804) Special Topics in Computer Engineering
 9806/09 Special Topics in Communications Engineering
 9821 Digital Signal Processing

9822 Nonlinear Digital Image Processing and Analysis
 9859 Computer Engineering Fundamentals
 9861 High-Performance Computer Architecture
 9865 Advanced Digital Systems
 9867 Advanced Computing Concepts for Engineering
 9868 ASIC Design
 9869 Advanced Concurrent Programming
 9871 Information Theory and Coding
 9872 Digital Communications
 9874 Software Design and Specification
 9875 Embedded and Real-Time Systems Design
 9876 Advanced Data Networks
 9877 Computer and Communications Security
 9878 Wireless and Mobile Communications
 9879 Formal Specification and Development
 9880-83 Special Topics in Computer Engineering
 9888-91 Special Topics in Communications Engineering
 Computer Science 6752 Applications of Computer Graphics
 Computer Science 6756 Digital Image Processing
 Physics 6102 Optics and Photonics

4.3 Environmental Systems Engineering and Management

4.3.1 Program of Study

1. The Faculty of Engineering and Applied Science offers a program in Environmental Systems Engineering and Management (ESEM) leading to the Degree of Master of Applied Science. The program is available on a full-time or part-time basis.
2. The program is offered by the Faculty of Engineering and Applied Science and will be administered by a Board of Studies appointed by the Dean of Engineering and Applied Science.

4.3.2 Qualifications for Admission

1. Admission is limited and competitive.
2. To be considered for admission, applicants shall normally hold a minimum second class Bachelor's Degree in engineering preferably in civil, environment, chemical, processing, or petroleum engineering, or in a related discipline from a university of recognized standing.
3. To be eligible for consideration for admission, applicants will meet the English Proficiency Requirements described under **General Regulations, English Proficiency Requirements**.

4.3.3 Degree Requirements

1. The Degree program requires the completion of 30 credit hours.
 - a. 6 credit hours comprising a project course 960A/B.
 - b. 15 credit hours comprised of 9601, 9609, 9626, 9627, and 9628.
 - c. 9 credit hours (three courses) to be selected from 9603, 9605, 9610-9615, 9621, 9622, 9624, 9625, 9629, 9630, ENVE/ENVS 6001, ENVE/ENVS 6002, ENVE/ENVS 6003, and Geography 6250

4.3.4 Evaluation

Students must obtain a grade of at least 65% in all program courses to receive credit for the course towards their program requirements. Any student who fails to receive 65% or more in a course, must repeat the course in the case of core courses, or must either repeat or replace the course with another program course in the case of elective courses. Any student who receives a grade of less than 65% in two courses or in a repeated course will be required to withdraw from the program.

4.3.5 Courses

960A Environmental Engineering Project (0 credit hours)
 960B Environmental Engineering Project (6 credit hours)
 9601 Environmental Pollution and Mitigation (cross-listed as ENVS 6004)
 9603 Environmental Sampling and Pollutant Analysis (cross-listed as ENVS 6005)
 9605 Water and Wastewater Treatment
 9609 Environmental Risk Assessment (cross-listed as ENVS 6007)
 9610-9615 Special Topics in Environmental Science and Engineering
 9621 Soil Remediation Engineering
 9622 Environmental Statistics
 9624 Air Pollution (cross-listed as ENVS 6008)
 9625 Environmental Impacts of Offshore Oil and Gas Operations
 9626 Environmental Management System
 9627 Environmental Systems Engineering
 9628 Environmental Laboratory
 9629 Environmental Policy and Regulations
 9630 Pollution Prevention
 ENVE/ENVS 6001 Earth and Ocean Systems
 ENVE/ENVS 6002 Environmental Chemistry and Toxicology
 ENVE/ENVS 6003 Applied Ecology
 Geography 6250 Conservation of Natural Resources

4.4 Oil and Gas Engineering

4.4.1 Program of Study

1. The Faculty of Engineering and Applied Science offers a program in Oil and Gas Engineering leading to the degree of Master of Applied Science in Oil and Gas Engineering (M.A.Sc.(OGE)). The program is available on a full-time basis.
2. The program is offered by the Faculty of Engineering and Applied Science and will be administered by a Board of Studies appointed by the Dean of Engineering and Applied Science.

4.4.2 Qualifications for Admission

1. Admission is limited and competitive.
2. To be considered for admission, applicants shall normally hold a minimum second class Bachelor's Degree in engineering preferably in mechanical, chemical/process, civil, environmental, mining/mineral, or petroleum engineering, or in a related discipline from a university of recognized standing.
3. To be eligible for consideration for admission applicants will meet the English Proficiency Requirements described under **General Regulations, English Proficiency Requirements**.

4.4.3 Degree Requirements

1. The degree program requires the completion of 30 credit hours.
 - a. 6 credit hours comprising a project course Engineering 910A/910B.
 - b. 15 credit hours by completing Engineering 9110, 9113, 9114, 9118 and 9121.
 - c. 9 credit hours (three courses) to be selected from Engineering 9002, 9015, 9111, 9112, 9116, 9117, 9119, 9120, 9420, 9609, 9624, 9625, 9901, 9902, 9989. Engineering 9117 is a recommended elective course for students without adequate background in petroleum engineering.

4.4.4 Evaluation

Students must obtain a grade of at least 65% in all program courses to receive credit for the course towards their program requirements. Any student who fails to receive 65% or more in a course must repeat the course in the case of core courses, or must either repeat or replace the course with another program course in the case of elective courses. Any student who receives a grade of less than 65% in two courses or in a repeated course will be required to withdraw from the program.

4.4.5 Courses

9002 Ocean Engineering Structures
 9015 Ocean Engineering Hydrodynamics
 910A OGE Project Course (0 credit hours)
 910B OGE Project Course (6 credit hours)
 9110 Advanced Petroleum Production Engineering
 9111 Well Testing
 9112 Multiphase Flow
 9113 Phase Behaviour of Petroleum Reservoir Fluids
 9114 Advanced Reservoir Engineering
 9116 Reliability Engineering
 9117 Offshore Petroleum Geology and Technology
 9118 Advanced Drilling Engineering
 9119 Compact Process Equipment Design
 9120 Advanced Natural Gas Engineering
 9121 Advanced Safety, Risk and Reliability Modeling
 9420 Engineering Analysis
 9609 Environmental Risk Assessment
 9624 Air Pollution
 9625 Environmental Impacts of Offshore Oil and Gas Operations
 9901 Fundamentals of Fluid Dynamics
 9902 Advanced Transport Phenomena
 9989 Special Topics Course - Corrosion Principles, Prevention and Control

5 Regulations Governing the Degree of Master of Applied Social Psychology (Co-operative)

This program is designed to meet the needs of both students and employers. Students will gain the skills and knowledge necessary to ask appropriate questions and conduct research in a variety of applied settings (e.g., business, government, health care, etc.). Students completing the program will be qualified for either immediate employment or further education. Students' and employers' needs will be met by a program that combines training in basic scientific methods and social psychological theory with practical experience in a variety of work settings. The training in methods and theory will be provided by the academic component of the program and the practical experience will be provided by the cooperative, work term component.

5.1 Qualifications for Admission

1. Admission to the program is competitive and selective. To be considered for admission to the Master of Applied Social Psychology (Cooperative) an applicant shall normally hold at least a high second class Honours degree or its equivalent, both in achievement and depth of study, from an institution recognized by the Senate.
2. Applications
 - a. All applicants are required to submit results from the General section of the Graduate Record Examinations.
 - b. Applicants are required to submit with their applications an example of their academic writing. This could include, but is not limited to, papers submitted in class, honour's thesis, etc.

- c. At least one letter of reference should come from someone who is familiar with the applicant's research capability.
3. Election will be based on an applicant's overall academic performance, scores on the Graduate Record Examination and letters of reference.
4. Admission to the program shall be upon acceptance by the Dean of Graduate Studies after recommendation by the Head of the Department of Psychology which will include a proposed program of study and a proposed Supervisor.

5.2 Program of Study

1. Students should note that it is possible to enter Academic Term 1 only in the Fall semester commencing in September of each year.
2. Every candidate shall complete four Academic Terms in the Cooperative Program and shall normally be required to complete two Work Terms.
3. Courses shall be taken in Academic Terms of "blocks" in the sequence, order, and course load as follows:
Fall: 6000, 6400, **Winter:** 6001, 6401, **Spring:** Work term 1, **Fall:** 6402, 6403, **Winter:** Work term 2, **Spring:** 6404

5.3 Evaluation and Advancement

1. In order to continue in good standing in the program and in order to qualify for the Master's Degree, a candidate shall obtain a grade of A or B for program courses, and complete two Work Terms.
2. The dates for starting and finishing each Work Term are shown in the **University Diary**. Successful completion of the Work Term requirements is a prerequisite to graduation.
3. A competition for Work Term employment is organized by the Division of Co-operative Education. Students may also obtain their own Work Term jobs outside the competition. Such jobs must be confirmed by letter from the employer and approved by the Head of Psychology and by the Division of Co-operative Education on or before the first day of the Work Term.
 Work Term jobs may be outside St. John's and possibly outside Newfoundland and Labrador. Students who do not wish to accept a Work Term job arranged by Division of Co-operative Education shall be responsible for finding an alternative acceptable to the Head of Psychology and the Division of Co-operative Education.
 By entering the competition, students give permission for the Division of Co-operative Education to supply their University transcripts to potential employers.
4. The overall evaluation of the Work Term is the responsibility of the Division of Co-operative Education. The Work Term evaluation shall consist of two components:
 - a. **On-the-job Student Performance:**
 Job performance shall be assessed by a co-ordinator using information gathered during the Work Term and input from the employer towards the end of the Work Term. Formal written documentation from the employer shall be sought.
 - b. **The Work Report:**
 - i. Work term reports shall be evaluated by a member of the Division of Co-operative Education or a member of faculty in the Department of Psychology. If an employer designates a report to be of a confidential nature, both employer and co-ordinator must agree as to the methods to protect the confidentiality of such a report before the report may be accepted for evaluation.
 - ii. Reports must be prepared according to American Psychological Association specifications and contain original work related to the Work Term placement. The topic must relate to the work experience and will be chosen by the student in consultation with the employer. For promotion from the Work Term, a student must obtain at least 65% in each component.
5. If a student fails to achieve the Work Term standards specified above the student will be required to withdraw from the program. Such a student may reapply to the program after lapse of two semesters, at which time the student will be required to complete a further Work Term with satisfactory performance before being admitted to any further academic term in the Faculty. A Work Term may be repeated once.
6. Students are not permitted to drop Work Terms without prior approval of the Graduate Studies Committee of the Department of Psychology, upon the recommendation of the Division of Co-operative Education. The Graduate Studies Committee will make a recommendation to the Head of Department who will make the final decision. Students who drop a Work Term without permission, or who fail to honour an agreement to work with an employer, or who conduct themselves in such a manner as to cause their discharge from the job, will normally be awarded a failed grade for the Work Term. Permission to drop a Work Term does not constitute a waiver of degree requirements, and students who have obtained such permission must complete an approved Work Term in lieu of the one dropped.

5.4 Courses

6000 Advanced Statistics in Psychology
 6001 Research Design
 601W Work Term 1
 602W Work Term 2
 6400 Theory and Methods in Social Psychology
 6401 Social Cognition
 6402 Group Processes
 6403 Program Evaluation and Applied Research
 6404 Project in Applied Social Psychology

6 Regulations Governing the Degree of Master of Applied Statistics

The Degree of Master of Applied Statistics (M.A.S.) is a highly structured program incorporating 18 credit hours in program courses and a practicum in applied statistics. The Degree is offered in the Department of Mathematics and Statistics by full-time or part-time study.

6.1 Qualifications for Admission

1. Admission is limited and competitive. To be considered for admission to the Master of Applied Statistics program, an applicant shall normally hold at least a high second class Honours Degree or its equivalent, both in achievement and depth of study, from an institution recognized by the Senate.
2. In addition, an applicant shall normally have completed undergraduate courses in statistics which cover the material of Statistics 3521, 3530, 4410, 4520, 4560, 4561, 4590, 4591. If necessary, an applicant may be required to demonstrate a satisfactory

knowledge of the above courses in an examination administered by the Department of Mathematics and Statistics.

- Applicants who do not meet these requirements should consult the Department of Mathematics and Statistics about a program of further undergraduate courses. Such a program is intended to provide the candidate with an adequate statistical background. Such courses may not be used to fulfill the program course requirements of the Master of Applied Statistics Degree.
- Admission to the program shall be upon acceptance by the Dean of Graduate Studies after recommendation by the Head of the Department of Mathematics and Statistics along with a proposed program of study and a proposed Supervisor.

6.2 Program of Study

The minimum requirements for the Degree of Master of Applied Statistics are completion of the following:

- The following three courses: STAT 6510, STAT 6560 and STAT 6590.
- Nine additional credit hours selected from STAT 6500-6589.
- At least one non-credit Seminar Series in Statistics or an additional 3 credit hour graduate course.
- A practicum: An applied statistics project and an associated report. The report must demonstrate a satisfactory general mastery of statistical knowledge.

6.3 Evaluation

- In order to continue in graduate studies and in order to qualify for a Master's Degree, a candidate shall obtain an A or B for program courses and complete successfully the practicum requirement.
- STAT 6590 will be evaluated by the course co-ordinator in consultation with associated statistical consultants.
- Evaluation of the practicum shall be carried out in accordance with **Theses and Reports** of the **General Regulations** governing all students in the School of Graduate Studies.

Note: Every candidate in graduate studies shall comply with the **General Regulations**, the Degree Regulations and any additional requirements of the Department of Mathematics and Statistics.

6.4 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow:

Applied Statistics

6500 Probability (*credit restricted with former 6586*)
 6503 Stochastic Processes
 6505 Survival Analysis
 6510 Mathematical Statistics
 6520 Linear Models
 6530 Generalized Linear Longitudinal Mixed Models
 6540 Time Series Analysis
 6545 Statistical Computing
 6550 Nonparametric Statistics
 6560 Continuous Multivariate Analysis
 6561 Categorical Data Analysis
 6563 Sampling Theory
 6570-6589 Selected Topics in Statistics and Probability (excluding 6586)
 6590 A Course in Statistical Consulting

7 Regulations Governing the Degree of Master of Arts

Professor and Dean of Arts

L. Phillips

Associate Professor and Associate Dean (Graduate and Research)

C. Dyck

The Degree of Master of Arts (M.A.) is offered in Anthropology, Archaeology, Classics, Economics, English Language and Literature, Environmental Policy, Ethnomusicology, Folklore, French Studies, Geography, German Language and Literature, History, Linguistics, Philosophy, Political Science, Religious Studies and Sociology.

Applicants are advised to consult, in addition to the regulations governing the Degree of Master of Arts, both the **General Regulations** and the particular regulations of the appropriate Departments.

7.1 Qualifications for Admission

- Admission is limited and competitive. To be considered for admission an applicant shall hold a Bachelor's Degree or its equivalent from an institution recognized by the Senate and shall have a knowledge of the proposed field of specialization satisfactory to the Department concerned (or Departments, when interdisciplinary study is intended) and to the Dean.
- Preference will normally be given to applicants who hold an appropriate Honours Degree, either from Memorial University of Newfoundland, or from another university whose Honours Degree is of comparable standing. Any other applicant who holds a Bachelor's Degree or its equivalent will be considered for admission provided that:
 - the applicant's undergraduate record after the first year shows an average of at least grade B in courses in the proposed field of specialization.
 - the applicant's overall undergraduate record after the first year shows an average of at least grade B in all courses taken, and
 - the Department concerned satisfies the Dean that the applicant's work exhibits evidence of academic excellence.

Only in exceptional circumstances, and only on the recommendation of the Department concerned, will the Dean consider applicants who do not meet the requirements in a. and b. Such applicants, however, must meet the requirements in c.

- An applicant may be required to demonstrate a satisfactory knowledge of the proposed field of study in an examination administered by the Department or Departments.

4. In most cases instruction is in English, and examinations and theses are to be written in English. (Language Departments, however, give instruction in the pertinent language and often require examinations and theses to be written in the language. In addition, other Departments may permit or even require examinations and/or theses to be written in a language other than English.)

7.2 Program of Study and Research

1. The program of study for the Master of Arts Degree shall consist of the successful completion of a program of courses and, in accordance with Departmental regulations, either of a thesis embodying systematic research or of a Comprehensive Examination.
For programs requiring 24 credit hours or more, the academic unit may choose not to require a thesis or comprehensive examination.
2. Every candidate shall read at least 12 credit hours in program courses at the graduate level in one subject or in closely related subjects. Departmental regulations may require more courses than the minimum and this higher number is listed where applicable in the regulations of the Department.
3. Students may, with the approval of the Dean, augment their program with a limited number of other courses of their choice. Passing grades are not required in these non-program courses in order to continue in graduate studies or obtain a Master's Degree.
However, the final grades in these courses will be recorded on the student's transcripts. The grading system in non-program courses shall be that appropriate to the particular course.
4. Candidates submitting a thesis on an approved topic shall conduct systematic research under the direction of a Supervisor recommended by the appropriate Department or Departments and approved by the Dean. The candidate may be required to take an oral examination.
5. Changes in either the program of courses or the topic of the thesis require the approval of the Dean.
6. On the recommendation of the Head of the Department, the Dean may waive, in part, the course requirements for a Master's Degree.
7. Application for transfer from the Master of Arts to the Master of Philosophy is to be made to the Dean before the end of the second semester in the case of full-time students, and in the case of part-time students before 18 graduate credit hours have been completed.
8. The Dean may approve an application to transfer from the M.A. to the M.Phil. only when a new integrated program, acceptable to the Dean, is submitted.

7.3 Evaluation

1. In order to continue in the School of Graduate Studies and in order to qualify for a Master's Degree, a candidate shall obtain an A or B grade in each regulation course. Some candidates may be required to read a specified number of additional graduate or undergraduate courses for which a passing grade must be achieved.
2. Students registered for credit shall write their examinations in their graduate courses at a time to be determined by the Dean on the recommendation of the Department.
3. Students registered in undergraduate courses shall satisfy examination requirements in these courses.
4. When, on a basis of consultation with the candidate, the instructors in graduate courses, and the thesis Supervisor, the Head of a Department has determined that the candidate's work has fallen below a satisfactory level, the Head may recommend to the Dean that the candidate be required to withdraw from the program.

7.4 Thesis or Report

See **General Regulation, Theses and Reports.**

7.5 Anthropology

Associate Professor and Head of the Department

M. Tate

The Degree of Master of Arts (M.A.) is offered in Anthropology by either full-time or part-time study.

1. Candidates will specialize in social and cultural anthropology.
2. When candidates are accepted into the program, they will be assigned one or more Supervisors. Candidates' programs shall be the responsibility of their Supervisor(s), the graduate co-ordinator(s), and the Head of the Department.
3. If candidates' records suggest a deficiency in some areas(s), the Department reserves the right to require that they complete additional undergraduate courses before beginning program courses.
4. Candidates may choose between a thesis and a non-thesis option.

7.5.1 M.A. With Thesis

1. Normally, the M.A. program should take two academic years to complete, of which the first year will be spent in (a) completing course work, (b) writing and orally defending a thesis proposal before members of the faculty, and (c) beginning to carry out research. The second academic year will be spent in (d) completing research, (e) presenting an oral research report to the Department, and (f) completing a thesis.
2. Candidates for the Degree of a Master of Arts in Anthropology will be required to complete not fewer than 12 credit hours, nor more than 18 credit hours of courses at the graduate level.
3. Most Department graduate courses are taught in either a seminar or tutorial framework; all courses require intensive reading, regular oral communication of ideas to faculty and other students, and preparation of written research papers and other assignments.
4. Normally, during the second semester of the first year of study in the program, a written thesis proposal which has been approved by the student's Supervisor(s) will be circulated to all members of the Department. The written thesis proposal should be made available to faculty members at least two weeks prior to the scheduled date of a student's oral presentation and defence of the proposal.
5. Shortly following the completion of their research, candidates will be required to present an oral research report on their findings to the Department.
6. A final draft of the thesis will be evaluated in accordance with the requirements of the School of Graduate Studies.

7.5.2 M.A. Without Thesis

Normally, the M.A. program without thesis should take one academic year to complete. Candidates who choose to do the M.A. without thesis must normally complete 24 credit hours in graduate program courses; 15 of which will normally be from ANTH 6440, ANTH 6890 and ANTH 6300. Nine additional credit hours are to be selected from the graduate courses offered by the Department.

Note: *ANTH 6440 will be worth 9 credit hours. This course will normally be based on secondary literature and will be supervised by a faculty member.*

7.5.3 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow.

6010 Cultural Ecology
 6071 Health and Illness: Cultural Contexts and Constructions
 6081 Anthropology of Gender
 6089 Anthropology of Underclass Life
 6100 Social Organization
 6110 Culture and Personality
 6140 The Community
 6210 Language and Culture
 6240 Atlantic Regional Studies
 6260 Social and Economic Development
 6280 Newfoundland Ethnography
 6281 Labrador Ethnography
 6282 Ethnography of a Single Region
 6300 Fieldwork and Interpretation of Culture
 6400 Current Themes in Cultural Anthropology
 6410 History of Anthropology
 6412 Anthropological Theory
 6413 Applied Anthropology
 6430 Audiovisual Anthropology
 6440 Master's Research Paper (9 credit hours)
 6580-6599 Special Areas in Anthropology
 6600 Contemporary Debates in Anthropology
 6890 Graduate Seminar

7.6 Archaeology

Professor and Interim Head of the Department

S. Brown

7.6.1 Program of Study

The Degree of Master of Arts is offered in Archaeology by either full-time or part-time study.

1. Candidates may specialize in either archaeology or bioarchaeology.
2. The choice of specialty will govern the selection of Supervisor(s), courses, and thesis or research paper topics. When candidates are accepted into the program, they will be assigned one or more Supervisors. Candidates' programs shall be the responsibility of their Supervisor(s), the graduate co-ordinator, and the Head of the Department.
3. If candidates' records suggest a deficiency in some areas(s), the Department reserves the right to require that they complete additional undergraduate courses before beginning program courses.
4. Normally, the M.A. program should take six academic semesters to complete, of which the first three semesters will be spent in (a) completing course work, (b) writing and orally defending a thesis proposal before members of the faculty, and (c) beginning to carry out research. The following semesters will be spent in (d) completing research, (e) presenting an oral research report to the Department, and (f) completing a thesis.
5. Candidates for the Degree of a Master of Arts in Archaeology will be required to complete not fewer than 12 credit hours, nor more than 18 credit hours of courses at the graduate level.
6. Most Department graduate courses are taught in either a seminar or tutorial framework; all courses require intensive reading, regular oral communication of ideas to faculty and other students, and preparation of written research papers and other assignments.
7. Normally, during the second semester of the first year of study in the program, a written thesis proposal which has been approved by the student's Supervisor(s) will be circulated to all members of the Department. The written thesis proposal should be made available to faculty members at least two weeks prior to the scheduled date of a student's oral presentation and defence of the proposal.
8. Shortly following the completion of their research, candidates will be required to present an oral research report on their findings to the Department.
9. A final draft of the thesis will be evaluated in accordance with the requirements of the School of Graduate Studies.

7.6.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow.

6020 Bioarchaeology
 6040 Human Osteology
 6095 Advanced Studies in Ethnohistory (same as History 6095)
 6151 Palaeoethnobotany
 6181 Palaeoeskimo Cultures of the Eastern Arctic
 6182 Advances in Material Culture Analysis
 6187 Readings in Maritime Provinces Prehistory
 6189 Palaeopathology
 6191 Approaches to Early Modern Material Culture

6192 Conservation Method and Theory
 6290 Newfoundland and Labrador Prehistory
 6310 Economic Analyses in Archaeology
 6320 Ethnoarchaeology
 6330 Archaeological Field Conservation
 6409 History of Archaeology
 6411 Theory and Method in the Study of Archaeology and Prehistory
 6500 Special Topics in Historical Archaeology (Prerequisite 6191)
 6680-6699 Special Topics in Archaeology and Prehistory
 6700 Interpretative Methods in Archaeology
 6701 Interpretative Methods in Historical Archaeology
 6890 Graduate Seminar

7.7 Classics

Associate Professor and Head of the Department

T.J. Allen

7.7.1 Program of Study

The Department of Classics offers an M.A. in Classics, with an emphasis on classical texts and research methods, which suitably prepared students may complete in 1 year of full-time study, normally beginning in September.

1. Applicants should have an Honours Degree in Classics or a related field, including at least two years study in both Greek and Latin. Students expecting to complete the M.A. Degree within 12 months must have at least 24 undergraduate credit hours in one language (Greek or Latin) and 18 undergraduate credit hours in the other. Other applicants may be required to take 3 or more credit hours at the undergraduate level, in addition to their graduate course work.
2. Students will complete 18 credit hours in courses at the 6000 level (including 6100 and 6101) plus any additional courses the Department may deem necessary. The required courses 6100 and 6101 involve the intensive reading of ancient texts and also introduce students systematically to the most important research methods in Classics, including palaeography, textual criticism, bibliography, and historiography. Texts and methods chosen may vary according to the availability of instructors.
3. Students are also required to complete one of the following:
 - a. **Research Essay**
 Students will complete a research essay (approximately 15,000 words), normally in the third semester of their program of study. The essay will be graded by two members of faculty and will be assigned a PASS/FAIL grade.
 - b. **Translation Examination**
 Students will be required to pass two exams based on a reading list of Greek and Roman authors. One exam will be on Greek authors and one on Latin authors. The exams test students' ability to translate from Greek and Latin texts into English and will also require some commentary on the set texts. Students are expected to write these exams in the third semester of their program of study. The exam will be graded by two members of faculty and will be assigned a PASS/FAIL grade.
4. Students are required to complete an examination testing their competence in German, Italian or French, as early as possible in their program of study. This examination will be assigned a PASS/FAIL grade. (See **Evaluation, Evaluation of Graduate Students**, 4.)

7.7.2 Courses

6010 Greek Literature: Prose
 6020 Latin Literature: Prose
 6030 Greek Literature: Poetry
 6040 Latin Literature: Poetry
 6050 Greek History
 6060 Roman History
 6080 Ancient Philosophical Authors
 6100 Greek Literature/Research Methods
 6101 Latin Literature/Research Methods

Note: *The prerequisite of all 6000-level courses is at least three courses numbered 3000 and above (or equivalent) in the appropriate language.*

7.8 Economics

Professor and Interim Head of the Department

E.Y. Tsoa

The Degree of Master of Arts is offered in Economics. The focus of the program is applied economics. The non-thesis option is designed so that suitably qualified full-time students can complete it in one year. The thesis option normally takes more than one year.

7.8.1 Qualifications for Admission

To be considered for admission, an applicant must normally have completed an undergraduate Degree in Economics at a Canadian university with at least second-class Honours standing, or its equivalent. Satisfaction of this criterion does not guarantee admission and, if admitted, students may be required to complete specified undergraduate courses as deemed necessary by the Department.

7.8.2 Programs of Study

1. **Non-Thesis Option**
 - a. The program of study requires, in addition to any specified undergraduate courses, completion of 26 credit hours in graduate Economics courses, including a master's essay course. The maximum time normally permitted for students to satisfy these requirements is three years.
 - b. The 26 credit hours in graduate courses consist of the following:
 - i. 11 credit hours in core courses, which shall normally be completed in the first term of the program: Economics 6000, 6001, 6002, and 6009;

- ii. 12 credit hours in other courses selected from those offered by the Department;
 - iii. Masters Essay course: Economics 6999. Normally, all other required graduate courses must be completed before the essay.
 - c. The master's essay, Economics 6999, must be in the area relating to the courses taken by the student. Students will be assigned a Supervisor, who will approve the topic; the essay will be graded by the Supervisor and one other member of the Department. The essay must be completed during the semester in which the student is registered in Economics 6999. During that time, students may be required to give a Departmental seminar on their essays.
- 2. Thesis Option**
- a. The thesis option consists of 20 credit hours and a thesis. The thesis will consist of a comprehensive study in the area of the student's field courses. The thesis must embody systematic research and demonstrate a mastery of economic principles and their application. Thesis work will be completed under a Supervisor from the Department.
 - b. The thesis must normally be completed within the two years following completion of 20 required credit hours, which must include Economics 6000, 6001, 6002 and 6009.
 - c. The thesis will normally be evaluated internally and in accordance with the requirements of the School of Graduate Studies.

7.8.3 Courses

The following courses will be offered to meet the requirements of candidates, as far as resources of the Department will allow.

Core Courses

6000 Advanced Micro-economic Theory
 6001 Advanced Macro-economic Theory
 6002 Econometrics
 6009 Graduate Seminar (2 credit hours)

Elective Courses

6010 Taxation
 6011 Expenditure
 6012 Cost-benefit Analysis
 6013 Fiscal Federalism
 6014 Topics in Public Sector Economics
 6020 Economics of Nonrenewable Natural Resources
 6021 Economics of Renewable Natural Resources
 6022 Environmental Economics
 6023 Advanced Fisheries Economics
 6024 Topics in Resource Economics
 6040 Industrial Economics

Master's Essay Course

6999 Master's Essay

Note: Additional courses may be arranged, so far as the exigencies of the Department allow, to meet the particular needs of candidates.

7.9 English Language and Literature

Associate Professor and Head of the Department

D. Walsh

The degrees of Master of Arts and Doctor of Philosophy are offered in English Language and Literature.

Candidates for the M.A. in English may complete the program as either part-time or full-time students. Candidates for the Ph.D. in English must be in attendance as full-time students for at least three semesters of the program.

7.9.1 Admission

1. Admission to the M.A. in English is limited and competitive. Applicants should have an Honours B.A. in English (or the equivalent, 60 credit hours in English with an appropriate range of courses) and a strong academic record.
2. Strong candidates who have come close to achieving Honours equivalency may be admitted on the condition that they complete such undergraduate courses as the Department may deem necessary, in addition to the required graduate courses.
3. Candidates who have not completed English 4900 or an equivalent course will be required to complete English 5900 which will not count as one of the required courses for the M.A. The course will be graded 'pass' or 'fail'. As in other graduate courses a grade of 65 or above is considered a pass.

7.9.2 Program of Study

1. Thesis Option

- a. Candidates completing the M.A. with thesis will complete a minimum of 15 credit hours in graduate courses, which will normally include English 7003, and a thesis.
- b. Candidates must submit a thesis proposal which includes a statement of topic, a working title, a plan of research, and a preliminary bibliography. The proposal should be approved by the Supervisor or Supervisors and submitted to the Departmental Graduate Studies Committee for its approval by the end of the candidate's third semester. The Departmental Graduate Studies Committee shall return the thesis proposal to the candidate no later than one month after receiving it.
- c. Full-time students who choose the thesis option will usually complete their degree in two years.

2. Non-Thesis Option

- a. Candidates completing the M.A. without thesis will complete a minimum of 24 credit hours in graduate courses, which will normally include English 7003.
- b. Full-time students who choose the non-thesis option will usually complete their degree in one year.

7.9.3 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow.

- Notes: 1. *Since it is impossible to list in detail the many topics that may from time to time be offered, the titles below refer only to the major periods and general subject areas in which specific courses may be available. The content and approach in specific courses will vary according to the research interests of students and faculty involved in the course. Students should consult the Department's annual Graduate Student Guide (or the Graduate Co-ordinator) for detailed descriptions of specific course offerings. Normally, no fewer than ten graduate courses are offered in any given academic year.*
2. *English 5900 cannot be counted as one of the required graduate courses in any program.*
3. *All students will normally take English 7003 - Trends in Contemporary Literary Theory, usually in their first semester.*
4. *Students who took graduate courses in English at Memorial University of Newfoundland before 1997 should consult with the Department before selecting further courses.*

5900 Bibliography and Research Methods
 6403 Etymology (same as Linguistics 6403)
 6420 English Dialectology I
 6421 English Dialectology II
 6999 Master's Essay (for non-thesis students)
 7003 Trends in Contemporary Critical Theory
 7004 English Phonology and Morphology
 7005 The Syntactic Structure of English
 7020-25 Special Topics in English
 7032 Studies in Old English I
 7033 Studies in Old English II
 7034 Studies in Middle English I
 7035 Studies in Middle English II
 7036 Studies in Middle English III
 7037 Studies in 16th-Century Literature I
 7038 Studies in 16th-Century Literature II
 7039 Studies in 16th-Century Literature III
 7040 Studies in 16th-Century Literature IV
 7041 Studies in 17th-Century British Literature I
 7042 Studies in 17th-Century British Literature II
 7043 Studies in 17th-Century British Literature III
 7044 Studies in 17th-Century British Literature IV
 7045 Studies in 18th-Century British Literature I
 7046 Studies in 18th-Century British Literature II
 7047 Studies in 18th-Century British Literature III
 7048 Studies in 18th-Century British Literature IV
 7049 Studies in 19th-Century British Literature I
 7050 Studies in 19th-Century British Literature II
 7051 Studies in 19th-Century British Literature III
 7052 Studies in 19th-Century British Literature IV
 7053 Studies in 20th-Century British Literature I
 7054 Studies in 20th-Century British Literature II
 7055 Studies in 20th-Century British Literature III
 7056 Studies in 20th-Century British Literature IV
 7057 Studies in Pre-19th Century American Literature
 7058 Studies in 19th Century American Literature I
 7059 Studies in 19th-Century American Literature II
 7060 Studies in 19th-Century American Literature III
 7061 Studies in 20th-Century American Literature I
 7062 Studies in 20th-Century American Literature II
 7063 Studies in 20th-Century American Literature III
 7064 Studies in 20th-Century American Literature IV
 7065 Studies in Pre-19th Century Canadian Literature
 7066 Studies in 19th-Century Canadian Literature I
 7067 Studies in 19th-Century Canadian Literature II
 7068 Studies in 19th-Century Canadian Literature III
 7069 Studies in 20th-Century Canadian Literature I
 7070 Studies in 20th-Century Canadian Literature II
 7071 Studies in 20th-Century Canadian Literature III
 7072 Studies in 20th-Century Canadian Literature IV
 7073 Studies in Newfoundland Literature I
 7074 Studies in Newfoundland Literature II
 7075 Studies in Newfoundland Literature III
 7076 Studies in Anglo-Irish Literature I
 7077 Studies in Anglo-Irish Literature II
 7078 Studies in Modern Drama
 7079 Studies in Post-Colonial Literature I
 7080 Studies in Post-Colonial Literature II
 7081 Studies in Post-Colonial Literature III
 7082 Studies in Critical Theory I
 7083 Studies in Critical Theory II
 7084 Studies in Critical Theory III
 7085 Special Readings in English I
 7086 Special Readings in English II
 7087 Special Readings in English III

7.10 Environmental Policy

The M.A. in Environmental Policy is a rigorous, interdisciplinary study of environmental policy in terms of its theory, application, methodology and approaches with reference to central contemporary debates. It is also an applied program that equips students with practical skills in the field making links to the labour market through a required internship program.

The M.A. in Environmental Policy is offered by full-time study or part-time study and by completion of either a thesis or research paper. The **Thesis Option** involves completion of 15 credit hours of course work, an internship and a thesis, and is normally completed in two

academic years of full-time study and in three academic years of part-time study. The **Research Paper Option** involves completion of 18 credit hours of course work, an internship and a research paper, and is normally completed in one academic year of full-time study and up to three academic years of part-time study.

The following regulations must be read in conjunction with the **General Regulations** of the School of Graduate Studies of Memorial University of Newfoundland.

7.10.1 Administration

1. The program shall be administered by a Graduate Officer, who reports to the Dean of Graduate Studies. The Graduate Officer shall be appointed by the Dean of Graduate Studies on the recommendation of the Head of Social Science, Grenfell Campus and the Vice-President, Grenfell Campus. In making this recommendation, the Head of Social Science, Grenfell Campus and the Vice-President, Grenfell Campus may consult with the environmental policy community both within and outside the University.
2. An Executive Committee consisting of the Graduate Officer and the Head of Social Science, Grenfell Campus and the Vice-President, Grenfell Campus will be established to review administrative, resource and strategic planning issues related to the program. This committee shall be chaired by the Dean of Graduate Studies.
3. The Graduate Officer shall consult with the Graduate Committee in Environmental Policy (GCEP) for the purposes of administering the academic elements of the program. The GCEP shall normally consist of seven members appointed by the Dean of Graduate Studies on the recommendation of the Graduate Officer. The GCEP will include the Graduate Officer, who shall chair the committee, approximately four faculty members from the Division of Social Science, Grenfell Campus who teach core courses, the Head of Social Science, Grenfell Campus and one student representative, Grenfell Campus.
4. An Advisory Board in Environmental Policy (ABEP) shall be established for the purposes of consulting with and obtaining feedback from the environmental policy community. The ABEP will consist of a broad cross-section of members from the environmental policy community both within and outside the University who shall be appointed by the Dean of Graduate Studies on the recommendation of the Graduate Officer.

7.10.2 Qualifications for Admission

1. Admission is limited and competitive.
2. To be considered for admission, applicants shall have an undergraduate degree, with a minimum B standing, from an institution recognized by Senate.
3. In exceptional cases, applicants who have not completed an undergraduate degree may be considered for admission. Preference will be given to those who have a minimum of 10 years of full-time professional experience, including demonstrated success in environmental policy, and who have successfully completed substantial university course work including several courses at an advanced undergraduate level from an institution recognized by Senate. Applicants without an undergraduate degree must have completed one or more undergraduate courses in public policy, public administration or political science and one or more undergraduate courses in geography, biology or chemistry from an institution recognized by Senate, with a minimum B standing in each course. Applicants may also be required to successfully complete the Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE) with an acceptable score and/or additional undergraduate courses before being considered for admission.
4. To be eligible for consideration for admission, applicants shall meet the English Proficiency Requirements described under **General Regulation - Qualifications for Admission, English Proficiency Requirements**.
5. Applicants will be assessed for admission to the M.A. in Environmental Policy based on their interests, their potential to produce meaningful research in the field of environmental policy and the availability of supervisors in the area of the applicant's interest.
6. Interdisciplinary study in the program is encouraged by the University. Applicants with an interdisciplinary background or whose background combines two or more fields of study (e.g., political science, public policy, environmental studies, geography, resource management, environmental science, public administration) would be an excellent fit for this program.

7.10.3 Deadlines for Applications

1. Applicants seeking full-time enrollment will normally only be admitted to the program in the Fall (September) semester.
2. Applications must be postmarked no later than February 15 for applicants wishing to enter full-time or part-time studies in the Fall (September) semester.
3. Applications must be postmarked no later than August 15 for applicants wishing to enter part-time studies in the Winter (January) semester.
4. Individuals submitting applications later than the above dates are not assured of consideration for admission to the program in the semester desired; their applications will be processed only if time and resources permit.

7.10.4 Procedure for Admission

1. Applications for admission to the M.A. in Environmental Policy program must be made on the appropriate form and submitted to the School of Graduate Studies.
2. The following documents must be submitted in support of the official application form:
 - a. Letter of appraisal from three referees, at least one of whom is capable of appraising the applicant's academic potential as a graduate student, and at least one of whom is capable of appraising the applicant's professional experience and/or actual or likely success in a career in environmental policy.
 - b. Two official transcripts from each university or other post-secondary institution previously attended, to be sent directly by its Registrar (or equivalent officer) to the School of Graduate Studies. If not recorded on the transcript, official evidence of completion of undergraduate degree must also be submitted.
 - c. All applicants must submit a one page statement outlining their research interests and are strongly encouraged to identify a supervisor.
 - d. Application files are normally evaluated after the deadline dates for application noted above and only when all required documentation has been received.
 - e. Admission shall be by the Dean of Graduate Studies on the recommendation of the GCEP. Upon notification from the Dean of the School of Graduate Studies of acceptance into the M.A. in Environmental Policy program, applicants must give written notice to the School of Graduate Studies of their intention to register.

7.10.5 Program of Study

1. **Thesis Option:** Students in the thesis-based program must complete 15 credit hours in graduate program as specified in **Table I**, an internship (ENVP 6030) and a thesis. There are four required courses (representing 12 credit hours) as specified in **Table II**. One elective, representing 3 credit hours, related to the student's research specialty is to be completed and may be chosen from **Table III** in consultation with the student's thesis supervisor.
2. **Research Paper Option:** Students in the research paper-based program must successfully complete 18 credit hours in graduate program courses as specified in **Table I**, an internship (ENVP 6030) and a Research Paper (ENVP 6999). There are four required courses (representing 12 credit hours) as specified in **Table II**. Two electives, representing 6 credit hours, are to be completed, of which at least one is to be from **Table II**. The second elective, related to the student's research specialty, may be chosen from **Table II** or **Table III** in consultation with the student's research paper supervisor.
3. Further courses beyond the minimum number may be required, depending on the background and needs of the student.
4. Students are responsible for fulfilling all pre-requisites.
5. All students are required to attend two Workshops:
 - a. **Policy and Science Orientation Workshop**
This workshop is held the first week of September each year. Its intent is to provide students with a limited policy or biophysical background with conceptual tools to frame each discipline in order to orient students to the program. The workshop is team-taught and is three full days in length.
 - b. **Pre-Internship Workshop**
This two day workshop reviews the internship requirements, aids students in writing resumes and cover letters, discusses interviewing practices and examines student/employer relationships. It is held during the first week after classes end in December of each year.
6. **Internship Requirements**
 - a. All students are required to complete an environmental policy internship (ENVP 6030) with a relevant government office, non-governmental organization, community group or business. Internships are normally selected from a list of approved organizations that is maintained by the Internship Officer and Graduate Officer. Internship placements may be outside the Corner Brook area and possibly outside Newfoundland and Labrador. Final decisions for internship placements rest with the Graduate Officer in consultation with the Internship Officer.
 - b. Internships are usually completed in the Spring semester of each year.
 - c. Internships are for full-time employment hours for the duration of the semester (12 weeks). Part-time internships over longer periods may be considered and will require approval from the Internship Officer and the Graduate Officer.
 - d. A competition for internships is organized by the Internship Officer. By entering the competition, students give permission for the Internship Officer to supply their university transcripts to potential employers. Students who do not wish to accept an internship arranged by the Internship Officer shall be responsible for finding an alternative acceptable to the Internship Officer in consultation with the Graduate Officer.
 - e. Students must attend scheduled pre-internship orientation workshop, professional development and exit meeting.
 - f. Each Internship placement is supervised and evaluated by the Internship Officer, the on-site Supervisor assigned by the employer and the Graduate Program Coordinator. The internship shall consist of two components:
 - i. On-Site Student Performance as evaluated by the Internship Officer in consultation with the on-site Supervisor assigned by the employer.
 - ii. An Internship Report graded by the Internship Officer or the Graduate Officer in consultation with the on-site Supervisor assigned by the employer.
 - g. Evaluation of the Internship shall result in one of the following final grades: Pass, or Fail.
A student must obtain a Pass in both the On-Site Student Performance and the Internship Report to obtain a final grade of Pass.
If a student fails to achieve the internship standards specified above, the student may be required to withdraw from the program. Such a student may reapply to the program after a lapse of two semesters, at which time the student will be required to complete a further internship with satisfactory performance before being admitted to any further academic term in the Faculty. An internship may only be repeated once.
 - h. Students who voluntarily withdraw from the internship without prior approval from the Internship Officer and the Graduate Officer, or who conduct themselves in such a manner as to cause the host organization and the Internship Officer to terminate the placement, will normally be awarded a grade of FAIL in the internship.
 - i. Students are not permitted to drop internships without prior approval of the Internship Officer in consultation with the Graduate Officer. The Internship Officer will make a recommendation to the Graduate Officer who will make the final decision. Students who drop an internship without permission, who fail to honour an agreement to work with a host organization, or who conduct themselves in such a manner as to cause their discharge from the internship position will normally be awarded a failed grade for the internship. Permission to drop an internship does not constitute a waiver of degree requirements, and students who have obtained such permission must complete an approved internship in lieu of the one dropped.
7. All students are required to complete the Graduate Research Integrity Program (GRIP) - GRAD 9991.
8. Students in the M.A. in Environmental Policy shall meet the minimum residency of at least two semesters required under **General Regulation, Registration - Period of Study** of the University Calendar. Students are encouraged to meet this residency requirement in the first two semesters of their program.
9. All students will be required to present a seminar on their thesis or research paper in the final semester of their program as part of their thesis or research paper requirements. For applicable students, the thesis will be examined in accordance with the **General Regulations - Theses and Reports** of the School of Graduate Studies.

7.10.6 Evaluation

1. Candidates for the Master of Arts in Environmental Policy degree must obtain a grade of B or better in all program courses.
2. Candidates who receive a grade of less than B in a program course will be permitted to remain in the program, provided the course is repeated and passed with a grade of B or better. Alternatively, the candidate may, on the recommendation of the GCEP, and with the approval of the Dean of Graduate Studies, substitute another graduate course. Only one course repetition or substitution will be permitted during the candidate's program after which the candidate shall be required to withdraw from the program.

7.10.7 Courses

The schedule of courses for the Master of Arts in Environmental Policy is as follows:

Table I - Master of Arts in Environmental Policy Schedule of Courses

Term	Thesis Option	Research Paper Option
Fall Semester 1	Policy and Science Internship Workshop Two required courses from Table II One elective from Table II or Table III Pre-Internship Workshop	Policy and Science Internship Workshop Two core courses from Table II One elective from Table II or Table III (one elective, either in the Fall or Winter Semester, shall be from Table II) Pre-Internship Workshop
Winter Semester 2	Two required courses from Table II GRAD 9991 - Graduate Research Integrity Program (GRIP)	Two core courses from Table II One elective from Table II or Table III (one elective, either in the Fall or Winter Semester, shall be from Table II) GRAD 9991 - Graduate Research Integrity Program (GRIP)
Spring Semester 3	Environmental Policy 6030 Internship	Environmental Policy 6030 Internship

Table II - Master of Arts in Environmental Policy Courses - Grenfell Campus

Required Courses	Elective Courses
6000 Foundations of Environmental Policy and Administration 6001 Applied Environmental Problem Solving: A Case Based Approach 6002 Research Design and Methods 6003 Environmental Political Thought	6052 Political Economy, Political Ecology and Policy 6053 Ecological Economics 6054 Labour and Environmental Policy 6055 Environmental Impact Assessment (cross-listed as EVST 4000) 6056 Risk Assessment and Analysis 6057 Energy Policy 6058 Management and Regulation of Water Resources 6059 Natural Resources Policy and Administration 6520-30 Special Topics Courses

Table III - Master of Arts in Environmental Policy - Policy Relevant Courses - St. John's Campus

Biology 7551 Fisheries Resource Management Business 8210 Labour Relations 9329 Labour Law Economics 6014 Topics in Public Sector Economics 6020 Economics of Nonrenewable Natural Resources 6021 Economics of Renewable Natural Resources 6022 Environmental Economics 6023 Advanced Fisheries Economics 6024 Topics in Resource Economics Engineering 9601 Environmental Pollution and Mitigation (cross-listed as ENVS 6004) 9622 Environmental Statistics 9624 Air Pollution (cross-listed as ENVS 6008) 9625 Environmental Impacts of Offshore Oil and Gas Operations 9629 Environmental Policy and Regulations 9630 Pollution Prevention Environmental Science 6000 Environmental Science and Technology 6001 Earth and Ocean Systems 6002 Environmental Chemistry and Toxicology 6003 Applied Ecology	Fisheries Resource Management 6003 Fisheries Economics 6004 Fisheries Policy 6005 Fisheries Planning and Development 6006 Business Management for Fisheries Geography 6204 Sustainable Community and Regional Development 6250 Conservation and Sustainability of Natural Resources 6251 Survey Design, Questionnaire Development and Techniques of Data Collection 6300 Problems in Fisheries Geography 6500 Cultural Geography 6700 Political Geography Medicine 6288 Policy and Decision Making 6722 Environmental Health Political Science 6710 Intergovernmental Relations 6740 Public Administration 6790 Public Policy Process Sociology 6140 The Community 6350 Environmental Sociology
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7.11 Ethnomusicology

Professor and Dean

E. Waterman

Professor and Associate Dean

M. Volk

The Master of Arts program in Ethnomusicology is administered by the School of Music in consultation with the Department of Folklore, and generally in response to recommendations from an Interdisciplinary Advisory Committee with representation from both academic units, chaired by the Program Co-ordinator.

The Degree of Master of Arts in Ethnomusicology is offered by part-time and full-time study. While it is normally a course work degree, a thesis option is available upon application. Fieldwork is often a requirement both for independent research and course work. The resources of the Memorial University of Newfoundland Folklore and Language Archive are available to graduate students in Ethnomusicology.

7.11.1 Qualifications for Admission

Applicants may be admitted to the program if they have at least a B+ average with a B.Mus. Degree or other Degree in the Humanities or Social Sciences with evidence of specialization in music. Applicants whose professional music training took place outside the university system are also encouraged to apply, provided they have the academic equivalent of the qualifications described above. Applicants from a discipline other than Music will be expected to demonstrate the following skills:

- Competent performance in any musical tradition, as judged by a musician knowledgeable about that tradition.
- Knowledge of culturally appropriate language for discussion of performance techniques in that tradition.
- Ability to discuss musical details on the basis of aural and/or written sources, as appropriate to that tradition.

Candidates for admission may, at the discretion of the Interdisciplinary Advisory Committee, be required to write diagnostic examinations measuring skills and knowledge in music literacy, theory, or aural perception. Candidates with deficiencies in any of these areas may be required to take remedial course work prior or in addition to the required program.

7.11.2 Program of Study

The M.A. program will normally be completed within five consecutive semesters of full-time study. The degree is normally taken by completing course work and a major research paper. In special circumstances, a student may apply to complete the degree by completing course work and a thesis. Demonstration of competence in a language other than English may be required if warranted by the research proposed by the student.

1. Course Work M.A.

- a. Students must normally complete a minimum of 24 credit hours plus a major research paper (Music 7002). Further courses beyond the minimum number may be required, depending on the background of the student. The required courses are:
 - i. Music 7001; Folklore 6010, 6030.
 - ii. One of Folklore 6100 or Music 6002.
 - iii. One area or genre studies course (3 credit hours) relevant to the research of the student.
 - iv. Nine credit hours to be selected from the Music and Folklore courses listed below (with the approval of the Interdisciplinary Advisory Committee); one elective (3 credit hours) may be a relevant course offered in another discipline (with the approval of the Interdisciplinary Advisory Committee).
- b. Research paper (Music 7002) on a topic chosen by the student with his/her supervisor's approval. Proposals for topics and supervisors will be vetted by the Interdisciplinary Advisory Committee no later than the beginning of the third term of study. The paper will normally demonstrate the student's ability to apply methodologies and theoretical constructs, learned in the courses taken, to a specific repertory, or performance context.

2. Thesis M.A. (available by special application to the Interdisciplinary Advisory Committee)

- a. Students must normally complete a minimum of 21 credit hours plus a thesis. The required courses are:
 - i. Music 7001; Folklore 6010, 6030.
 - ii. One of Folklore 6100 or Music 6002.
 - iii. One area or genre studies course (3 credit hours) relevant to the research of the student.
 - iv. Six credit hours to be selected from the Music and Folklore courses listed below (with the approval of the Interdisciplinary Advisory Committee); one elective (3 credit hours) may be a relevant course offered in another discipline (with the approval of the Interdisciplinary Advisory Committee).
- b. Thesis submitted in accordance with General Regulation **Theses and Reports** of the School of Graduate Studies. A thesis proposal, consisting of a statement of topic, working title, plan of research, and preliminary bibliography, with the name of the preferred Supervisor, shall be submitted by the candidate to the Interdisciplinary Advisory Committee no later than the beginning of the third term of study.

7.11.3 Courses

Theories and Methods:

Music 6001 Research Methods
 Music 6002 Graduate Seminar
 Music 7001 Research Problems and Methods in Ethnomusicology
 Music 7002 Research Paper
 Folklore 6010 Survey of Folklore Genres and Processes
 Folklore 6020 Field and Research Methods
 Folklore 6030 Folklore Theories
 Folklore 6040 Feminist Theories: Perspectives and Issues
 Folklore 6080 Vernacular Theories
 Folklore 6090 Ethnology
 Folklore 7100 Advanced Folkloristics II: Research and Ethnography

Form and Performance:

Music 7005 Performance Option
 Folklore 6100 Song and Music
 Folklore 6120 Ballad
 Folklore 6130 Folk Music Canons and Documentary Sound Recordings
 Folklore 6200 Folktale
 Folklore 6210 Legend
 Folklore 6220 Personal Experience Narrative
 Folklore 6250 Language and Play
 Folklore 6260 Ethnography of Communications
 Folklore 6300 Ethnography of Belief
 Folklore 6310 Health Systems
 Folklore 6350 Custom
 Folklore 6360 Traditional Drama
 Folklore 6400 Material Culture
 Folklore 6410 Vernacular Architecture
 Folklore 6420 Art and the Artifact

Folklore 6430 Food and Culture
Folklore 6720 Folklore and Literature

Area and Genre Studies:

Music 7010 World Music: Music of Asia and Oceania
Music 7011 World Music: Music of Africa and the Americas
Music 7012 Canadian Musical Traditions
Music 7013 Music and Culture
Music 7017 Folksong
Music 7018 Jazz and Blues: The Roots of Popular Music
Folklore 6120 Ballad
Folklore 6600 Folklore of Newfoundland
Folklore 6610 Folklore of Canada
Folklore 6620 Folklore of the United States
Folklore 6630 Folklore of the British Isles
Folklore 6770 The Global and the Local

Social Identities:

Music 7006 Urban Ethnomusicology
Music 7007 Music in the Study of Gender, Race and Class
Music 7009 Music and Place
Folklore 6510 Occupational Folklore
Folklore 6551 Indigenous Expressive Cultures in Cross-cultural Encounter
Folklore 6730 Folklore and Gender
Folklore 6780 Ethnicities

Public and Applied Ethnomusicology and Folklore:

Music 6700 Music Industries Seminar
Music 6750 Music Industries Internship (2 credit hours)
Folklore 6740 Public Sector Folklore
Folklore 6760 Archiving
Folklore 6790 Museums: Perspectives and Practices
Folklore 6800 Applied Folklore

Interdisciplinary Perspectives:

Music 7008 Media Studies
Folklore 6700 Folklore and Culture
Folklore 6710 Oral Tradition and Oral History
Folklore 6750 Popular Culture: Theory and Debate

Independent Study:

Music 7026-29 Directed Reading in Ethnomusicology
Folklore 6570-79 Reading Courses in Folklore

Special Topics:

Music 6800-09 Special Topics in Music
Music 7800-09 Special Topics in Music
Folklore 6511-29 Special Topics in Folklore
Folklore 6570-79 Reading Course in Folklore

7.12 Folklore

Professor and Head of the Department

D. Tye

The Degree of Master of Arts in Folklore is offered by part-time and full-time study. The program normally requires extensive fieldwork research in Newfoundland and/or the Maritimes.

Integral to the teaching of the Department of Folklore is work of the Memorial University of Newfoundland Folklore and Language Archive.

7.12.1 Program of Study

1. Applicants may be admitted to the graduate program if they have an average of at least grade 'B' in no fewer than 36 credit hours in Folklore or in any other discipline in the Humanities or Social Sciences.
2. The M.A. program will normally be completed within six consecutive semesters (i.e., a two-year period). The Degree of Master of Arts in Folklore may be taken by course work and comprehensive examination, course work and thesis, or course work and co-operative education work terms. All options are available to full-time and part-time students. However, the work term component of option C cannot be completed on a part-time basis.
 - a. **M.A. With Thesis:**
 - i. Students choosing to do the M.A. with thesis must normally complete a minimum of 24 credit hours plus a thesis. Normally, the required courses are:
 - 6010, 6020, and 6030, normally taken as an integrated foundation in the Fall semester.
 - At least one of the following: 6060, 6100, 6120, 6130, 6200, 6210, 6220, 6250, 6260, 6360, 6720.
 - At least one of the following: 6070, 6300, 6310, 6350, 6370, 6400, 6410, 6420, 6430.
 - Nine additional credit hours to be selected from courses in the groups listed above or from the other courses offered by the Department.
 - ii. A brief thesis pre-proposal, including a statement of topic, working title, plan of research, ethics statement, preliminary bibliography, and the name of a preferred Supervisor, shall be submitted no later than the end of the candidate's second semester. A full proposal shall normally be submitted to the Department of Folklore and orally presented before members of the faculty by the end of the candidate's fourth semester. The written thesis proposal should be made available to faculty members at least two weeks prior to the scheduled date of a student's oral presentation of the proposal. Following approval of the thesis proposal and consultation with the candidate, the Supervisor and thesis topic will be recommended to the Dean.

b. M.A. With Comprehensive Examination:

- i. Students choosing to do the M.A. with comprehensive examination must normally complete a minimum of 30 credit hours plus comprehensive examination. Normally, the required courses are:
 - 6010, 6020, and 6030, normally taken as an integrated foundation in the Fall semester.
 - At least one of the following: 6060, 6100, 6120, 6130, 6200, 6210, 6220, 6250, 6260, 6360, 6720.
 - At least one of the following: 6070, 6300, 6310, 6350, 6370, 6400, 6410, 6420, 6430.
 - Fifteen additional credit hours to be selected from courses in the groups listed above or from the other courses offered by the Department.
- ii. Each candidate selecting the M.A. with comprehensive examination option shall normally submit, by the end of the candidate's second semester, written notification of intention to take comprehensives.
- iii. Each candidate selecting this option shall normally write the comprehensive examination at the end of the candidate's fifth semester in the program. The comprehensive examination will be graded by a comprehensive examination committee appointed by the Dean of Graduate Studies on the recommendation of the Head of the Department, in accordance with **General Regulations** governing the School of Graduate Studies.

c. M.A. With Public and Applied Folklore Co-operative Education Work Terms:

- i. Students choosing to do the M.A. with Public and Applied Folklore Co-operative Education option must normally complete a minimum of 24 credit hours plus two co-operative education work terms. The required courses are:
 - 6010, 6020, and 6030, normally taken as in integrated foundation in the Fall semester.
 - 6740 or 6800 and at least one additional course selected from the following: 6551, 6740, 6760, 6790, 6800.
 - At least one of the following: 6100, 6120, 6130, 6200, 6210, 6220, 6250, 6260, 6360, 6720.
 - At least one of the following 6300, 6310, 6350, 6370, 6400, 6410, 6420, 6430.
 - Three additional credit hours to be selected from courses in the groups listed above or from the other courses offered by the Department.
 - 601W and 602W.
- ii. The dates for starting and finishing each work term are shown in the **University Diary**.
- iii. A competition for work term employment is organized by the Division of Co-operative Education (DCE) in cooperation with the Department of Folklore. Students may also obtain their own work term jobs outside the competition. Such jobs must be confirmed by letter from the employer and approved by the Head of Folklore and by the DCE on or before the first day of the work term. Work term jobs may be outside St. John's and possibly outside Newfoundland and Labrador. Students who do not wish to accept a work term job arranged by DCE shall be responsible for finding an alternative acceptable to the Head of Folklore and the DCE. By entering the competition, students give permission for the DCE to supply their Memorial University of Newfoundland transcripts to potential employers.
- iv. Each work term placement will be supervised by the candidate's program Supervisor, the on-site Supervisor assigned by the employer and the DCE Co-ordinator. The overall evaluation of the work term is the responsibility of the program Supervisor, on-site Supervisor and DCE Co-ordinator. The work term shall consist of two components:
 - On-the-job Student Performance as evaluated by the on-site Supervisor and DCE Co-ordinator, in consultation with the program Supervisor.
 - A Work Report graded by the program Supervisor in consultation with the on-site Supervisor.
- v. Evaluation of the work term will result in the assignment of one of the following final grades:
 - *Pass with Distinction*: Indicates EXCELLENT PERFORMANCE in both the work report and work performance.
 - *Pass*: Indicates that PERFORMANCE MEETS EXPECTATIONS in both the work report and work performance.
 - *Fail*: Indicates FAILING PERFORMANCE in the work report and/or the work performance.

If a student fails to achieve a final grade of *Pass* or *Pass with Distinction*, and provided the student has not failed to achieve a grade of 'B' or better in any program course, the student may request to repeat the work term component. The request will be considered by the Department Head in consultation with the program Supervisor and must include a proposal for a new work term placement. Only one work term repeat will be permitted in the student's program. Alternatively, the student may apply for a change of route to the thesis or comprehensive examination program option.

7.12.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, normally after consultation with the Head of the Department or the Graduate Studies Administrator, and as far as the resources of the Department will allow. Courses are structured according to the categories of: Theories and Methods, Issues, Form and Performance, Special Topics, Regional, National and International Heritage, Social Identities, Public and Applied Folklore, Interdisciplinary Perspectives, and Required (Ph.D.):

Cooperative Education Work Terms

601W Work Term I

602W Work Term II

Theories and Methods

6010 Survey of Folklore Genres and Processes

6020 Field and Research Methods

6030 Folklore Theories

6040 Feminist Theories: Perspectives and Issues

6080 Vernacular Theories

6090 Ethnology

Issues

6050 Issues in Folkloristics

6060 Issues in Oral Tradition and Performance

6070 Issues in Folklife

Form and Performance

6100 Song and Music

6120 Ballad

6130 Folk Music Canons and Documentary Sound Recordings

6200 Folktale
 6210 Legend
 6220 Personal Experience Narrative
 6250 Language and Play
 6260 Ethnography of Communications
 6300 Ethnography of Belief
 6310 Health Systems
 6350 Custom
 6360 Traditional Drama
 6370 Ritual, Festival and Public Display
 6400 Material Culture
 6410 Vernacular Architecture
 6420 Art and the Artifact
 6430 Food and Culture
 6720 Folklore and Literature

Special Topics

6511-29 Special Topics in Folklore
 6550 Special Research in Folklore
 6551 Indigenous Expressive Cultures in Cross-cultural Encounter
 6552-69 Special Research in Folklore
 6570-79 Reading Course in Folklore

Regional, National and International Heritage

6600 Folklore of Newfoundland
 6610 Folklore of Canada
 6620 Folklore of the United States
 6630 Folklore of the British Isles
 6640 Traditional Culture of Scotland
 6650 Culture and Traditions of Ireland
 6660 Folklore of the Francophone Regions
 6690 International Folklore

Social Identities

6510 Occupational Folklife
 6730 Folklore and Gender
 6770 The Global and the Local
 6780 Ethnicities

Public and Applied Folklore

6740 Public Sector Folklore
 6760 Archiving
 6790 Museums: Perspectives and Practices
 6800 Applied Folklore

Interdisciplinary Perspectives

6700 Folklore and Culture
 6710 Oral Tradition and Oral History
 6750 Popular Culture: Theory and Debate

Required (Ph.D.)

7000 Advanced Folkloristics I
 7100 Advanced Folkloristics II Research and Ethnography

Note: Credit may not be obtained for both 6010 and the former 6110; 6020 and the former 6111; 6030 and the former 6112; 6100 and the former 6430; 6120 and the former 6445; 6300 and the former 6230; 6350 and the former 6230; 6400 and the former 6501; 6720 and the former 6460.

7.13 French

Associate Professor and Head of the Department

A. Thureau

7.13.1 Program of Study

1. The Degree of Master of Arts in French Studies may be completed by full-time or part-time study. "French Studies" may take the form of the study of the French language or of francophone literature, including the study of literary history, criticism or theory. It may also include the study of French-language cinema or of other aspects of francophone civilization.
2. Candidates who are practicing teachers of French and wish to pursue French studies in conjunction with studies of the teaching of French may opt to pursue the Master of Arts and Education (Education and Francophone Literatures and Cultures) degree jointly offered by the Faculty of Arts, Department of French and Spanish and the Faculty of Education.
3. Applicants for the M.A. program in French Studies are normally expected to have completed the Honours Degree with a second-class standing or better. An applicant who does not hold an Honours Degree or its equivalent may be required to complete such additional undergraduate courses as the Department considers necessary, prior to admission or as part of the program.
4. The M.A. program in French Studies will consist of 15 credit hours in graduate courses (normally requiring 2 or 3 semesters of full-time study), plus research activities and a thesis of approximately 80 pages. The 15 credit hours shall include 6008 and 6009, normally completed in consecutive semesters. The remaining 9 credit hours shall be obtained by completion of three courses chosen from those in three of the five groups listed in the **Courses** section below. The language of the thesis will be French. The thesis proposal, after being approved by the Supervisor, will be submitted by the candidate, normally before the end of the third semester of studies, to the Departmental Graduate Studies Committee, who will decide whether or not to grant its approval.
5. Each candidate's program of study must be approved by the Departmental Graduate Studies Committee.
6. A paper drawn from the thesis will be presented at a Departmental seminar or in another forum approved by the Departmental Graduate Studies Committee. Normally, this presentation will take place at some time between submission of the final draft thesis to the Supervisor and the submission of the thesis to the School of Graduate Studies.
7. The approval of the Departmental Graduate Studies Committee must be obtained before the thesis is forwarded to the School of

Graduate Studies for examination.

8. In the final version of the M.A. thesis and other written assignments for M.A. courses, the quality of written French must be of a standard acceptable to the Department as represented by the Graduate Studies Committee. Normally, this will mean that the final version of such assignments will be free of spelling, lexical, and grammatical errors, and of improper use of stylistic conventions. In the case of the M.A. thesis, this requirement applies to the version submitted for examination.

7.13.2 Courses

A selection of the following graduate courses will be offered to meet candidates' requirements, as far as the resources of the Department will allow:

6008* Literary Methodology and Theory I
6009* Literary Methodology and Theory II

Historiographical, Genetic, Thematic, Hermeneutical or other historical or critical approaches to French Studies

6032 Genetic Criticism and Exegesis
6102 History of the French Language

Psychoanalytical, Ethnological or Anthropological approaches to French Studies

6020 Literature and Psychoanalysis
6021 Mythocriticism
6130-39 Personal/Intimate Literature

Sociological or Socio-historical approaches to French Studies

6022 History, Society, Ideology and Texts
6101 The Female Voice: Women's Writing and its Contribution to the Development of French and Francophone Texts
6110-19 Paraliterature and Traditional Culture

Linguistic, Semiotic, Poetic, Rhetorical or Pragmatic approaches to French Studies

6011 General Theory of the French Language
6030 Grammar of the Text
6031 Narratology
6140-49 Genres and Discursive Forms

Other approaches to French Studies

6120-29 Texts/Images/Sounds
6150-59 Special Topics

French and Spanish Courses for Students in Other Disciplines

French 6900 Reading in French
Spanish 6900 Reading in Spanish

Note: *Credit may not be obtained for both French 6008 and the former French 6006; or for both French 6009 and the former French 6006.

Français

Professeur Agrégée et Directrice du Département

A. Thureau

1. Le diplôme de Maîtrise ès Arts en Études françaises sanctionne des études à temps plein ou à temps partiel. Les études françaises comprennent l'étude de la langue et de la littérature et l'étude de l'histoire, de la critique ou de théorie littéraire, ainsi que l'étude du cinéma ou d'autres aspects des civilisations francophones.
2. Les enseignants et enseignantes de français qui veulent poursuivre leurs études en français et en didactique du français peuvent choisir le programme de Maîtrise ès Arts et Éducation (Enseignement des littératures et cultures francophones) offerte par la Faculté des Arts, le Département d'études françaises et hispaniques et la Faculté d'Éducation.
3. Pour être admis au programme de Maîtrise ès Arts en Études françaises, l'étudiant doit normalement détenir un diplôme de baccalauréat avec une spécialisation en Études françaises et une note moyenne d'au moins B. Le département pourra obliger toute personne ne détenant pas ce diplôme ou son équivalent à suivre certains cours du premier cycle avant d'être admis au programme de deuxième cycle ou pendant ses études de maîtrise.
4. L'option en Études littéraires comprend quinze crédits de cours, ce qui exigera normalement 2 ou 3 trimestres d'études à temps plein et un mémoire d'environ 80 pages rédigé en français. Tous les candidats complèteront le Fr.6008 et le Fr.6009.
Normalement, ces deux cours devront être complétés en deux trimestres consécutifs. En plus, il faudra compléter 3 cours choisis parmi ceux qui font partie de 3 des 5 groupes identifiés dans la section **COURS**. Le projet de mémoire, qui est approuvé par son directeur, doit être officiellement présenté par le candidat au Comité des Études de deuxième cycle, avant la fin du troisième trimestre, pour son approbation.
5. Le programme d'études du candidat doit être approuvé par le Comité des Études de deuxième cycle.
6. Une communication tirée du mémoire sera présentée dans le cadre des séminaires départementaux ou dans une autre réunion approuvée par le Comité des Études de deuxième cycle. Normalement, cette présentation se fera entre la soumission à son directeur et sa soumission définitive à l'École des Études supérieures.
7. Avant d'être soumis à l'École des Études supérieures, le mémoire doit être proposé au Comité des Études de deuxième cycle, qui doit en autoriser le dépôt.
8. Dans la version finale du mémoire et des autres travaux préparés pour les cours de maîtrise, la qualité du français écrit doit être d'un niveau acceptable au département, qui est représenté par le Comité des Études de deuxième cycle. Ainsi, la version finale de ces travaux ne contiendra-t-elle pas, normalement, d'erreurs orthographiques, lexicales, grammaticales, stylistiques et protocolaires. Pour ce qui est du mémoire, cette exigence s'applique à la version remise aux examinateurs.

Cours

Un choix des cours de deuxième cycle suivants sera offert afin de répondre aux besoins des étudiants inscrits au programme de maîtrise selon les ressources disponibles au département:

6008* Méthodologie et théorie de la littérature I
6009* Méthodologie et théorie de la littérature II

Approche historiographique, génétique, thématique, herméneutique ou autrement historique ou critique:

6032 Génétique et critique
6102 Histoire de la langue française

Approche psychanalytique, ethnologique ou anthropologique:

6020 Psychanalyse et littérature
6021 Mythocritique
6130-39 Littérature personnelle/intime

Approche sociologique ou socio-historique:

6022 Histoire, société, idéologie et textes
6101 La voix féminine et le féminisme
6110-19 Paralittérature et cultures traditionnelles

Approche linguistique, sémiotique, poétique, rhétorique ou pragmatique:

6011 Théorie générale de la langue française
6030 Grammaire du texte
6031 Narratologie
6140-49 Discours et genres

Autres approches aux Études françaises:

6120-29 Textes/Images/Sons
6150-59 Sujets spéciaux

Cours de français et d'espagnol pour étudiants d'autres disciplines

Français 6900 Lecture en français
Espagnol 6900 Lecture en espagnol

* Nota / Note: Les étudiants ne peuvent obtenir de crédit pour le Français 6008 et le Français 6006 (désormais supprimé) ni pour le Français 6009 et le Français 6006.

7.14 Geography

Professor and Head of the Department

C. Mather

7.14.1 Program of Study

1. The degrees of Master of Arts and Master of Science are offered in Geography by full-time or part-time study.
2. Admission requirements are set forth in the **General Regulations** of the School of Graduate Studies and Degree Regulations for **Master of Arts** and **Master of Science**.
3. The deadline for submission of applications for admission is January 15. Candidates will normally commence their programs in the Fall semester.
4. An applicant will be admitted to a graduate program only if a faculty member agrees to act as Supervisor. A supervisory committee will be established after admission, normally consisting of the Supervisor and two other individuals, one of whom will normally be a member of the Department.
5. Major research areas for graduate study at the master's level are cultural, political, historical, economic, urban, resource management, community and regional development, geomorphology, Quaternary environments, climatology and geographic information sciences.
6. Candidates will register for the M.A. program if their fields of interest lie in an area of Human Geography or for the M.Sc. if their fields of interest are in Physical Geography or Geographic Information Sciences.
7. It is expected that the program of study and research for the M.A. or M.Sc. will normally be completed in a maximum of two years of full-time work, or three years of part-time work.
8. Candidates must successfully complete a minimum of 12 credit hours of graduate program courses with a minimum grade of B in each. Geography 6000 and 6001 will be required courses for all candidates who have not already completed equivalent courses at the Honours or post-graduate level.
9. Candidates whose undergraduate degree is not in geography will normally be required to complete some additional undergraduate program courses during their first year of study, in addition to the required graduate program courses. Normally four such undergraduate courses will be required, and a minimum grade of 70% must be obtained in each.
10. Each candidate will be required to present a seminar on his or her research to the Department.
11. Each candidate must submit a thesis based on his or her own original research. This thesis will be examined in accordance with the **General Regulations** of the School of Graduate Studies.

7.14.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates as far as the resources of the Department will allow:

6000 Development of Geographical Thought and Practice I
6001 Development of Geographical Thought and Practice II
6002 Directed Readings in Geography
6100 Research Techniques in A Selected Field of Geography I
6101 Research Techniques in A Selected Field of Geography II
6120 Geospatial Modelling and Analysis
6150 Environmental Remote Sensing and Image Analysis
6200 Economic Geography I
6201 Economic Geography II
6204 Sustainable Community and Regional Development
6250 Conservation and Sustainability of Natural Resources
6251 Survey Design, Questionnaire Development and Techniques of Data Collection
6300 Problems in Fisheries Geography
6400 Fluvial Geomorphology
6401 Glacial Geomorphology
6402 Coastal Geomorphology
6410 Climatology
6420 Quaternary Geography

6430 Biogeography
 6500 Cultural Geography
 6600 Historical Geography
 6700 Political Geography
 6800 Urban Geography
 6821 Advanced Computer Mapping
 6900 Graduate Seminar in Regional Geography
 6990-95 Special Topics in Geography

7.15 German

Associate Professor and Head of the Department

E. Warkentin

7.15.1 Program of Study

The degree of Master of Arts (M.A.) is offered in German Language and Literature and may be taken by full-time or part-time study.

1. Candidates for the M.A. degree in German are normally expected to have completed an Honours degree with a minimum of second-class standing. In addition to the general requirements, candidates will be expected to have acquired a superior knowledge of the spoken and written language as determined by the Department prior to admission.
2. Students will be required to demonstrate superior German language skills as determined by the Department prior to admission to the program.
3. As part of the admissions process, prospective students must submit a non-binding outline of the area in which they would like to write their thesis.
4. Students may choose from two modes of completing the M.A. program, in accordance with the Graduate Studies **Regulations Governing the Degree of Master of Arts**:
 - a. Candidates complete at least 18 credit hours of course work and submit a thesis. The entire program of study and research will normally take one year of full-time study. The M.A. thesis will be based on research conducted by the student.
 - i. The thesis will be examined in accordance with **General Regulation, Thesis and Reports**.
 - ii. Normally, one of the assigned examiners of the thesis will be external to the Department.
 - b. Candidates complete at least 18 credit hours of course work and write a comprehensive examination. The entire program of study and research will normally take one year of full-time study.
 - i. The comprehensive examination shall be examined in accordance with the **General Regulations, Comprehensive Examinations**.
 - ii. Material to be covered on the M.A. comprehensive exam is normally determined by consultation between the student and the Head of the Department (or designate). The exam is written in two sittings: one exam will cover the student's chosen area and the other will cover the student's reading list and literary terminology. A final component of the comprehensive exam is an oral examination on the eras or issues covered in the written portion of the exam.
5. All students, regardless of the mode of completing the requirements for the M.A., will be required to complete German 6103.

7.15.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow:

6000 Issues in Modern Technology, Literature and Culture
 6001 Issues in Literature on the Edges of Society
 6100 Issues in the History of the German Language
 6103 Bibliography and Research Methods
 6200 Issues in Early German Literature and Culture I
 6201 Issues in Early German Literature and Culture II
 6300 Issues in Early Modern German Literature and Culture I
 6301 Issues in Early Modern German Literature and Culture II
 6800 Issues in Modern German Literature and Culture I
 6801 Issues in Modern German Literature and Culture II
 6900 Issues in Contemporary German Literature and Culture I
 6901 Issues in Contemporary German Literature and Culture II
 6903 Issues in Propaganda and Censorship
 7000 Special Subject or Author I
 7001 Special Subject or Author II
 7002-7020 Special Topics in German Studies

7.16 History

Professor and Head of the Department

S. Cadigan

The degrees of Doctor of Philosophy and Master of Arts are offered in History by full-time or part-time study.

7.16.1 Program of Study

1. The Department of History offers M.A. programs in a broad range of geographical and thematic areas. Students in the M.A. program will choose a thesis or non-thesis option.
2. M.A. candidates who choose the non-thesis option shall complete a minimum of 24 credit hours, 18 of which shall normally be 6190, 6200 and 6999.
3. M.A. candidates who choose the thesis option shall complete 9 credit hours, 6 of which shall normally be 6190 and 6200, plus a thesis.
4. Where a student's major research project requires him or her to read a language other than English, he or she must demonstrate a

reading knowledge of this language through an exam or other method subject to the approval of the Graduate Committee.

7.16.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates as far as the resources of the Department will allow:

6000 Advanced Studies in Newfoundland History
 6010 Advanced Studies in Canadian History
 6020 Advanced Studies in the History of the United States
 6030 Advanced Studies in French History
 6040 Advanced Studies in British History
 6050 Advanced Studies in German History
 6060 Advanced Studies in North Atlantic History
 6070 Advanced Studies in Social History
 6075 Advanced Studies in Labour and Working-Class History
 6080 Advanced Studies in Intellectual History
 6090 Advanced Studies in Women's History
 6095 Advanced Studies in Ethnohistory
 6100 Advanced Studies in Military History
 6105 Advanced Studies in Diplomatic History
 6110 Advanced Studies in Maritime History
 6120 Advanced Studies in Economic and Business History
 6125 Medical Science and Social Responsibility in Health Care: Aspects of Medical History (*cross-listed as Medicine 6420*)
 6130 Quantification and Measurement in History
 6140-59 Research in Special Topics
 6160-79 Reading Courses (Special Topics)
 6190 Theory and Method
 6200 Masters Seminar I
 6999 Masters Research Paper (12 credit hours)

7.17 Linguistics

Professor and Head of the Department

M. MacKenzie

The degrees of Master of Arts and Doctor of Philosophy are offered in Linguistics.

7.17.1 Program of Study

1. The Linguistics Department offers the M.A. program with both a thesis and a non-thesis option. The M.A. with thesis option is intended for those who have completed an undergraduate major in Linguistics with satisfactory standing (a B+ average in Linguistics courses). Students interested in the thesis option who have an excellent undergraduate record and a well-defined research plan, yet who do not possess the equivalent of an undergraduate major, will be required to take additional undergraduate and/or graduate courses in Linguistics. Other students are encouraged to apply for the M.A. without thesis option.
2. The M.A. with thesis option is normally a two-year program consisting of at least 15 credit hours of graduate courses (including Linguistics 7000 and 7001), plus a thesis.
3. The M.A. without thesis option is normally a two-year program consisting of at least 21 credit hours of graduate courses (including Linguistics 7000 and 7001), plus a research project (Linguistics 6999), which consists of a major research paper in an approved area followed by an oral examination.
4. The M.A. in Linguistics requires proficiency in a language other than the candidate's first language, as demonstrated by a minimum B grade in a second-year undergraduate language course, or performance satisfactory to the Department in an arranged reading proficiency test. A working or structural knowledge of other languages may also be required for particular programs (e.g., Latin, Greek or Sanskrit for historical Indo-European linguistics, or courses in the series Linguistics 6050-59 or the former 6010-6041).
5. All M.A. students are advised to consult the Linguistics department's Graduate Handbook for details on program requirements and for general information relating to the graduate program.

7.17.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of students, as far as the resources of the Department will allow. Full information is to be found in the Department's Graduate Handbook.

6050-54 Structure of a North American Aboriginal Language
 (Credit restriction: Except where an exemption is supplied by the Head of the Department, a student may not obtain credit for more than one course in the 6050-54 series. Students may not obtain credit for any of the previously offered 6010, 6011, 6020, 6021, 6030, 6031, 6040, 6041 in addition to a course in the 6050-54 series.)
 6055-59 Structure of an Uncommonly-Taught Language (Credit restriction: Except where an exemption is supplied by the Head of the Department, a student may not obtain credit for more than one course in the 6055-59 series.)
 6100 Issues in Morphosyntax (Credit may not be obtained for both Linguistics 6100 and the former 6001)
 6110 Selected Topics in Transformational Grammar
 6115 Topics in the Syntax of a Selected Language (Prerequisite: 6001 or 6110)
 6150 Principles of Language Acquisition
 6151 Selected Topics in Language Acquisition (Prerequisite: 6150)
 6200 Generative Phonology
 6201 Selected Topics in Phonology (Prerequisite: 6200)
 6210 Sociolinguistics (Credit restriction: A student may not obtain credit for both 6210 or the former 6211.)
 6212 Selected Topics in Language and Gender
 6220 Areal and Temporal Variations in Language
 6300-9 Special Subjects
 6350 General Romance Linguistics
 6390 Franco-Canadian
 6400 Comparative and Historical Linguistics
 6401 Morphosyntactic Change (Prerequisite: 6400)

6403 Etymology (cross-listed as English 6403)
 6410 Comparative Structure of a Selected Language Family (Prerequisite: 6403 or the former 6011, 6031)
 6420 English Dialectology I
 6421 English Dialectology II
 6430 Selected Topics in Linguistic Variation (Prerequisite: 6220 or the former 6211)
 6500 Field Methods
 6601 Modern Linguistic Theories
 6700 Experimental Phonetics
 6701 Selected Topics in Experimental Phonetics (Prerequisites: 6200, 6700)
 6800 Selected Topics in Morphology
 6880 Selected Topics in Semantics
 6999 M.A. Research Project
 7000 Seminar in Research Methods
 7001 Analytical Issues in Linguistics
 7100 Topics in North American Native Languages (Prerequisites: a course from series 6050-6054 or the former 6011, 6031, 6041)
 7200 Advanced Topics in Syntax (Prerequisites: 6110, plus either 6001 or 6115)
 7400 Seminar in Comparative and Historical Linguistics (Prerequisite: 6400 or 6410)
 7430 Seminar in Linguistic Variation (Prerequisite: 6430)
 7800 Seminar in Morpho-semantics (Prerequisite: 6800)
 7900-03 Special Topics in Linguistics

Note: *Appropriate equivalent credits may be given for courses taken at the Summer Institute of the Linguistic Society of America, or a similar institute. Students are encouraged to attend these institutes. They should, however, consult the Head of the Department as to what courses may be appropriate for credit.*

7.18 Philosophy

Associate Professor and Interim Head of the Department

A. Sullivan

7.18.1 Program of Study

The Degree of Master of Arts is offered in Philosophy by full-time or part-time study. The program is designed so that it may be completed in one academic year (three semesters) of full-time study.

The candidate must complete 18 credit hours - 3 credit hours from 6000, 12 credit hours from 6011-6016, any 3 credit hours from 6101-6102 - and a thesis.

Normally, a full-time candidate will complete all the 18 credit hours and submit a thesis proposal by the end of the second semester of study. A minimum of one additional semester will be spent in completing the balance of the program.

7.18.2 Courses

6000 Graduate Seminar

Author Seminars

6011 Ancient and Medieval Philosophy

6012 Modern Philosophy

6013 Contemporary Philosophy

Area Seminars

6014 Metaphysics

6015 Theory of Knowledge

6016 Ethical and Political Theory

Tutorials

6040-6099 Special Topics

6101 Selected Texts

6102 Current Issues

7.19 Political Science

Professor and Head of the Department

L. Ashworth

7.19.1 Program of Study

The Degree of Master of Arts is offered in Political Science by full-time and part-time study.

The degree of Master of Arts (M.A.) in Political Science may be taken by course work and thesis, course work and internship, or course work and research paper. The thesis, internship, and research paper options are available to full-time students. The M.A. with thesis is a two year program. The internship and research paper options are one year programs for full-time students. The thesis and research paper options are open to part-time students.

1. M.A. with Thesis:

- a. Students choosing the M.A. with thesis must normally complete a minimum of 12 credit hours in graduate program courses. These 12 credit hours are from required courses: 6000, 6010, and 2 subfield surveys (two of 6100, 6200, 6300, 6400, 6500, 6600, or 6700). Further courses beyond the minimum number may be required, depending on the background and needs of the student.
- b. Each student choosing the thesis option will submit a thesis on a subject that has been approved by the supervisory committee of the Department.
- c. Students applying for the thesis option must submit a brief (one page maximum) statement of their research interest with their application.

2. M.A. with Internship:

- a. Students choosing the M.A. with internship must normally complete a minimum of 24 credit hours in graduate program courses.

Twenty-one credit hours are from required courses: 6000, 6010, 6030, 6031, 6790, and a subfield survey (one of 6100, 6200, 6300, 6400, 6500, 6600, or 6700). Further courses beyond the minimum number may be required, depending on the background and needs of the student.

- b. Each student choosing this option will complete, normally in the Spring semester, a one-semester, full-time internship, 6030, with a political organization, government agency, or voluntary agency. Students registering for 6030 must also register for its co-requisite, 6031. The placement must normally be selected from a list of approved organizations that is maintained by the Department.

3. M.A. with Research Paper:

- a. Students who choose the M.A. with research paper option shall complete a minimum of 24 credit hours, fifteen of which shall normally be 6000, 6010, and 6999.
- b. The selection of a topic for the research paper must be approved by a faculty supervisor who will be chosen in consultation with the Department Head. The paper will be graded by the supervisor and one other member of the faculty, either from within the Department or the Department of a cognate discipline.

7.19.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow.

6000 Political Science Concepts
 6010 Political Science Methods
 6020 Research Design
 6030 Internship
 6031 Applied Political Research (6 credit hours)
 6100 Political Philosophy
 6200 International Politics
 6300 Comparative Politics
 6301 European Politics and Public Policy
 6350 Political Economy
 6400 Political Development
 6430 Latin American Politics
 6500 Political Behaviour
 6600 Newfoundland Politics
 6700 Canadian Politics
 6710 Intergovernmental Relations
 6720 Local Politics
 6740 Public Administration
 6770 Canadian Provincial Politics
 6780 Politics of the Atlantic Provinces
 6790 Public Policy Process
 6900-10 Special Topics
 6999 Master's Essay (9 credit hours)

7.20 Religious Studies

Professor and Head of the Department

K.I. Parker

7.20.1 General Information

The degree of Master of Arts (M.A.) is offered in Religious Studies and may be taken by full-time or part-time study.

Candidates for the M.A. in Religious Studies may choose between the M.A. with Thesis option and the M.A. with a Project option. Candidates must specify which M.A. stream they wish to pursue upon entry into the program.

1. Admission requirements are set forth in the **Regulations Governing the Degree of Master of Arts**. An applicant should have completed a minimum of 45 credit hours in Religious Studies courses at the undergraduate level with at least the grade of B in each. An applicant should have completed a minimum of 45 credit hours in Religious Studies courses at the undergraduate level with at least the grade of B in each. An applicant's overall undergraduate program must represent, to the satisfaction of the Department, a solid groundwork for graduate studies.
2. A candidate who does not hold an Honours Degree or its equivalent shall be required to complete such additional undergraduate courses as the Department may deem necessary. These courses may be required as prerequisites to admission to the program, or as an additional constituent part of the program, at the discretion of the Department.
3. Upon acceptance into the program, each candidate will be assigned a Supervisor, whose duty it shall be to assist the candidate.
4. Students will be required to satisfy the Department as to proficiency in any language or technical facility deemed necessary by the Graduate Studies Committee of the Department for successful completion of the thesis or project.

7.20.2 Program of Study

1. Thesis Option

- a. Normally, the Master of Arts program with thesis option should take two years to complete, the first of which is to be spent primarily on course work and preparation of a thesis proposal. A student accepted on a part-time basis would normally be expected to take three to five years to complete the program.
- b. Students in the M.A. program with Thesis option shall normally complete a thesis and a minimum of 12 credit hours in course work.
- c. Students may write a thesis in one of the following areas: Hinduism, classical Confucianism, philosophical Daoism, Chinese and North American Buddhism, Buddhism and psychology, Judaism, Christianity, Hebrew Bible, New Testament, religious history of Canada, religious history of Newfoundland and Labrador, medieval religious thought, religion and culture (including pop culture), New Age religious movements, ethics and social justice, philosophy of religion.
- d. Before a student begins writing his or her thesis, he/she should submit a research proposal to the Graduate Studies Committee

of the Department for approval.

- e. Students in the M.A. with Thesis Option must complete three required courses and at least one other from the course list. The three required courses are: RS 6100 Methods and Theories in Religious Studies; RS 6120 Studies in Religious Texts; and RS 6130 Religious Contexts.

2. Course-based M.A. with a Project Option

- a. Normally, the Master of Arts program with a Project option should take one year (three semesters) to complete, the first two semesters spent on course work and the third semester on completing the project.
- b. Before a student begins writing his or her project, he/she should submit a research proposal to the Graduate Studies Committee of the Department for approval.
- c. Students in the M.A. with a Project option must complete four required courses and at least two others, one of which may be from a cognate discipline (upon approval). The four required courses are: RS 6100 Methods and Theories in Religious Studies; RS 6120 Studies in Religious Texts; RS 6130 Religious Contexts; and RS 699A/B Advanced Research in Religious Studies.

7.20.3 Courses

6100 Methods and Theories in Religious Studies (*Note: Credit may not be obtained for both Religious Studies 6100 and the former Religious Studies 6000*)

6120 Studies in Religious Texts

6130 Religious Contexts

6220 Selected Topics in New Testament

6230 Selected Topics in Hebrew Bible/Old Testament

6330 Selected Topics in Judaism

6340 Selected Topics in East Asian Religious Traditions

6350 Selected Topics in South Asian Religious Traditions

6720 Selected Topics in the History of Christianity

6730 Selected Topics in the Religious History of Canada

6740 Selected Topics in the Religious History of Newfoundland and Labrador

6750 Selected Topics in Medieval Religious Thought

6820 Selected Topics in Christian Ethics

6830 Selected Topics in Religion and Culture

6840 Selected Topics in the Philosophy of Religion

6850 Selected Topics in New Age Religious Movements

6900-6910 Special Topics in the Study of Religion

699A/B Advanced Research in Religious Studies (9 credit hours)

7.21 Sociology

Associate Professor and Head of the Department

K. Stanbridge

The Degrees of Master of Arts and Doctor of Philosophy can be earned through full-time or part-time study. Area of department specialization include: Social Theory; Sociology of Culture; Criminology; Environmental Sociology; Social Inequality; Sociology of Gender; Sexuality; Health, including Occupational Health; Development; Work; Political Sociology; and Maritime Sociology. Graduate courses are taught as tutorials or small seminars.

7.21.1 Program of Study

1. Minimum admission requirements are a B average in undergraduate studies with a good undergraduate background in Sociology.
2. The M.A. Degree with thesis requires the completion of 12 credit hours in graduate courses, normally including the Graduate Seminar (6880) and Methods of Sociological Research (6040), and a thesis. In the case of full-time students, the M.A. with thesis is normally completed in two years. The first year is devoted to the completion of the required courses and the definition of the thesis research topic. The second year is devoted to the completion of the thesis.
3. The M.A. Degree by course work requires the completion of 24 credit hours, normally including the Graduate Seminar (6880), Methods of Sociological Research (6040), Social Theory (6150), Master's Research Paper (6900) and three electives. These courses should be taken during the first two semesters of full-time study. The research paper (Sociology 6900) will be supervised by a faculty member and must be presented at a Departmental seminar. The Supervisor and one other member of Department will grade the paper. The research paper should be written in the third semester of full-time study.

7.21.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow:

6040 Methods of Sociological Research

6090-94 Special Area in Sociology

6120 Social Organization

6130 Social Stratification

6140 The Community

6150 Social Theory

6160 Theory Construction and Explanation in Sociology

6240 Sociology in Medicine

6280 Social and Economic Development

6300 Maritime Sociology

6310 Political Sociology

6320 Gender and Society

6330 Science and Technology

6340 Comparative North Atlantic Societies

6350 Environmental Sociology

6360 Sociology of Work

6370 Feminist Theory and Methods

6380 Women, Nature, Science and Technology (cross-listed as Gender Studies 6380)

6390 Sociology of Culture
 6610 Socialization
 6620 Current Topics in Social Behaviour
 6880 Sociology Graduate Seminar
 6900 Master's Research Paper (6 credit hours)

8 Regulations Governing the Degree of Master of Arts and Education (Education and Francophone Literatures and Cultures)

Professor and Dean of Arts

L. Phillips

Associate Professor and Dean of Education

K. Anderson

Associate Professor and Associate Dean of Arts (Graduate and Research)

C. Dyck

Associate Professor and Associate Dean of Education

T. Seifert

The degree of Master of Arts and Education (Education and Francophone Literatures and Cultures) is jointly offered by the Faculty of Arts and the Faculty of Education, and is offered by full-time or part-time study.

These regulations should be read in conjunction with the **General Regulations** of the School of Graduate Studies of Memorial University of Newfoundland.

The Administrative Committee is responsible for the program. The Committee shall be comprised of the Associate Dean, Graduate Programs in the Faculty of Education (or delegate), the Head of the Department of French and Spanish (or delegate) and one appointed faculty member. The faculty member shall come from either the Faculty of Education or the Department of French and Spanish in alternating years. The Administrative Committee is responsible for admissions and advising students on course selection when appropriate.

8.1 Qualifications for Admission

To be considered for admission to the Master of Arts and Education (Education and Francophone Literatures and Cultures), an applicant shall normally hold a Bachelor of Education degree, with a concentration in French, from an institution recognized by Senate. Applicants should have a minimum 'B' standing or an average of 70% in the last 30 courses attempted and two years of experience teaching French. An appropriate level of proficiency in French is required, and the applicant's level of competence will be evaluated by the Administrative Committee.

8.2 Program of Study

1. Candidates for the Master of Arts and Education (Education and Francophone Literatures and Cultures) may choose one of two program options:
 - Option I. Project Route
 - Option II. Comprehensive Course Route
2. All candidates shall be required to complete:
 - French 6800 Littératures francophones: Théorie et pratique/Francophone literatures: Theory and practice
 - French 6810 Cultures francophones: Théorie et pratique/Francophone Cultures: Theory and practice
 - Education 6100 Research Designs and Methods in Education
 - Six credit hours from Memorial University of Newfoundland, Department of French and Spanish graduate course offerings as deemed appropriate by the Administrative Committee.
 - Nine credit hours selected from:
 - Education 6668 Current Issues in Second Language Education
 - Education 6669 Graduate Seminar in Second Language Teaching and Learning
 - Education 6673 Second Language Teaching, Learning and Curriculum
 Three credit hours from other Memorial University of Newfoundland, Faculty of Education graduate course offerings as deemed appropriate by the Administrative Committee.
3. Students choosing Option I must also complete:
 - Education 6392 Project in Curriculum, Teaching and Learning Studies
4. Students choosing Option II must also complete:
 - Three credit hours from Memorial University of Newfoundland, Department of French and Spanish graduate course offerings as deemed appropriate for each candidate's program by the Administrative Committee.
 - Education 6390 Research and Development Seminar in Curriculum, Teaching and Learning Studies

8.3 Evaluation

1. In order to continue as a candidate for the degree of Master of Arts and Education (Education and Francophone Literatures and Cultures), a candidate shall obtain an A or B grade in each required course. A candidate who receives a grade of C in any required course must repeat that course and obtain a minimum grade of B. In the case of an elective course, a suitable replacement course acceptable to the Administrative Committee may be substituted for the failed course. Only one such repetition/replacement shall be permitted on the candidate's graduate program. Should a grade of less than B be obtained in the repeated/replacement course, or any other program course, the candidate shall be required to withdraw from the program.
2. When the Administrative Committee has determined, through consultation with the candidate, graduate course instructors, and the project supervisor, if applicable, that the candidate's work has fallen below satisfactory level, they may request the Dean of the Faculty of Education and the Head of the Department of French and Spanish recommend to the Dean of Graduate Studies that the

candidate's program be terminated.

8.4 Courses

French 6800 Littératures francophones: Théorie et pratique/Francophone literatures: Theory and practice

French 6810 Cultures francophones: Théorie et pratique/Francophone Cultures: Theory and practice

Education 6100 Research Designs and Methods in Education

Education 6390 Research and Development Seminar in Curriculum, Teaching and Learning Studies

Education 6392 Project in Curriculum, Teaching and Learning Studies (6 credit hours)

Education 6668 Current Issues in Second Language Education

Education 6669 Graduate Seminar in Second Language Teaching and Learning

Education 6673 Second Language Teaching, Learning and Curriculum (credit may not be obtained for both Education 6673 and the former 6665 or 6667)

Other courses offered for the Master of Education program and the Master of Arts in French Studies program as deemed appropriate by the Administrative Committee

Règlements de la Maîtrise ès Arts et Éducation (Enseignement des littératures et cultures francophones)

Professeure et Doyenne des Arts

L. Phillips

Professeure Agrégée et Doyen d'Éducation

K. Anderson

Professeure Agrégée et Doyenne Adjointe aux Etudes Supérieures et à la Recherche

C. Dyck

Professeur Agrégé et Doyen adjoint d'Éducation

T. Seifert

La Maîtrise ès Arts et Éducation (Enseignement des littératures et cultures francophones) est offerte conjointement par la Faculté des Arts et la Faculté d'Éducation et cautionne des études à temps partiel ou à temps plein.

Il est recommandé de lire ces règlements en conjonction avec les Règlements généraux de l'École des Études supérieures.

Le Comité administratif est responsable du programme. Le Comité sera composé du Doyen adjoint aux programmes supérieurs de la Faculté d'Éducation (ou son représentant), le Directeur du Département d'études françaises et hispaniques (ou son représentant), et un autre membre. Ce dernier viendra alternativement (une année sur deux) d'une des deux unités. Le Comité administratif décidera de l'admission et conseillera à l'occasion les étudiants sur leur choix de cours.

Admission

Pour être admis au programme de Maîtrise ès Arts et Éducation (Enseignement des littératures et cultures francophones), il faut normalement détenir un Baccalauréat en Éducation, avec concentration en français, provenant d'une institution reconnue par le Sénat. Il faut une note moyenne minimale de 'B' ou une moyenne de 70% dans les trente derniers cours et deux ans d'expérience dans l'enseignement du français. Un niveau adéquat de français est nécessaire et la compétence des candidats (le masculin est utilisé à titre épique) sera évaluée par le comité d'admission.

Programme d'études

1. Les candidats à la Maîtrise ès Arts et Éducation (Enseignement des littératures et cultures francophones) choisira l'une ou l'autre des deux options suivantes:
 - 1^{re} option Programme menant au projet terminal
 - 2^e option Programme entièrement composé de cours
2. Tous les candidats devront compléter:
 - French 6800 Littératures francophones: Théorie et pratique
 - French 6810 Cultures francophones: Théorie et pratique
 - Education 6100 Research Designs and Methods in Education
 - Six heures crédits de cours de deuxième cycle du Département d'études françaises et hispaniques jugés appropriés par le Comité administratif.
 - Neuf heures crédits parmi:
 - Education 6667 Second Language Teaching, Learning and Curriculum
 - Education 6668 Current Issues in Second Language Education
 - Education 6669 Graduate Seminar in Second Language Education
 - Trois heures crédits de cours de la Faculté d'Éducation jugés appropriés par le Comité administratif.
3. L'étudiant ayant choisi la 1^{re} option devra compléter:
 - Education 6392: Project in Curriculum, Teaching and Learning Studies
4. L'étudiant ayant choisi la 2^e option devra compléter:
 - Trois heures crédits de cours de deuxième cycle du Département d'études françaises et hispaniques jugés appropriés pour le programme de l'étudiant.
 - Education 6390 Research and Development in Teaching and Learning Studies

Évaluation

1. Afin de continuer son inscription au programme de Maîtrise ès Arts et Éducation (Enseignement des littératures et cultures francophones), le candidat doit obtenir un note de A ou B dans chaque cours obligatoire. Le candidat qui reçoit une note de C dans un cours obligatoire doit répéter ce cours et obtenir au moins B. Dans le cas d'un cours facultatif, un cours jugé approprié par le Comité administratif peut être substitué à un cours qui n'a pas été réussi. Une telle répétition ou un tel remplacement ne sera permis qu'une seule fois dans le programme de l'étudiant. Si une note moindre que B est obtenue dans un cours répété ou dans un cours de remplacement, le candidat devra se retirer du programme.
2. Lorsque le Comité administratif aura établi, après avoir consulté le candidat, ses enseignants et son directeur de projet, le cas échéant, que le travail du candidat n'atteint toujours pas un niveau satisfaisant, il pourra demander au Doyen de la Faculté des Arts et au Doyen de Faculté d'Éducation qu'ils recommandent la disqualification du candidat au Doyen des Études supérieures.

Cours

French 6800 Littératures francophones: Théorie et pratique

French 6810 Cultures francophones: Théorie et pratique

Education 6100 Research Designs and Methods in Education

Education 6390 Research and Development in Teaching and Learning Studies

Education 6392 Project in Teaching and Learning Studies

Education 6668 Current Issues in Second Language Education

Education 6669 Graduate Seminar in Second Language Education

Education 6673 Second Language Teaching, Learning and Curriculum (les étudiants ne peuvent recevoir de crédit et pour Education 6673 et pour Education 6665 ou 6667)

Autres cours de cycle supérieur offerts par la Faculté d'Éducation et le Département d'études françaises et hispaniques jugés appropriés par le Comité administrative.

9 Regulations Governing the Degree of Master of Business Administration

Professor and Dean

W. Zerbe

Assistant Professor and Director of Graduate Programs (Business)

P.A. Coady

The Degree of Master of Business Administration (M.B.A.) is offered by full-time or part-time study. These regulations must be read in conjunction with the **General Regulations** of the School of Graduate Studies of Memorial University of Newfoundland.

9.1 Qualifications for Admission

- Admission is limited and competitive. To be considered for admission to the Master of Business Administration program, an applicant shall normally hold at least a Bachelor's Degree, with a minimum 'B' standing, from an institution recognized by Senate. Qualified applicants with relevant employment experience will normally receive preference during the evaluation of applications. Applicants must achieve a satisfactory total score on the Graduate Management Admission Test (GMAT), as well as an appropriate balance of verbal and quantitative GMAT score components. Specific information regarding test centres, dates, registration procedure and deadlines can be obtained by contacting the Graduate Management Admission Council at www.mba.com. Qualified applicants with relevant employment experience will normally receive preference during the evaluation of applications.
- In exceptional cases, applicants who have not completed an undergraduate degree, but who meet all other requirements, may be considered for admission. Preference will be given to those who present a high GMAT score, have a minimum of 10 years of full-time managerial and executive experience, and have completed several years of university studies. The Faculty may also take into account relevant professional credentials. Applicants who do not meet normal admission requirements may be required to complete, with a high level of achievement, certain undergraduate courses before being considered for admission.
- When circumstances warrant, and only on the strong recommendation of the Faculty of Business Administration, consideration may be given to candidates who do not meet some of the above requirements.
- Applicants who did not complete a four-year baccalaureate degree at a recognized university where English is the primary language of instruction must normally complete either the:
 - Test of English as a Foreign Language (TOEFL) and achieve a paper-based score of 580 (or higher), computer-based score of 237 (or higher), or Internet based score of 92-93 (or higher); or
 - International English Language Testing System (IELTS) and achieve a score of 7 (or higher).

Information regarding the TOEFL is available from the Educational Testing Service at www.ets.org. IELTS information is available at www.ielts.org. It is noted that other equivalent tests acceptable to the School of Graduate Studies will also be considered.

9.2 Deadlines for Applications

Applications and all supporting documents must be received not later than May 1 from Canadian applicants wishing to enter full-time or part-time studies in the Fall semester. Full-time and international applicants are normally considered for entry in the Fall semester. International applicants must submit complete documentation by March 1. Part-time applicants planning to enter in the Winter (January) or Spring (May) semester must apply prior to October 15 and January 15 respectively. Individuals submitting applications later than the above dates are not assured of consideration for admission to the program in the semester desired; their applications will be processed only if time and resources permit.

9.3 Procedure for Admission

- Applications for admission to the M.B.A. program must be made on the appropriate form to the School of Graduate Studies.
- The following documents must be submitted in support of the official application form:
 - Letters of appraisal from two referees, at least one of whom has had close professional contact with the applicant within the last two years, and at least one of whom is capable of appraising the applicant's academic potential as a graduate student.
 - Two official transcripts from each university or other post-secondary institution previously attended, to be sent directly by its Registrar (or equivalent officer) to the School of Graduate Studies. If not recorded on the transcript, official evidence of completion of undergraduate degree must also be submitted.
 - The official GMAT score report, to be sent directly by the Graduate Management Admission Council. The code number for Memorial University of Newfoundland is LTT-6W-51.
 - Where applicable, an official TOEFL or IELTS score report (or another equivalent test acceptable to the School of Graduate Studies), to be forwarded directly by the educational testing service.
 - Application files are evaluated only when all required items have been received.
- Admission shall be by the Dean of the School of Graduate Studies on the recommendation of the Faculty of Business Administration. Upon notification from the Dean of the School of Graduate Studies of acceptance into the M.B.A. program, applicants must give written notice to the School of Graduate Studies of their intention to register. Such notice must be received by the Office of the Dean within 30 days of notification of acceptance, or three weeks prior to semester registration.

9.4 Direct Entry and Advanced Standing

1. Students who have an undergraduate degree in business with significantly high academic standing will be considered for direct entry into the second year of the M.B.A. Program. Their course load will be 8107, 8209, 8208; 3 credit hours chosen from 9005, 9020, 9306, 9325, or 9326 or another approved International course; plus 18-credit hours in electives from the schedule of M.B.A. electives listed in Table III. Direct entry will normally be considered if the undergraduate business degree with significantly high academic standing was awarded within seven years of the year for which admission to the M.B.A. program is being sought. The Faculty's Committee on Course Based Master's Programs reserves the right to require additional courses where there are noted deficiencies in a student's undergraduate record.
2. The Faculty's committee on Course Based Masters Programs may recommend advanced standing for students who do not qualify for direct entry at the time of admission to the M.B.A. program. Advanced standing for any 8000 level M.B.A. course would normally require that the student had achieved a grade of 75% or better at Memorial University of Newfoundland in undergraduate courses required for advanced standing. Courses will normally be considered for advanced standing if they are part of a degree that has been awarded within seven years of the year in which admission to the M.B.A. program is being sought. Advanced standing will not be granted for 8001, 8107, 8208, 8209 and 8203.
3. The following information must be submitted to the M.B.A. Program Office, Faculty of Business Administration, for evaluation by the Committee:
 - a. a detailed course outline for each course to be considered in the application for advanced standing;
 - b. a description of the method of evaluation used in each such course, the grades received, and the completion dates.
4. Students who enter the M.B.A. program with previous graduate degrees may be granted transfer credit for two non-business, non-specified elective courses by the Faculty's Committee on Course Based Masters Programs. The remaining electives will be chosen from courses offered by the Faculty of Business Administration. This does not apply to students with degrees such as the LLB and Medical Doctor degrees that are not master's degrees. Courses will normally be considered for advanced standing if they are part of a degree that has been awarded within seven years of the year for which admission is being sought.

9.5 Programs of Study

1. The programs of study include:
 - a. a 60 credit hour all-course program for candidates entering with an undergraduate degree in any area other than business. Thirty-six credit hours in program courses are required courses and are specified in **Table I**; the remaining 24 credit hours in program courses are electives chosen in accordance with the electives noted below. It is noted that of the 24 credit hours in electives candidates are required to complete 3 credit hours in the area of international business chosen from 9005, 9020, 9306, 9325, 9326 or another approved International course.
 - b. a 48 credit hour thesis option program for candidates entering with an undergraduate degree in any area other than business. Thirty-six credit hours in program courses are compulsory and are specified in **Table I**; the remaining 12 credit hours in program courses shall consist of 9103, 9 credit hours in courses agreed upon by the student and his or her Supervisor, plus a thesis. Additional courses, which may enhance the research area of the candidate, may be recommended by the Supervisor to the Graduate Research Programs Committee.
 - c. a 30 credit hour all-course program for direct entry candidates. Twelve credit hours of the program courses are required and are specified in **Table II**; the remaining 18 credit hours for candidates in the all-course program are electives chosen in accordance with the electives noted below.
 - d. a 18 credit hour thesis option program for direct entry candidates. Courses shall normally consist of the following 12 credit hours: 8107, 8208, 8209 and 9103, and 6 credit hours in courses agreed upon by the student and his or her Supervisor, plus a thesis. Additional courses, which may enhance the research area of the candidate, may be recommended by the Supervisor to the Graduate Research Programs Committee.
2. Electives in the all-course programs may be chosen from the following:
 - a. approved business electives as listed in **Table III**;
 - b. up to 6 credit hours in courses from other graduate programs within the School of Graduate Studies, as approved by the Dean of Graduate Studies on the recommendation of the Faculty of Business Administration;
 - c. a Research Project or projects, which may be assigned up to 9 credit hours, as approved by the Dean of Graduate Studies on the recommendation of the Faculty of Business Administration;
 - d. any other course or project deemed to be of satisfactory content and rigour as approved by the Dean of Graduate Studies on the recommendation of the Faculty of Business Administration.
3. The Faculty's Committee on Course Based Masters Programs reserves the right to restrict candidates from taking particular M.B.A. courses if it is deemed that those courses do not add sufficient value beyond courses that the candidate has completed at the undergraduate level.
4. Students are required to observe certain approved co- or prerequisites in scheduling their courses. These are indicated in **Table V**.
5. Students shall successfully complete the requirements of Business 8103 as part of the first 36 credit hours of their programs.
6. Changes to a student's prescribed program, including the specified course load, may have the prior approval of the Dean of Graduate Studies on the recommendation of the Faculty of Business Administration.

9.6 Evaluation

1. The Faculty Council of the Faculty of Business Administration constitutes the examining body for all examinations in Business courses. In addition, the standing of every student will be assessed by the Committee on Course Based Masters Programs in accordance with the requirements outlined in all the clauses below.
2. Credit towards the M.B.A. Degree will be granted only for those courses which have been approved as constituting part of the student's program of study and in which the candidate has obtained a mark of 65% or higher.
3. A candidate is required to withdraw from the M.B.A. program if a final grade of 'F' is obtained in any course.
4. To remain in the program, a candidate who obtains a final grade of 'C' or 'D' in any course must repeat that course when next offered, and obtain a minimum grade of 'B'. In the case of an elective course, a replacement course approved by the Committee on Course Based Masters Programs may be substituted for the course. Only two such repetitions/replacements shall be permitted in the candidate's graduate program. Should a grade of less than 'B' be obtained in a repeated or replacement course, the candidate shall be required to withdraw from the program.

9.7 Courses

The schedule of courses of the curriculum and elective courses are as follows:

Table I - Master of Business Administration Schedule of Required Courses

8103 Statistical Applications in Management	8204 Human Resource Management or B8210 Labour Relations
8104 Organizations: Behaviour and Structure	8205 Information Systems
8106 Marketing	8206 Managerial Finance
8107 Managing Ethics and Responsibility	8207 Operations Management
8108 Economics for Business	8208 Strategic Management
8109 Accounting for Management	8209 Leadership and Interpersonal Skills for Managers

Table II - Master of Business Administration Schedule of Required Courses - Direct Entry

8107 Managing Ethics and Responsibility 8208 Strategic Management 8209 Leadership and Interpersonal Skills for Managers	one course in the area of international business (9005, 9020, 9306, 9325, 9326 or another approved international course)
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Table III - Master of Business Administration Schedule of M.B.A. Electives

8001-005 Special Topics	9311 Seminar in Human Resource Management
8202 Advanced Managerial Accounting	9312 Financial Management
8203 Management Science	9314 Business and Taxation Law
9001-9019 Special Topics (excluding 9013)	9315 Advanced Financial Accounting
9013 Collective Agreement Administration and Arbitration	9316 Information Systems Management
9020 International Human Resource Management	9317 Current Topics in Management
9021 Data Management	9318 Marketing Communications Management
9022 Information Systems Analysis and Design	9320 Investments and Portfolio Management
9023-9050 Special Topics (excluding 9030)	9322 Strategic Management of Technology and Innovation
9030 International and Comparative Industrial Relations	9323 Financial Forward, Futures, and Options Markets
9103 Research in Management	9324 Gender, Work and Organizations
9301-03 Research Project	9325 Accessing International Markets
9306 International Strategic Management	9326 International Finance
9308 New Venture Creation	9328 Change Management
9309 Marketing Management	9329 Labour Law
9310 Management Science Applications	

Two graduate electives from programs in other Faculties and Schools in the School of Graduate Studies.

Table IV - Master of Business Administration Course Restrictions

(Credit may be obtained for only one course from each of the pairs of courses listed in this table.)

Present Course	Replaces Course	Present Course	Replaces Course
8107	9201	9321	8210
8108	8101 or 8201	9324	9004
8109	8102 or 8202	9325	9005
8207	9319	9326	9010
8208	9101	9327	9007

Table V - Master of Business Administration Prerequisite/Co-requisite

Course	Prerequisite/Co-requisite*	Electives	Prerequisite/Co-requisite*
Required Courses		8203	Nil
8103	Nil	8204	8104 or admission to the MER program
8104	Nil	8210	Nil
		9013	Nine courses completed including 8210 or 8210 plus admission to the MER program
8106	Nil	9020	Nine courses completed including 8205 or admission to the MER program
8107	Nil	9021	Nine courses completed including 8205
8108		9022	Nine courses completed including 8205
		9030	Nine courses completed including 8210
8109	Nil	9103	Nine courses completed including 8103
8205	Nil	9301	Nine courses completed
8206	8103*, 8108*, 8109	9302	Nine courses completed plus 9301*
8207	8103, 8108*	9303	Nine courses completed plus 9301* and 9302*
8208	8103, 8104, 8106, 8108, 8109, 8205*, 8206*, 8207*	9306	Nine courses completed including 8103, 8104, 8106, 8108, 8109, 8205, 8206, 8207, 8208
8209	8104 or admission to the MER program	9308	Nine courses completed including 8106, 8109
		9309	Nine courses completed including 8106
		9311	Nine courses completed including 8104, 8204 or admission to the MER program
		9312	Nine courses completed including 8103, 8108, 8109, 8206
		9314	Nine courses completed including 8103, 8108, 8109, 8206 or admission to the MER program
		9316	Nine courses completed including 8205
		9317	Nine courses completed
		9318	Nine courses completed including 8106
		9320	Nine courses completed including 8103, 8108, 8109, 8206
		9322	Nine courses completed including 8103, 8104, 8106, 8108, 8109, 8205, 8206, 8207, 8208*
		9323	Nine courses completed including 8103, 8108, 8109, 8206, 9320
		9324	Nine courses completed including 8104 or admission to the MER program
		9325	Nine courses completed including 8106
		9326	Nine courses completed including 8103, 8108, 8109, 8206
		9328	Nine courses completed including 8104 or admission to the MER program
		9329	Nine courses completed including 8210 or 8210 plus admission to the MER program

Note: All 9000-level courses require the prior completion of nine courses, including any specific prerequisites or co-requisites unless otherwise specified.

10 Regulations Governing the Degree of Master of Education

Associate Professor and Dean

K. Anderson

Associate Professor and Associate Dean

T. Seifert

The Master of Education (M.Ed.) is offered in the following areas: Educational Leadership Studies, Curriculum, Teaching and Learning Studies, Counselling Psychology, Post-Secondary Studies and Information Technology.

In addition, a Master of Arts and Education (Education and Francophone Literatures and Cultures), jointly offered by the Faculty of Education and the Faculty of Arts, Department of French and Spanish, is available for candidates who wish to specialize in the study and teaching of French.

In the case of the following general program regulations and the specific program regulations, which govern all Master of Education Degree programs, Dean refers to the Dean of Graduate Studies, Dean of Education refers to the Office of the Dean, Faculty of Education, and Faculty refers to the Faculty of Education, through its various operating committees.

Students taking any of the Master of Education Degree programs are advised that a Bachelor of Education Degree is required for employment in the K - 12 system.

10.1 Qualifications for Admission

1. Admission to the Master of Education is limited and competitive. To be considered for admission to a graduate program in

Education, an applicant shall:

- a. have from a recognized institution, either (i) an undergraduate degree with at least second class standing, or (ii) an undergraduate degree and an average of at least 70% in the last 90 attempted undergraduate credit hours.
 - b. meet the requirements set forth in the specific program regulations.
2. Only in exceptional circumstances, and only on the recommendation of the Dean of Education, shall the Dean consider applicants who do not meet the requirements in 1.
 3. Please refer to **Specific Programs** regulations for additional admission requirements.

10.2 Program of Study

1. Candidates for the Master of Education (Educational Leadership Studies, Curriculum, Teaching and Learning Studies) shall be required to complete a minimum of:
 - a. 18 credit hours plus a thesis; or
 - b. 24 credit hours plus an internship report, a project report or a paper folio; or
 - c. 30 credit hours on the comprehensive-course route.

Candidates for the Master of Education (Post-Secondary Studies) shall be required to complete a minimum of:

- a. 18 credit hours plus a thesis; or
- b. 24 credit hours plus an internship; or
- c. 30 credit hours on the comprehensive-course route.

Candidates for the Master of Education (Counselling Psychology) shall be required to complete a minimum of:

- a. 30 credit hours (which include an internship) plus a thesis; or
- b. 36 credit hours (which include an internship) on the comprehensive-course route.

Candidates for the Master of Education (Information Technology) shall be required to complete a minimum of:

- a. 18 credit hours plus a thesis; or
- b. 30 credit hours on the comprehensive-course route.

2. Candidates may apply for transfer of course credits. All course transfers require the approval of the Dean, on the recommendation of the Dean of Education, and are subject to General Regulation, **Program Requirements, Transfer of Course Credits** of the School of Graduate Studies.
3.
 - a. A candidate with full-time status may register for a maximum of 12 credit hours in any regular semester and a maximum of 6 credit hours in intersession or summer session.
 - b. A candidate with part-time status may register for a maximum of 3 credit hours in any semester or session, excluding summer session, when 6 credit hours are permitted.
 - c. Candidates may register for additional courses in a semester or session with the permission of the Office of the Associate Dean of Graduate Programs in Education.
4. Before submission of the proposal for thesis, project, internship, or paper folio, a Supervisory Committee shall be recommended by the Dean of Education, in consultation with the candidate, and approved by the Dean. The Supervisory Committee shall consist of the Supervisor and at least one other member.

The function of the Supervisory Committee shall be to approve the proposal for the thesis, project, internship, or paper folio, and to exercise supervision in the conduct of the study on behalf of the Faculty, subject to the final approval of the Dean.

10.3 Period of Study

The period of the study for a graduate program shall not normally exceed six years beyond first registration. Completion of some program components may require full-time study on the University campus.

10.4 Evaluation

1. In order to continue as a candidate for the Master of Education Degree, a candidate who receives a final grade of 'C' in any program course must repeat that course and obtain a minimum grade of 'B'. In the case of an elective course a suitable replacement course, acceptable to the Faculty, may be substituted for the failed course. Only one such repetition/replacement shall be permitted on the candidate's graduate program. Should a grade of less than 'B' be obtained in the repeated course, replacement course, or any other program course, the candidate shall be required to withdraw from the program.
2. When the Faculty has determined, through consultation with the candidate, the instructors of graduate courses, and the program advisor or thesis Supervisor that the candidate's work has fallen below satisfactory level, it may request that the Dean of Education recommend to the Dean that the candidate's program be terminated.

10.5 Thesis

See School of Graduate Studies General Regulation, **Theses and Reports**.

10.6 Program Regulations

Every candidate in graduate studies shall comply with the School of Graduate Studies **General Regulations**, the Degree Regulations **Program of Study**, and the specific program regulations as outlined in **Specific Programs**.

10.7 Appeals and Waivers Procedures

Candidates are advised that appeals and waivers of any regulations governing the Degree of Master of Education are governed by School of Graduate Studies General Regulations **Provision For Waiver of Regulations** and **Appeal Procedures**.

10.8 Specific Programs

10.8.1 Educational Leadership Studies

Educational Leadership Studies is designed to prepare candidates for leadership in Education.

1. Admission Requirements

In addition to meeting the requirements in the School of Graduate Studies **General Regulations**,

- a. students must have completed a range and number of courses in Education deemed appropriate by the Faculty and Dean of Education.
- b. a minimum of two years of teaching/leadership experience is recommended.

2. Program Requirements

- a. all students in the Master of Education Program (Educational Leadership Studies) must complete:
 - 6100 Research Designs and Methods in Education
 - 6204 Educational Administration: Theory and Practice
 - 6205 Educational Policy: Theory and Practice and one of the following:
 - 6 credit hours (thesis route) within closed electives as listed in e. below
 - 9 credit hours (internship, paper folio, project, comprehensive course route) within closed electives as listed in e. below
- b. students on the thesis route must complete at least one of the research courses listed below (6100 is prerequisite):
 - 6466 Qualitative Research Methods
 - 6467 Quantitative Research Methods
 - 6468 Critical Approaches to Educational Research
 - 6469 Theoretical and Methodological Foundations of Action Research
- c. students on the comprehensive-course route must complete 6290 Research and Development Seminar in Educational Leadership Studies. Normally students would be permitted to register for this course only after all other course requirements have been met, or during the student's last semester of studies.
- d. to meet total credit hour requirements students may choose electives from any university graduate offering provided that those chosen are appropriate to the student's program:
 - students on the thesis route must complete a total of at least 18 credit hours
 - students on the internship, paper folio, or project route must complete a total of at least 24 credit hours and the appropriate course option 6291 Internship in Educational Leadership Studies (6 credit hours), 6292 Project in Educational Leadership Studies (6 credit hours), or 6293 Paper Folio in Educational Leadership Studies (6 credit hours)
 - students on the comprehensive-course route must complete a total of at least 30 credit hours
- e. students choosing the Mathematics Education specialization within Curriculum, Teaching and Learning Studies must complete 6630 Critical Issues in Mathematics Education prior to completing other Mathematics Education specialty courses.
- f. Closed electives are those listed below:
 - 6202 Social Context of Educational Leadership
 - 6203 Leadership: Theory and Practice
 - 6321 Supervisory Processes in Education
 - 6330 Educational Finance
 - 6335 Legal Foundations of Educational Administration
 - 6410 Seminar on Philosophical Issues in Educational Policy and Leadership
 - 6420 Ethical Issues and Perspectives in Educational Practice and Policy
 - 6425 Comparative Perspectives in Public Education, Reform, and Leadership
 - 6426 Computer Applications in Educational Administration
 - 6427 School Community Partnerships
 - 6440 Family-School Relations: Leadership and Policy Implications
 - 6465 School Violence: Leadership and Policy Implications
 - 6664 Seminar in School Improvement
 - 6710 Issues in Development and Implementation of Special Education Policy and Practices

Courses must be appropriate to the program and chosen in consultation with the advisor.

10.8.2 Curriculum, Teaching and Learning Studies

The Master of Education in Curriculum, Teaching and Learning Studies provides opportunities for students to investigate pertinent issues in these interrelated areas from a variety of perspectives: philosophical, historical, social, cultural, cognitive, and technological. The conceptual bases of curriculum, teaching, and learning are explored and analysed along with related examples of historical and current policies and practices. The program encourages the development of broad-based insights into issues related to these areas through an emphasis on critical inquiry and reflective practice. It supports students in the development and enhancement of research capabilities and professional expertise and practice.

Students may choose between two program options in Curriculum, Teaching and Learning Studies:

Option One

Students may choose to specialize in one of a number of areas of study: Computers in Education, Language and Literacy Studies, Mathematics Education, Music Education, Science Education, Second Language Education, Social Justice Education, Social Studies Education, Special Education and Teacher-Librarianship.

Option Two

In consultation with a faculty advisor, students may choose to design a program speciality which addresses their research interests. Specialty foci within Curriculum, Teaching, and Learning Studies are numerous and may include technology and web-based education, arts education, rural and multi-age education. Students may alternatively select appropriate courses from other Master of Education program offerings to develop a program to meet their learning goals. Students interested in this option are strongly encouraged to explore and to focus their research and study interests and to discuss these interests with a faculty advisor.

1. Admission Requirements

In addition to meeting the requirements in the School of Graduate Studies **General Regulations**,

- a. students must have completed a range and number of courses in Education deemed appropriate by the Faculty and Dean of Education.
- b. a minimum of two years of teaching or related experience is recommended.
- c. for a specialization in special education, a completed Bachelor of Special Education Degree or equivalent is required and enrolment will be limited to applicants articulating a research focus for which appropriate thesis supervision is available.

2. Program Requirements

- a. all students in the Master of Education Program (Curriculum, Teaching and Learning Studies) shall be required to complete:
 - 6100 Research Designs and Methods in Education
 - 6300 Teaching and Learning
 - 6602 Curriculum Studies
- b. students on the thesis route must complete at least one of the research courses listed below (6100 is prerequisite):
 - 6466 Qualitative Research Methods
 - 6467 Quantitative Research Methods
 - 6468 Critical Approaches to Educational Research
 - 6469 Theoretical and Methodological Foundations of Action Research
 - 6909 Narrative Approaches to Teaching, Learning and Research
 - and at least 2 courses from any university graduate offering provided that those chosen are appropriate to the student's program
- c. students choosing Option One on the internship, paper folio, project route, and comprehensive-course route must complete at least 2 courses within one particular specialty area from the list in **Core speciality courses in the study of curriculum, teaching and learning areas** below.
- d. students choosing Option Two must choose courses that have been designated through consultation with faculty advisor during the first semester of studies in this program.
- e. students choosing the Mathematics Education specialization within Curriculum, Teaching and Learning Studies must complete 6630 Critical Issues in Mathematics Education prior to completing other Mathematics Education specialty courses.
- f. students choosing the Special Education specialization within Curriculum, Teaching and Learning Studies must complete a thesis and at least two of the required Special Education specialty courses.
- g. students on the comprehensive-course route must complete one of the following courses: E6390 Research and Development Seminar in Curriculum, Teaching and Learning Studies or E6394 Biographical Explorations of Teaching and Learning or E6913 Practitioner Inquiry/Participatory Action Research. Normally students would be permitted to register for one of these courses only after all other course requirements have been met, or during the student's last semester of studies.
- h. to meet total credit hour requirements students may choose electives from any university graduate offering provided that those chosen are appropriate to the student's program:
 - students on the thesis route must complete a total of at least 18 credit hours
 - students on the internship, paper folio, or project route must complete a total of at least 24 credit hours and the appropriate course option 6391 Internship in Curriculum, Teaching and Learning Studies (6 credit hours), 6392 Project in Curriculum, Teaching and Learning Studies (6 credit hours), or 6393 Paper Folio in Curriculum, Teaching and Learning Studies (6 credit hours)
 - students on the comprehensive-course route must complete a total of at least 30 credit hours

i. Core speciality courses in the study of curriculum, teaching and learning areas:**Computers in Education**

6610 Research on Computers in the Curriculum
6620 Issues and Trends in Educational Computing

Language and Literacy Studies

6106 Popular Culture and Literacy Education
6108 Literacy and Language Education: Sociocultural Perspectives
6641 Writing in the Primary, Elementary and Secondary Schools
6642 Developmental Reading (K-8)
6643 Contemporary Issues in Intermediate and Secondary English
6645 Literature for Children and Adolescents
6647 Diagnosis and Remediation of Reading and Writing Difficulties
6649 Exploring Multiple Literacies
6693 Literacy for the Young Child in Home and School

Mathematics Education

6630 Critical Issues in Mathematics Education
6634 Teaching and Learning to Solve Mathematics Problems (prerequisite E6630)
6639 Technology and the Teaching and Learning of Mathematics (prerequisite E6630)

Music Education

6502 Contexts of Music Education
6503 Teaching Music from the Podium
6504 Musicianship, Pedagogy, and Learning

Science Education

6653 Contemporary Issues in Science Education I
6655 The Nature of Science and Science Education
6658 Teaching and Learning Scientific Concepts, Laws, and Theories

Second Language Education

6668 Current Issues in Second Language Education
6669 Graduate Seminar in Second Language Teaching and Learning

6673 Second Language Teaching, Learning and Curriculum
6674 Research in Second Language

Social Justice Education

6105 Social and Cultural Difference and Education
6106 Popular Culture and Literacy Education
6108 Literacy and Language Education: Sociocultural Perspectives
6440 Family School Relations: Leadership and Policy Implications
6465 School Violence: Leadership and Policy Implications
6468 Critical Approaches to Educational Research
6909 Narrative Approaches to Teaching, Learning and Research
6913 Practitioner Inquiry/Participatory Action Research (prereq. 6469)

Social Studies Education

6670 Teaching and Learning Social Studies
6671 Research in Social Studies Education
6672 Issues and Trends in Social Studies

Special Education

6710 Issues in Development and Implementation of Special Education Policy and Practices
6712 The Nature and Assessment of Behaviour Disorders in Children and Adolescents
6714 Principles and Practices in Exceptionality
6755 Nature and Assessment of Learning Disabilities

Teacher-Librarianship

6662 Seminar in Teacher-Librarianship
6664 Seminar on School Improvement

Additional courses in the speciality areas are available.

10.8.3 Counselling Psychology

The mission of the program in Counselling Psychology is to prepare highly knowledgeable, skilled, dedicated, and ethical professional practitioners, who will endeavour to enhance human potential throughout the life span and who can effectively practice within a variety of settings.

The Counselling Psychology faculty promotes counselling as an effective, viable means of assisting individuals throughout the life span. The counselling psychologist, regardless of his or her theoretical stance or work setting, functions as a change agent who is sensitive to and knowledgeable about the range of human development reflected in individual differences and cultural and linguistic diversity. Effective and positive change is brought about by assisting clients to: examine and modify their behaviour for more effective living; cope with, adjust to, or otherwise negotiate the environments affecting their psychosocial well-being; and effect change in the larger society.

The practice of Counselling Psychology is based on theory and research, an understanding of ethical practices, and a set of professional and interpersonal skills. It is essential that graduate students study a variety of conceptual frameworks and research findings as preparation for collaborative work with other helping professionals, paraprofessionals, and a variety of self-help groups.

The Counselling Psychology faculty, while representing a range of views, agree that the uniqueness of the individual and his or her personal strengths must be acknowledged and respected. To fully explore professional issues and personal values, a trusting and open atmosphere must be present.

Individuals from a wide variety of personal, social, and educational backgrounds are encouraged to apply to the Counselling Psychology program. The program provides a broad-based sequence of studies and supervised experiences that will prepare graduate students to be knowledgeable and skilled practitioners who can function in a variety of settings. By the time they have completed this program, students will have acquired knowledge and competencies in the following general areas: individual and group counselling theory and techniques, legal and ethical aspects of counselling, human development and learning, social, cultural, and linguistic diversity, career education and counselling, program development and implementation, measurement and appraisal, research and program evaluation, and application of current technology service delivery in rural areas.

1. Admission Requirements

In addition to meeting the requirements in the School of Graduate Studies **General Regulations**, students:

- a. must have completed Education 3210, Introduction to Counselling.
- b. should have completed at least one undergraduate course on each of the following topics: statistics (Education 2900), assessment (Education 3280, 3290, 3950, 3955 or 4950), introduction to career education (Education 3211), introduction to exceptionality (Education 3220 or 3230). (Or their equivalent)

Note: Many of these courses are prerequisites to specific graduate courses and must be completed before taking those courses.

- c. should normally have at least one year of teaching (or related work) experience.
- d. must submit a resume that contains a concise rationale for the application (500 words or less) and three letters of recommendation (preferably one from each of the following: previous university instructors, supervisors, or employers).
- e. should note admission is selective and controlled by an admission committee of faculty members involved in the program. An interview may be required if deemed necessary.
- f. should note the Graduate Record Examination may be required.

2. Program Requirements

- a. all students in the Master of Education (Counselling Psychology) program shall be required to complete:

6100 Research Designs and Methods in Education (Prerequisite: Education 2900)
6702 Counselling: Theory and Practice (Prerequisite: Education 3210)
6706 Career Education and Career Counselling (Prerequisite: Education 3211)
6708 Group Counselling: Theory and Practice (Prerequisite: Education 6702)
6700 Ethical and Legal Issues in Counselling
6720 Internship in Counselling Psychology (Prerequisite: Normally completion of all courses) (9 credit hours)

- b. Students on the thesis route must complete the core courses listed above (24 credit hours) as well as a minimum of 6 credit hours from the closed electives indicated below for a total of 30 credit hours.
- c. Students on the comprehensive-course route must complete the core courses listed above (24 credit hours) as well as a minimum of 6 credit hours from the closed electives and 6 credit hours from any university graduate offering provided that those chosen are appropriate to the student's program for a total of 36 credit hours.

- d. All students in the Counselling Psychology program must complete 6720. The Internship may be fulfilled full-time or part-time and must comprise 600 clock hours with 240 hours of direct service with clients. It cannot be completed as part of your regular employment. It is strongly recommended that students take no other course during the full-time internship.
- e. Closed electives are those listed below:
 - 6703 Personal and Professional Development Group
 - 6705 Nature and Development of School Counselling Services
 - 6707 Assessment for Counsellors
 - 6709 Assessment of Intelligence and Learning Skills (Prerequisite: 3600 or its graduate equivalent 6707. Normally, students in Counselling Psychology will not enroll in this course until the latter part of their program). Candidates intending to pursue a career in the K-12 school system in Newfoundland and Labrador are urged to take this course and the prerequisite.
 - 6710 Issues in Development and Implementation of Special Education Policy and Practices
 - 6712 The Nature and Assessment of Behaviour Disorders in Children and Adolescents
 - 6713 Educational Applications of Contemporary Cognitive Psychology
 - 6714 Principles and Practices in Exceptionality
 - 6716 Working with Families and Parents
 - 6717 Counselling Adolescents
 - 6718 Elementary School Counselling
 - 6719 Cultural Issues in Counselling
 - 6802 Adult Learning and Development

Notes: 1. *Student membership in the Canadian Counselling Association (CCA) or other appropriate professional organizations is strongly recommended for all students in the program.*

2. *Students who plan to work in the school system should be aware of the Department of Education regulations to be eligible to work as a school counsellor.*

3. *Students who plan to become registered psychologists in Newfoundland and Labrador should review the requirements of the Newfoundland Board of Examiners in Psychology.*

10.8.4 Post-Secondary Studies

The graduate programs in Post-Secondary Studies are designed to prepare candidates to function in a variety of roles in informal and formal post-secondary learning environments (including academic, technical, professional, adult education, health professional education, and student services/development). These programs facilitate a study of the post-secondary educational systems through an examination of their foundations, directions, organization and administration; and through curriculum and instructional development options for occupational preparation and adult education.

1. Admission Requirements

In addition to meeting the requirements in the School of Graduate Studies **General Regulations**,

- a. Candidates must have completed an undergraduate course in statistics (Education 2900), and post-secondary education (Education 2720), or have accumulated the equivalent experiences in each of the above two areas as approved by the Head of the Academic Unit;
- b. two years of successful experience in working with adult learners is recommended;
- c. and for the Graduate Diploma in Post-Secondary Studies (Health Professional Education) program, candidates must have appropriate academic qualifications and work experience in a health-related field.

2. Program Requirements (M.Ed.)

- a. Candidates for the Master of Education (Post-Secondary Studies) are required to complete courses that form the program core.
 - i. 6100 Research Designs and Methods in Education
 - ii. 6801 Foundations of Post-Secondary Programs
 - iii. 6802 Adult Learning and Development
 - iv. 6803 Research in Post-Secondary Education
 - v. and not fewer than 6 credit hours from closed electives in g. below.
- b. Students holding the Graduate Diploma in Post-Secondary Studies (Health Professional Education) and accepted in the Master of Education (Post-Secondary Studies) will complete up to 12 fewer credit hours dependent upon the chosen program route and the completion date of the Graduate Diploma.
- c. Students on the comprehensive-course route must complete 6890 Research and Development Seminar in Post-Secondary Studies.
- d. Students on the internship route must complete 6891 Internship in Post-Secondary Studies (6 credit hours).
- e. Normally, students will be permitted to register for 6890 and 6891 only after all other course requirements have been met.
- f. To meet total credit hour requirements students may choose courses from other graduate offerings within the Faculty, the University, or other universities provided the courses chosen are appropriate to the student's program. Students on the thesis route must complete a total of at least 18 credit hours; and those on the internship or comprehensive-course route a total of at least 30 credit hours.
- g. Closed electives are those listed below:
 - 6804 Leadership and Human Resource Development in Post-Secondary Education
 - 6805 Advanced Human Resource Communications
 - 6806 Interprofessional Education in the Health Professions
 - 6807 Economics and Finance of Post-Secondary Education
 - 6822 Foundations of Instructional Design in Post-Secondary Education
 - 6823 Principles of Program Design and Development
 - 6832 Issues and Trends in the Administration of Post-Secondary Education
 - 6841 Student Development Theory, Services and Programs in Post-Secondary Education
 - 6940 Administration of Student Services in Post-Secondary Education

3. Program Requirements for Graduate Diploma in Post-Secondary Studies (Health Professional Education)

The Graduate Diploma in post-secondary studies, specialization in health professional education, which was created in collaboration with the Centre for Collaborative Health Professional Education, is designed to enhance health professionals' abilities as educators and leaders in educational program design, development, evaluation and administration. The Graduate Diploma is intended for educators and educational leaders of formal and informal post-secondary health professional education programs.

Participants will engage in an in-depth study of the structure and organization of the post-secondary education system, theories and philosophies of adult learning and development; and through elective courses pursue studies of program development models, instructional design frameworks, evaluation and assessment techniques, teaching methods, and research design principles in post-secondary teaching and learning. Opportunities will exist for the guided study of these topics as they relate to health professional education.

- a. Candidates for the Graduate Diploma in Post-Secondary Studies (Health Professional Education) are required to complete courses that form the program core.
 - i. 6801 Foundations of Post-Secondary Programs
 - ii. 6802 Adult Learning and Development
 - iii. 6806 Interprofessional Education in the Health Professions
 - iv. and not fewer than 3 credit hours from closed electives in 2. g. above or from:
 - 6100 Research Designs and Methods in Education
 - 6803 Research in Post-Secondary Education
- b. Students are encouraged to relate their assignments in these courses to health professional education.
- c. Students enrolled in the Graduate Diploma program may request transfer to the Master of Education (Post-Secondary Studies). Courses for both the Graduate Diploma and the Degree must be appropriate to the program and chosen in consultation with the student's advisor.

10.8.5 Information Technology

The graduate program in Information Technology is offered in partnership with Cape Breton University (CBU). It is designed to facilitate the educational use of information technology in a wide variety of settings. The program will be of interest to educators at all levels including K-12 teachers, school administrators, those in the post-secondary system, business and industry, as well as those in most other adult learning situations.

Information technology in this Master of Education program encompasses computer, communications, networking and multi-media applications. The overall intent of the program is to:

- provide educators with skill sets and pedagogical expertise that will enable them to address computer and related information technology in a teaching/learning situation;
- develop potential information technology leaders for the educational system;
- develop instructional designers, for a variety of educational settings, who are able to combine information technology with learning theory to enhance curriculum development and delivery;
- provide a basis for the continued professional development of educators in the area of information technology;
- develop an awareness of the applications of information technology in a wide variety of educational contexts; and
- develop research expertise and potential in the use and application of information technology for teaching and learning purposes.

Candidates for the program will have attained, prior to acceptance, some fundamental knowledge and skills with respect to information technology through pre-requisite experiences, and have attained a recognized undergraduate degree in an appropriate discipline with at least a second class standing (see specific regulations for details). The program components are designed to enable candidates to build on their prior experience through the development of pedagogical links and information technology applications. It is intended that the program be offered primarily as a part-time program through distance delivered courses, with other delivery formats to be considered/ utilised where feasible. Access to specific computer hardware, software, and the Internet is required and will be the responsibility of each candidate.

A steering committee comprised of three members from each of the Faculty of Education at Memorial University of Newfoundland and the Institute for Education at CBU is responsible to the Associate Dean of Graduate Programs and Research, Faculty of Education, for selected aspects of the program. The latter include assessing student applications, recommending approval of instructors who are not regular faculty members at either CBU or Memorial University of Newfoundland, and recommending course or program changes. This committee is to be co-chaired by the Associate Dean of Graduate Programs and Research, Faculty of Education, Memorial University of Newfoundland and the Director of the Institute for Education at CBU, or their designate(s).

CBU courses offered as part of this program are indicated by the prefix "CBU EDU" followed by the specific course number.

1. Admission Requirements

Admission to the program is competitive and selective. In addition to meeting the requirements in the School of Graduate Studies **General Regulations**, Faculty of Education, Memorial University of Newfoundland, candidates must have successfully completed:

- a. one of a diploma or certificate in information technology from an accredited institution; CBU EDU 530; Memorial University of Newfoundland E2751 and E3751; or equivalent as determined by the program steering committee.

Selection into the program is determined by an applicant's profile which would normally include such criteria as previous academic performance, related work experience, and relevant information technology experience. More detailed information may be found at www.mun.ca/educ/grad/infotech.php.

2. Program Requirements

- a. all candidates for the Master of Education (Information Technology) must complete E6100 Research Designs and Methods in Education.
- b. candidates on the thesis route must complete:
 - three credit hours from:
 - 6610 Research on Computers in the Curriculum
 - 6615 Educational Software Prototyping and Evaluation
 - 6620 Issues and Trends in Educational Computing
 - nine credit hours selected from the core elective CBU courses approved for this program:
 - CBU EDU 5101 Assessment of Software and Information Technology Applications for Education
 - CBU EDU 5103 Integration of Instructional Design and Information Technology
 - CBU EDU 5104 Applications of Learning Theory in Educational Multi-media Design
 - CBU EDU 5105 Designing Web-based Learning
 - CBU EDU 5106 Technology Planning for Educational Environments
 - CBU EDU 5107 Information Management for Educational Environments
 - three credit hours from: 6822, 6823, 6802, E6426, or from other Memorial University of Newfoundland, Faculty of Education

graduate course offerings as deemed appropriate for each candidate's program and approved by the program steering committee.

- c. candidates on the comprehensive-course route must complete:
 - i. six credit hours selected from E6610, E6615, E6620
 - ii. twelve credit hours selected from CBU EDU 5101, EDU 5103, EDU 5104, EDU 5105, EDU 5106, EDU 5107
 - iii. E6590 Research and Development Seminar in Information Technology in Education
 - iv. three credit hours from E6822, E6823, E6802, E6426, or from other Memorial University of Newfoundland, Faculty of Education graduate course offerings as deemed appropriate for each candidate's program and approved by the program steering committee
 - v. additional credit hours appropriate to a candidate's program, and approved by the program steering committee, to be chosen from graduate course offerings at Memorial University of Newfoundland, CBU, or any other university to complete the required 30 credit hours for the comprehensive-course route
- d. normally, candidates will be permitted to register for E6590 only after all other course requirements have been met.
- e. candidates who have successfully completed the CBU graduate level Certificate in Education (Technology) will be given advanced standing credit for the 9 CBU EDU course credit requirements for the thesis route or 12 CBU EDU course credit requirements for the comprehensive course-route on this program.
- f. candidates who have successfully completed the former CBU EDU 534 and/or EDU 543 with at least a CBU grade of B (70%) toward the CBU graduate level Certificate in Education (Technology) prior to September 2000, will receive up to 12 advanced standing credit hours appropriate to their Degree option (EDU 534 will be considered equivalent to EDU 5101 and EDU 5103, and EDU 543 equivalent to EDU 5104 and EDU 5105).
- g. thesis-route candidates will be subject to **Theses and Reports** of the School of Graduate Studies, Memorial University of Newfoundland, supervised by a faculty member at Memorial University of Newfoundland, and where feasible co-supervised by a CBU faculty member.

10.9 Courses

A selection of the following graduate courses shall be offered to meet the requirements of candidates, as far as the resources of the Faculty allow:

6100 Research Designs and Methods in Education
 6105 Social and Cultural Difference and Education
 6106 Popular Culture and Literacy Education
 6107 Arts Education: Creativity in the Classroom
 6108 Literacy and Language Education: Sociocultural Perspectives
 6202 Social Context of Educational Leadership
 6203 Leadership: Theory and Practice
 6204 Educational Administration: Theory and Practice
 6205 Educational Policy: Theory and Practice
 6290 Research and Development Seminar in Educational Leadership Studies
 6291 Internship in Educational Leadership Studies (6 credit hours)
 6292 Project in Educational Leadership Studies (6 credit hours)
 6293 Paper Folio in Educational Leadership Studies (6 credit hours)
 6300 Teaching and Learning
 6321 Supervisory Processes in Education
 6330 Educational Finance
 6335 Legal Foundations of Educational Administration
 6390 Research and Development Seminar in Curriculum, Teaching and Learning Studies
 6391 Internship in Curriculum, Teaching and Learning Studies (6 credit hours)
 6392 Project in Curriculum, Teaching and Learning Studies (6 credit hours)
 6393 Paper Folio in Curriculum, Teaching and Learning Studies (6 credit hours)
 6394 Biographical Explorations of Teaching and Learning
 6410 Seminar on Philosophical Issues in Educational Policy and Leadership
 6420 Ethical Issues and Perspectives in Educational Practice and Policy
 6425 Comparative Perspectives in Public Education, Reform, and Leadership
 6426 Computer Applications in Educational Administration
 6427 School Community Partnerships
 6440 Family-School Relations: Leadership and Policy Implications
 6465 School Violence: Leadership and Policy Implications
 6466 Qualitative Research Methods
 6467 Quantitative Research Methods
 6468 Critical Approaches to Educational Research
 6469 Theoretical and Methodological Foundations of Action Research
 6502 Contexts of Music Education
 6503 Teaching Music from the Podium
 6504 Musicianship, Pedagogy, and Learning
 6590 Research and Development Seminar in Information Technology in Education
 6600 Learning and Motivation
 6602 Curriculum Studies
 6603 Place, Ecology and Education
 6610 Research on Computers in the Curriculum (Prerequisite: 6620)
 6615 Educational Software Prototyping and Evaluation
 6620 Issues and Trends in Educational Computing
 6630 Critical Issues in Mathematics Education
 6632 Current Research in Teaching and Learning of Elementary School Mathematics (Prerequisite: 6630)
 6634 Teaching and Learning to Solve Mathematics Problems (Prerequisite: 6630)
 6635 Teaching and Learning Geometry
 6636 Teaching and Learning the Concept of Number and Operations
 6639 Technology and the Teaching and Learning of Mathematics (Prerequisite: 6630)
 6641 Writing in the Primary, Elementary and Secondary Schools

- 6642 Developmental Reading (K-8)
- 6643 Contemporary Issues in Intermediate and Secondary English
- 6644 Drama in Education
- 6645 Literature for Children and Adolescents
- 6646 Literature in the Secondary School
- 6647 Diagnosis and Remediation of Reading and Writing Difficulties
- 6649 Exploring Multiple Literacies
- 6653 Contemporary Issues in Science Education I
- 6655 The Nature of Science and Science Education
- 6658 Teaching and Learning Scientific Concepts, Laws, and Theories
- 6660 Information Technology
- 6661 Applications of Media in Education
- 6662 Research Seminar in Teacher-Librarianship
- 6663 The Organization of Learning Resources
- 6664 Seminar in School Improvement
- 6668 Current Issues in Second Language Education
- 6669 Graduate Seminar in Second Language Teaching and Learning
- 6670 Teaching and Learning Social Studies
- 6671 Research in Social Studies Education
- 6672 Issues and Trends in Social Studies
- 6673 Second Language Teaching, Learning and Curriculum (*credit may be obtained for only one of Education 6673, the former 6665 or 6667*)
- 6674 Research in Second Language Writing Education
- 6675 Current Issues in Rural Education
- 6693 Literacy for the Young Child in Home and School
- 6700 Ethical and Legal Issues in Counselling
- 6701 Issues and Methodologies in Learning and Developmental Research
- 6702 Counselling: Theory and Practice
- 6703 Personal and Professional Development Group (non-credit)
- 6705 Nature and Development of School Counselling Services
- 6706 Career Education and Career Counselling
- 6707 Assessment for Counsellors
- 6708 Group Counselling: Theory and Practice
- 6709 Assessment of Intelligence and Learning Skills
- 6710 Issues in Development and Implementation of Special Education Policy and Practices
- 6711 Behaviour Modification in the Educational Setting
- 6712 The Nature and Assessment of Behaviour Disorders in Children and Adolescents
- 6713 Educational Applications of Contemporary Cognitive Psychology
- 6714 Principles and Practices in Exceptionality
- 6715 The Theory and Practice of Peer Helping Programs
- 6716 Working with Families and Parents
- 6717 Counselling Adolescents
- 6718 Elementary School Counselling
- 6719 Cultural Issues in Counselling
- 6720 Internship in Counselling Psychology (9 credit hours)
- 6755 Nature and Assessment of Learning Disabilities
- 6801 Foundations of Post-Secondary Programs
- 6802 Adult Learning and Development
- 6803 Research in Post-Secondary Education
- 6804 Leadership and Human Resource Development in Post-Secondary Education
- 6805 Advanced Human Resource Communications
- 6806 Interprofessional Education in the Health Professions
- 6807 Economics and Finance of Post-Secondary Education
- 6822 Foundations of Instructional Design in Post-Secondary Education
- 6823 Principles of Program Design and Development
- 6831 Organization and Administration of Student Services for the Adult Learner
- 6832 Issues and Trends in the Administration of Post-Secondary Education
- 6841 Student Development Theory, Services and Programs in Post-Secondary Education
- 6890 Research and Development Seminar in Post-Secondary Studies
- 6891 Internship in Post-Secondary Studies (6 credit hours)
- 6900-6910 Special Topics (excluding 6909)
- 6909 Narrative Approaches to Teaching, Learning and Research
- 6911 Multiage Education: An Introduction
- 6912-6950 Special Topics
- 6913 Practitioner Inquiry/Participatory Action Research (Prerequisite: 6469 Theoretical and Methodological Foundations of Action Research)
- 6940 Administration of Student Services in Post-Secondary Education

11 Regulations Governing the Degree of Master of Employment Relations

Professor and Director
T. Brown

The Master of Employment Relations (M.E.R.) is a multi-disciplinary program providing advanced level study of all aspects of the employment relationship.

The M.E.R. program is offered by full-time or part-time study and involves 36 credit hours of course work. Candidates registered on a full-time basis will normally complete the program in one academic year. The following regulations must be read in conjunction with the **General Regulations** of the School of Graduate Studies of Memorial University of Newfoundland.

11.1 Administration

1. The program shall be administered by a Director, who reports to the Dean of Graduate Studies. The Director shall be appointed by the Dean of Graduate Studies on the recommendation of the Deans of Arts and Business Administration. In making this recommendation, the Deans of Arts and Business Administration shall consult with the employment relations community both within and outside the University.
2. An Executive Committee consisting of the Director and Deans of Arts, Business Administration, and Graduate Studies will be established to review administrative, resource, and strategic planning issues related to the program. This committee shall be chaired by the Dean of Graduate Studies.
3. The Director shall consult with the Graduate Committee in Employment Relations (GCER) for the purposes of administering the academic elements of the program. The GCER shall normally consist of 11 members appointed by the Dean of Graduate Studies on the recommendation of the Director. The GCER will include the Director, who shall Chair the committee, approximately six faculty members from the Faculties of Arts and Business Administration who teach core courses, the Associate Deans or Directors of Graduate Studies from Arts and Business Administration, as well as one full-time and one part-time student representative.
4. An Advisory Board in Employment Relations (ABER) shall be established for the purposes of consulting with obtaining feedback from the employment relations community. The ABER will consist of a broad cross-section of members from the employment relations community both within and outside the University who shall be appointed by the Dean of Graduate Studies on the recommendation of the Director.

11.2 Qualifications for Admission

1. Admission is limited and competitive.
2. To be considered for admission to the M.E.R. program, an applicant shall have:
 - a. An undergraduate degree, with a minimum B standing, from an institution recognized by Senate; and
 - b. An undergraduate course in organizational behaviour, statistics, and microeconomics, from an institution recognized by Senate, with a minimum B standing in each course.
3. In exceptional cases, applicants who have not completed an undergraduate degree, but who meet all other requirements, may be considered for admission. Preference will be given to those who have a minimum of 10 years of full-time professional experience, including demonstrated success in employment relations, and who have successfully completed substantial university course work including several courses at an advanced undergraduate level from an institution recognized by Senate. Applicants without an undergraduate degree must have completed one or more undergraduate courses in organizational behaviour, statistics, and microeconomics, from an institution recognized by Senate, with a minimum B standing in each course. Any applicants who do not meet normal admission requirements, may also be required to successfully complete the GMAT or the GRE with an acceptable score and/or additional undergraduate courses before being considered for admission.
4. Applicants who did not complete a four-year baccalaureate degree at a recognized university where English is the primary language of instruction must normally complete either the:
 - a. Test of English as a Foreign Language (TOEFL) and achieve a paper-based score of 580 (or higher), computer-based score of 237 (or higher), or Internet based score of 92-93 (or higher); or
 - b. International English Language Testing System (IELTS) and achieve a score of 7 (or higher).
 - c. Information regarding the TOEFL is available from the Educational Testing Service at www.ets.org. IELTS information is available at www.ielts.org. It is noted that other equivalent tests acceptable to the School of Graduate Studies will also be considered.

11.3 Deadlines for Applications

1. Applicants seeking full-time enrolment will normally only be admitted to the program in the Fall (September) semester.
2. Applications must be postmarked no later than February 15 for applicants wishing to enter full-time or part-time studies in the Fall (September) semester.
3. Applications must be postmarked not later than August 15 for applicants wishing to enter part-time studies in the Winter (January) semester.
4. Individuals submitting applications later than the above dates are not assured of consideration for admission to the program in the semester desired; their applications will be processed only if time and resources permit.

11.4 Procedure for Admission

1. Applications for admission to the M.E.R. program must be made on the appropriate form and submitted to the School of Graduate Studies.
2. The following documents must be submitted in support of the official application form:
 - a. Letter of appraisal from two referees, one of whom is capable of appraising the applicant's academic potential as a graduate student, and of whom is capable of appraising the applicant's professional experience and/or actual or likely success in a career in employment relations.
 - b. Two copies of the M.E.R. Employment Experience Information Form.
 - c. Two official transcripts from each university or other post-secondary institution previously attended, to be sent directly by its Registrar (or equivalent officer) to the School of Graduate Studies. If not recorded on the transcript, official evidence of completion of undergraduate degree must also be submitted.
3. Application files are normally evaluated after the deadline dates for application noted above and only when all required documentation has been received.
4. Admission shall be by the Dean of Graduate Studies on the recommendation of the GCER. Upon notification from the Dean of the School of Graduate Studies of acceptance into the M.E.R. program, applicants must give written notice to the School of Graduate Studies of their intention to register.

11.5 Program of Study

1. The M.E.R. program consists of 36 credit hours of course work as specified in **Table I**. These include 30 credit hours of compulsory courses and 6 credit hours of elective courses. The compulsory courses are comprised of 18 credit hours of core courses specified

in **Table II** and 9 credit hours for a research seminar.

- The compulsory core courses introduce students to the three main areas of study in the program: labour-management relations; human resources management; and labour market and social policy analysis.
- Electives allow students to specialize in one or more of the three main areas of study. Electives must be chosen from the list of approved electives specified in **Table III**. Other courses may be approved and added to **Table III** from time to time by the GCER.
- Candidates are responsible for fulfilling all pre-requisites and may require special permission from the Department offering an elective to enrol in the course.
- The Research Seminar in Employment Relations provides students with both quantitative and qualitative research skills and requires the identification of a research problem, the development and execution of a methodology appropriate to addressing the problem, analysis of results, and completion of final report. The Research Seminar involves 3 credit hours of course work in each of the Fall, Winter and Spring semesters.
- The prerequisites for EMRE 6030 and EMRE 6040 are EMRE 6010 and EMRE 6020. In addition, students will normally complete six M.E.R. courses before registering for EMRE 6030 or EMRE 6040. There are no prerequisites for EMRE 6010 and EMRE 6020 but students are advised to take these courses late in their programs, just before taking EMRE 6030 or EMRE 6040. For the core courses, the prerequisite for BUS1 9329 is BUS1 8210. For the remaining core courses, there are no prerequisites. For the elective courses, Departmental regulations that specify particular courses as prerequisites will apply but the Departmental requirement to have completed a number of courses will not apply.
- A waiver of a core course may be granted by the Dean of Graduate Studies on the recommendation of the Director if the candidate can demonstrate that the material in the course has been substantially covered by other courses taken at this or another recognized university. In such cases, the course must be replaced by another course offered by Memorial University of Newfoundland in consultation with the candidate, and approved by the Director. The maximum number of core courses that can be waived is 3 and all replacement courses must be taken during the candidate's period of enrollment in the program.
- Each student's program of study must be approved by the Director. The Director reserves the right to restrict candidates from taking particular courses if it is deemed that those courses do not add sufficient value beyond courses that the candidate has completed at the undergraduate level.

11.6 Evaluation

- Candidates for the M.E.R. Degree must obtain a grade of B or better in all program courses.
- Candidates who receive a grade of less than B in a program course will be permitted to remain in the program, provided the course is repeated and passed with a grade of B or better. Alternatively, the candidate may, on the recommendation of the Director and with the approval of the Dean of Graduate Studies, substitute another graduate course. Only one course repetition or substitution will be permitted during the candidate's program after which the candidate shall be required to withdraw from the program.

11.7 Courses

The schedule of courses for the M.E.R. program is as follows:

Table I - Master of Employment Relations Schedule of Courses

Term I (Fall) Three core courses from Table II One elective from Table III Employment Relations 6010 Research Seminar in Employment Relations I: Quantitative Methods Term III (Spring) Employment Relations 6040 Research Seminar in Employment Relations III: Applied Research Project	Term II (Winter) Three core courses from Table II One elective from Table III Employment Relations 6020 Research Seminar in Employment Relations II: Qualitative Methods
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Table II - Master of Employment Relations Core Courses

Business Business 8204 Human Resource Management Business 8210 Labour Relations Business 9329 Labour Law Employment Relations Employment Relations 6050 Interpersonal skills in Employment Relations	Arts Economics 6030 Labour Market Economics History 6075 Advanced Studies in Labour and Working-Class History One of: Sociology 6360 Sociology of Work, Sociology 6090 Special Area in Sociology, or Psychology 6402 Group Processes
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Table III - Master of Employment Relations Elective Courses

Labour-Management Relations Business 9013 Collective Agreement Administration and Arbitration Business 9030 International and Comparative Industrial Relations Employment Relations 6030: Independent Research Project Human Resource Management Business 9020 International Human Resource Management Business 9311 Seminar in Human Resource Management Business 9314 Business and Taxation Law Business 9317 Current Topics in Management Business 9324 Gender, Work and Organizations Business 9328 Change Management Education 6203 Leadership: Theory and Practice Education 6600 Learning and Motivation Education 6706 Career Education and Career Counselling Education 6802 Adult Learning and Development Education 6805 Advanced Human Resource Communications Employment Relations 6030 Independent Research Project Psychology 6401 Attitudes and Social Cognition Psychology 6402 Group Processes	Labour Market and Social Policy Analysis Business 8108 Economics for Business Economics 6000 Advanced Micro-economic Theory Economics 6001 Advanced Macro-economic Theory Education 6410 Philosophical Issues in Educational Policy and Leadership Employment Relations 6030: Independent Research Project Gender Studies 6000 Feminist Theory History 6000 Advanced Studies in Newfoundland History History 6010 Advanced Studies in Canadian History History 6070 Advanced Studies in Social History History 6090 Advanced Studies in Women's History History 6120 Advanced Studies in Economic and Business History Political Science 6700 Canadian Politics Political Science 6740 Public Administration Political Science 6790 Public Policy Sociology 6320 Gender and Society Sociology 6370 Feminist Theory and Methods
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Note: Students may require special permission from the instructor and/or relevant graduate program administrator prior to enrolling in an elective course.

12 Regulations Governing the Degree of Master of Engineering

Professor and Dean

G. Naterer

Professor and Associate Dean (Graduate Studies)

L. Lye

The degree of Master of Engineering (M.Eng.) is a research-focused degree and may be obtained either through full-time or part-time studies. The M.Eng. degree can be obtained through programs in Civil Engineering, Computer Engineering, Electrical Engineering, Mechanical Engineering, Ocean and Naval Architectural Engineering, and Oil and Gas Engineering.

12.1 Qualifications for Admission

To be considered for admission, an applicant shall meet the requirements set out in General Regulation, **Qualification for Admission**, or shall have qualifications and/or engineering experience that is acceptable to the Dean of Graduate Studies and to the Faculty of Engineering and Applied Science.

Admission to the M.Eng. program is limited and competitive. All applicants must meet the minimum qualifications set out in the above paragraph. Decisions on admission, however, will also take into account such things as the applicant's rank in class, referees' assessments, general performance throughout the applicant's undergraduate academic program and the availability of supervisors in the area of the applicant's interest.

Normally applicants will be considered in January for admission to the following September. In special cases applicants may also be considered in April and August. Applications should be made sufficiently far in advance to permit the University to obtain all relevant documents and review the application.

12.2 Program of Study and Research

- Students enrolled in the Master of Engineering program will work in one of the following areas: Civil Engineering; Computer Engineering; Electrical Engineering; Mechanical Engineering; Ocean and Naval Architectural Engineering; and Oil and Gas Engineering.
- A program shall normally consist of:
 - a thesis related to the area of study
 - 12 credit hours from graduate courses with at least 6 credit hours taken from the list of **Core Courses** below
 - Seminar course 9100
 - such other courses as may be required in an individual's program.
- The thesis is to contain the results of a systematic investigation which has been conducted by the candidate under the direction of the Supervisor.
- With the approval of the Dean of Graduate Studies and on the recommendation of the Faculty of Engineering and Applied Science, credit towards the course requirements may be considered for graduate courses previously taken by the student in accordance with the **General Regulations** for course credit transfers.

12.3 Supervision

- Each student shall be assigned to a Supervisor approved by the Dean of Graduate Studies on the recommendation of the Faculty of Engineering and Applied Science.
- The Supervisor shall propose a tentative program of study and topic of investigation which must be approved by the Dean of Graduate Studies acting on the recommendation of the Faculty of Engineering and Applied Science, before the acceptance of a student in the program.
- At the end of each semester, the Supervisor shall report on the student's progress to the Dean of Engineering and Applied Science for onward transmission to the Dean of Graduate Studies.
- A temporary or permanent change of Supervisor for a student already in a program shall be permitted only with the approval of the Dean of Graduate Studies and the Dean of Engineering and Applied Science.
- The Supervisor shall advise the student in the preparation and presentation of a seminar on the student's topic of investigation as described in **Thesis**, 2. below.

12.4 Industrial Internship Option

The Faculty encourages graduate students to undertake internships of work in industry. Internships in industry will permit students either (a) to focus on the practicalities of research projects which have been well defined before the student enters an internship, or (b) to develop and define a research project from problems experienced during the internship. Encouragement to undertake an internship will be given only where it is clear that one of these expectations can be met.

Students registered in the Master of Engineering Program may, with the permission of their Supervisor, the Dean of the Faculty of Engineering and Applied Science, and the Dean of Graduate Studies select the Industrial Internship Option. Students approved to pursue this option must satisfy the degree regulations for a Master of Engineering Program. In addition, students in the Industrial Internship Option:

- must take at least 9 credit hours of the courses required for their program on campus; the remaining required courses may be taken on or away from campus; those taken at other universities require pre-approval by the Dean of the School of Graduate Studies on the recommendation of the Faculty of Engineering and Applied Science
- shall normally spend 8 to 12 months of their program at an internship in industry
- shall normally spend at least two semesters on campus on a full-time basis as a graduate student at this university
- shall submit a concise progress report to their supervisors, no later than the end of each semester while on an internship

Successful completion of an internship will be indicated by a descriptive notation on the student transcript.

12.5 Fast-Track Option

Students registered in academic term 7 of a Memorial University of Newfoundland undergraduate engineering program are eligible to apply for admission to an M.Eng. fast-track option. The purpose of the option is to encourage students interested in pursuing graduate studies to begin their research-related activities while still registered as an undergraduate student. Normally, to be considered for admission to the option, students must have achieved at least a 70% average over academic terms 1 to 6 of their undergraduate engineering program. While enrolled in the option, a student may complete some of the M.Eng. Degree requirements and, hence, potentially be able to graduate earlier from the M.Eng. program.

Students shall enroll in the M.Eng. fast-track option concurrently with their undergraduate program during the Fall semester prior to academic term 8. Prior to entering the fast-track option, students must apply for and receive an exemption from work term 6. While enrolled in the option a student must be registered in full-time graduate studies during the Fall semester prior to academic term 8; during academic term 8, the student must take a leave of absence from the graduate program. A student enrolled in the fast-track option shall undertake research related to their field of study and shall normally complete at least 3 credit hours from the courses listed for their M.Eng. program in the Fall semester prior to academic term 8.

In the Fall semester following academic term 7, fast-track option students will pay only the graduate fees appropriate to graduate students following plan A of **Fees and Charges** (i.e., the 6 semester plan). In the succeeding Winter semester, while completing academic term 8 of their undergraduate program, fast-track option students will pay only the appropriate undergraduate fees.

Upon completion of their undergraduate program, students may register in the M.Eng. program on a full-time basis. All courses taken as part of their graduate program while enrolled in the M.Eng. fast-track option are credited towards the M.Eng. Degree course credit hour requirements. Courses taken as credit towards a student's undergraduate degree may not be credited towards a student's graduate degree; courses credited towards a student's graduate degree may not be credited towards a student's undergraduate degree. Students who do not complete their undergraduate degree within one year of entering the fast-track option will normally be required to withdraw from their M.Eng. program.

12.6 Course Evaluation

1. In order to continue in the program, a student shall obtain an A or B grade in each course taken for credit.
2. The student's achievement in the program must be to the satisfaction of the Dean of Graduate Studies and the Faculty of Engineering and Applied Science. When it has been determined on the basis of consultations with the student, the course instructors and the Supervisor, that a student's work has fallen below satisfactory level, he/she may be required to withdraw from the program.

12.7 Thesis

1. A student who expects to graduate must inform the Dean of Graduate Studies of this intention at least three months before the University Convocation at which the award of the degree is expected.
2. Before the thesis is submitted, the student shall present an open seminar on the topic of investigation to the Faculty of Engineering and Applied Science. Any serious deficiencies noticed at this stage should be carefully considered, in consultation with the Supervisor, for rectification.
3. Three copies of the thesis shall be submitted to the School of Graduate Studies through the Faculty of Engineering and Applied Science, in a form and format as specified in the Thesis Guide issued by the School of Graduate Studies and the Presentation of Theses Guide issued by the Faculty of Engineering and Applied Science. A submission which does not meet the specifications will be returned to the candidate.
4. Examiners shall be appointed by the Dean of Graduate Studies on the recommendation of the Faculty of Engineering and Applied Science soon after the student has expressed an intention to submit the thesis.

12.8 Evaluation of Theses

Theses evaluation shall be carried out in accordance with **Theses and Reports** of the **General Regulations** governing all students in the School of Graduate Studies.

12.9 Recommendation for Awarding Degree

When a student has completed all the requirements for the M.Eng. Degree, the Faculty of Engineering and Applied Science shall forward a recommendation to the Dean of Graduate Studies for the award of the Degree.

12.10 Master of Applied Science Programs

The Faculty of Engineering and Applied Science offers the following course-based programs:

12.10.1 Computer Engineering

In addition to the research-focused M.Eng. Degree in Computer Engineering, the Faculty of Engineering and Applied Science offers a course-based program in Computer Engineering leading to a Master of Applied Science Degree in Computer Engineering. For details of program requirements for the M.A.Sc. Degree in Computer Engineering, refer to the regulations governing the Degree of **Master of Applied Science**.

12.10.2 Environmental Systems Engineering and Management

The Faculty of Engineering and Applied Science offers a course-based program in Environmental Systems Engineering and Management. For the details of the program requirements for the M.A.Sc. Degree in Environmental Systems Engineering and Management refer to the regulations governing the Degree of **Master of Applied Science in Environmental Systems Engineering and Management**.

12.10.3 Oil and Gas Engineering

The Faculty of Engineering and Applied Science offers a course-based program in Oil and Gas Engineering. For the details of the program requirements for the M.A.Sc. degree in Oil and Gas Engineering refer to the regulations governing the Degree of **Master of Applied Science in Oil and Gas Engineering**.

12.11 Master of Engineering Management

12.11.1 Engineering Management

See regulations governing the Degree of **Master of Engineering Management**.

12.12 Courses

A selection of the following graduate courses will be offered to meet the requirements of the candidates, as far as the resources of the Faculty will allow.

Required Courses:

9100 Engineering Graduate Seminar (1 credit hour)

Core Courses:

9002 Ocean Engineering Structures
 9015 Ocean Engineering Hydrodynamics
 9110 Advanced Petroleum Production Engineering
 9113 Phase Behaviour of Petroleum Reservoir Fluids
 9114 Advanced Reservoir Engineering
 9115 Safety and Risk Engineering
 9118 Advanced Drilling Engineering
 9121 Advanced Safety, Risk and Reliability Modeling
 9211 Experimental Methods
 9411 Probabilistic Methods in Engineering
 9420 Engineering Analysis
 9496 Modeling and Simulation of Dynamic Systems
 9501 Finite Element Analysis with Engineering Applications
 9505 Structural Dynamics and Vibrations
 9516 Similitude, Modelling and Experimental Data Analysis
 9520 Solid and Structural Mechanics
 9550 Fatigue, Fracture and Corrosion
 9609 Environmental Risk Assessment
 9627 Environmental Systems Engineering
 9816 Antenna Theory
 9821 Digital Signal Processing
 9826 Advanced Control Systems
 9827 Continuous and Discrete-Event Systems
 9834 Advanced Power Electronics
 9847 Computer and Control Methods in Power Systems
 9861 High-Performance Computer Architecture
 9865 Advanced Digital Systems
 9867 Advanced Computing Concepts for Engineering
 9871 Information Theory and Coding
 9874 Software Design and Specification
 9876 Advanced Data Networks
 9901 Fundamentals of Fluid Dynamics
 9902 Advanced Transport Phenomena
 9940 Advanced Robotics

Other Courses:

9022 Marine Geotechnical Engineering
 9052 Ice Properties and Mechanics
 9090/99 Special Topics in Ocean Engineering (excluding 9096)
 9096 Marine and Offshore Ice Engineering
 9111 Well Testing
 9112 Multiphase Flow
 9116 Reliability Engineering
 9117 Offshore Petroleum Geology and Technology
 9119 Compact Process Equipment Design
 9120 Advanced Natural Gas Engineering
 9150-59 Special Topics in Oil and Gas Engineering
 9210 Advanced Engineering Materials
 9390/94 Special Topics in Engineering Management

9440 Optimization Principles in Engineering
 9495/99 Special Topics in Engineering Analysis (excluding 9496)
 9540/49 Special Topics in Mechanics, Structures and Materials
 9560 Applied Remote Sensing
 9601 Environmental Pollution and Mitigation (cross-listed as ENVS 6004)
 9603 Environmental Sampling and Pollutant Analysis (cross-listed as ENVS 6005)
 9605 Water and Wastewater Treatment
 9610/15 Special Topics in Environmental Engineering and Applied Science
 9621 Soil Remediation Engineering
 9622 Environmental Statistics
 9625 Environmental Impacts of Offshore Oil and Gas Operations
 9626 Environmental Management System
 9628 Environmental Laboratory
 9629 Environmental Policy and Regulations
 9630 Pollution Prevention
 9713 Stochastic Hydrology
 9723 Soil Properties and Behaviour (formerly 9720)
 9750 Advanced Topics in Analysis and Design of Reinforced Concrete (formerly 9701)
 9755 Advanced Topics in Precast and Prestressed Concrete (formerly 9702)
 9760/64 Special Topics in Geotechnical Engineering
 9790 Subsea Pipeline Engineering
 9791/99 Special Topics in Civil Engineering
 9802/05 (excluding 9804) Special Topics in Computer Engineering
 9804 Industrial Machine Vision
 9806/09 Special Topics in Communications Engineering
 9815 Electromagnetic Propagation
 9822 Nonlinear Digital Image Processing and Analysis
 9825 Random Signals (formerly 9830)
 9835 Advanced Electric Machines
 9848 Power System Stability (formerly 9812)
 9849 Power System Protection
 9850/53 Special Topics in Power Systems and Controls
 9866 Fault-Tolerant Computing (formerly 9846)
 9868 ASIC Design
 9869 Advanced Concurrent Programming
 9872 Digital Communications
 9873 Image Communications
 9875 Embedded and Real-Time Systems Design
 9877 Computer and Communications Security
 9878 Wireless and Mobile Communications
 9879 Formal Specification and Development
 9880/83 Special Topics in Computer Engineering
 9884/87 Special Topics in Signal Processing
 9888/91 Special Topics in Communications Engineering
 9892/95 Special Topics in Power Systems and Controls
 9896 Renewable Energy Systems
 9897/99 Special Topics in Applied Electromagnetics
 9910 Advanced Manufacturing
 9920 Advanced Concepts in Mechanical Design
 9925 Theory and Design of Mechanical Components and Structures
 9975/99 Special Topics in Mechanical Engineering

* Courses likely to be offered annually on a regular basis. Other courses will be offered if required in a student's program and dependent upon Faculty resources.

13 Regulations Governing the Degree of Master of Engineering Management

13.1 Program of Study

1. The Faculty of Engineering and Applied Science in collaboration with the Faculty of Business Administration offers a program in Engineering Management leading to the degree of Master of Engineering Management (M.E.M.). The program is available on a full-time or part-time basis.
2. The program is offered by the Faculty of Engineering and Applied Science and the Faculty of Business Administration and will be administered by a Board of Studies appointed jointly by the Dean of Engineering and Applied Science and the Dean of Business Administration.

13.2 Qualifications for Admission

1. Admission to the program is limited and competitive.
2. To be eligible for consideration for admission, an applicant shall meet the requirements set out in **General Regulations - Qualifications for Admission, Master's Program** or shall have qualifications and/or engineering experience that is acceptable to the Dean of Graduate Studies and to the Faculty of Engineering and Applied Science.
3. To be eligible for consideration for admission, applicants will meet the English Proficiency Requirements described under **General Regulations - Qualifications for Admission, English Proficiency Requirements**.
4. Applicants will normally be interviewed by representatives of the Board of Studies as part of the admission process.

13.3 Degree Requirements

The degree program requires the completion of 36 credit hours, 6 of which comprise a project course.

1. Students are normally required to complete Engineering 9395, 9396, and 9397, along with 9 additional credit hours from the **Master of Engineering, Core Courses** or the **Master of Engineering, Other Courses** offered for the Master of Engineering program, from which up to 3 credit hours may be taken from undergraduate courses approved for the student's program by the Dean of Graduate Studies on the recommendation of the Faculty of Engineering and Applied Science.
2. Students are normally required to complete Business 8104, 8106, 8109, 8206 and one of the following courses: Business 8103, 8107, 8108, 8204, 8205, 8207, or 8209.
3. Students who have not successfully completed a baccalaureate degree from a recognized university where English is the language of instruction will be required to complete an 8-week English as Second Language course prior to the start of the first regular academic semester and a one semester course covering the Engineering Profession and Communications during the second academic semester.

13.4 Evaluation

Students must obtain a grade of at least 65% in all program courses to receive credit for the course towards their program requirements. Any student who fails to receive 65% or more in a course must repeat the course in the case of required courses, or must either repeat or replace the course with another program course in the case of elective courses. Any student who receives a grade of less than 65% in two courses or in a repeated course will be required to withdraw from the program.

13.5 Courses

13.5.1 Required Courses

Business 8104 Organizations: Behaviour and Structure
 Business 8106 Marketing
 Business 8109 Accounting for Management
 Business 8206 Managerial Finance
 Engineering 9395 Engineering Management Project (6 credit hours)
 Engineering 9396 Engineering Management Topics
 Engineering 9397 Advanced Modelling and Quality Management

13.5.2 Elective Courses from the Faculty of Business Administration

Business 8103 Statistical Applications in Management
 Business 8107 Managing Ethics and Responsibility
 Business 8108 Economics for Business
 Business 8204 Human Resource Management
 Business 8205 Information Systems
 Business 8207 Operations Management
 Business 8209 Leadership and Interpersonal Skills for Managers

13.5.3 Elective Courses from the Faculty of Engineering and Applied Science

See **Core Courses and Other Courses** under **Master of Engineering**.

13.6 Industrial Internship Option

The Faculty permits graduates students to undertake internships of work in industry. These internships will allow students to either (a) enhance the application of their knowledge and skills within industry, or (b) complete a research project defined by the industry. Encouragement to undertake an internship will be given only where it is clear that one of these expectations can be met.

Students registered in the M.E.M. program may, with the permission of their Board of Studies, the Dean of the Faculty of Engineering and Applied Science, and the Dean of Graduate Studies, select the Industrial Internship Option. Students pursuing this option must satisfy the degree regulations for an M.E.M. program. In addition, students in the Industrial Internship Option:

1. shall normally complete at least 18 credit hours of the courses required for their program with an average of 75% or higher prior to the internship; the remaining required courses may be taken on campus or by distance
2. shall normally spend at least two continuous semesters on campus on a full-time basis as a graduate student at this university
3. shall normally spend 4 to 8 months of their program at an internship in industry
4. shall submit monthly reports to a university supervisor appointed by their Board of Studies, and shall submit a concise progress report to their Board of Studies no later than the end of each semester while on an internship
5. shall normally not opt out once the internship starts.

Successful completion of an internship will be indicated by a descriptive notation on the student transcript.

14 Regulations Governing the Degree of Master of Environmental Science

(see also **Master of Science in Environmental Science**)

Board of Studies

Dr. J. Wroblewski, Department of Ocean Sciences - Chair
 Dr. C. Campbell, Division of Science, Grenfell Campus, ex-officio
 Dr. B. Chen, Faculty of Engineering and Applied Science
 Dr. R. Chuenpagdee, Department of Geography
 Dr. P. Marino, Head, Department of Biology
 Dr. W. Montevecchi, Department of Psychology
 Dr. L. Tarasov, Department of Physics and Physical Oceanography
 Dr. S. Ziegler, Department of Earth Sciences

14.1 Program of Study

1. The Environmental Science Program is an interdisciplinary graduate program involving the departments of the Faculty of Science,

the Faculty of Arts, the Faculty of Medicine, and the Faculty of Engineering and Applied Science. There are three Environmental Science Graduate Degree streams: the Master of Science (M.Sc., Environmental Science), Master of Environmental Science (M.Env.Sci.), and the Doctor of Philosophy (Ph.D., Environmental Science). The program is available on a full or part-time basis.

2. The program is administered by a Board of Studies appointed by the Dean of Science. Supervisors of graduate students in the program include faculty from the Faculty of Science, the Faculty of Arts, the Faculty of Engineering and Applied Science, the Faculty of Medicine, and the Environmental Science Program at the Grenfell Campus, as well as adjunct appointees to the program (as a co-supervisor).

14.2 Qualifications for Admission

Admission is limited and competitive. To be considered for admission applicants shall normally hold a Bachelor's (Honours) degree in Science, Geography or Environmental Science with at least second class standing, or equivalent, or a Bachelor's degree in Engineering from an institution recognized by the Senate or shall have qualifications and/or environmental experience acceptable to the Dean of Graduate Studies and the Board of Studies. The Board of Studies will make recommendations on admission to the Dean of Graduate Studies.

14.3 Degree Requirements

To the extent that resources permit, individual programs will be developed to suit students' interests and needs. However all programs must be approved by the Board of Studies and by the Dean of Graduate Studies. All **General Regulations** of the School of Graduate Studies shall apply to these degrees

1. The Master of Environmental Science (M.Env.Sci.) is a multidisciplinary course-based degree, focussed on environmental issues. The Degree program provides for both multidisciplinary courses and for courses focussed on the student's specific area of interest.
2. The Degree program requires completion of 24 credit hours of either **Option A** or **Option B** and a project report. The project report will be evaluated according to procedures outlined in **General Regulations, Theses and Reports**.

Option A

Students will be required to take a minimum of 15 credit hours in program courses, 9 credit hours of which must be ENVE/ENVS 6000, ENVS 6009 and ENVS 6010 and 6 credit hours from ENVE/ENVS 6001, 6002 and 6003. Students will also be required to take a minimum of 9 credit hours in elective courses approved by the Board of Studies, 6 credit hours of which will normally be selected from graduate courses offered by the Faculty of Science and the Faculty of Engineering and Applied Science. Students are advised to consult with instructors and Faculties regarding necessary prerequisites and availability.

Option B

Students will be required to take a minimum of 15 credit hours in program courses, 9 credit hours of which must be ENVE/ENVS 6000, ENVS 6009, and ENVS 6010 and 6 credit hours from ENVE/ENVS 6001, 6002 and 6003. Students will also be required to take a minimum of 6 credit hours in elective courses approved by the Board of Studies, normally selected from graduate courses offered by the Faculty of Science and Faculty of Engineering and Applied Science. In addition, students will be required to complete the 3 credit hours course ENVS 601W (work term).

ENVS 601W is a work term of one semester duration. Work term placements are arranged by the Division of Co-operative Education in consultation with the Program Chair and the student's Supervisor. The on-site employment supervisor and the Memorial University of Newfoundland Co-op Coordinator evaluate the work term based on the student's performance on the job and on a written work term report submitted by the student. The topic of the work term report must be related to the work experience and will be chosen by the student in consultation with the on-site employment supervisor and the Memorial University of Newfoundland Co-op Coordinator. The student will be permitted to submit a work term report only after the on-site employment supervisor and the Memorial University of Newfoundland Co-op Coordinator determine that the work term has been successfully completed. The work term report may become the basis for the project report for ENVS 6009 (Project) which is required for the M.Env.Sci. Degree. The Program Chair, on the advice of the Memorial University of Newfoundland Co-op Coordinator with input from the on-site employment supervisor, will recommend to the Dean of Graduate Studies a grade of Pass with Distinction, Pass or Fail. In cases where the Memorial University of Newfoundland Co-op Coordinator and the on-site employment supervisor are unable to reach agreement concerning the grade, the final decision lies with the Program Chair. Should a student fail to complete a work term successfully, the graduate student's M.Env.Sci. Supervisor and the Program Chair may submit to the Memorial University of Newfoundland Division of Co-operative Education a proposal for a different work term placement (only once). Or the student may apply to the Board of Studies for a change to the course-based M.Env.Sci. Option A, or to the thesis-based M.Sc. (Environmental Science).

14.4 Courses

ENVE/ENVS 6000 Environmental Science and Technology
 ENVE/ENVS 6001 Earth and Ocean Systems
 ENVE/ENVS 6002 Environmental Chemistry and Toxicology
 ENVE/ENVS 6003 Applied Ecology
 ENVS 6004 Environmental Pollution and Mitigation (cross-listed as ENGI 9601)
 ENVS 6007 Environmental Risk Assessment (cross-listed as ENGI 9609)
 ENVS 6008 Air Pollution (same as ENGI 9624)
 ENVS 6009 Environmental Science Project
 ENVS 6010 Environmental Seminar
 ENVS 6201-6210 Special Topics in Environmental Science
 ENVS 601W Work Term

15 Regulations Governing the Degree of Master of Gender Studies

Associate Professor and Head of the Department

K. Side

15.1 General Information

The Master of Gender Studies degree allows students to examine critically - at an advanced level - how gender shapes our identities, our social interactions and our world. Students will incorporate, into their study, frameworks for thinking about power relations and the ways those relations are shaped and challenged by intersecting constructions of gender, race, class, sexuality, age, ability and nationality.

Faculty members in the Department of Gender Studies bring research expertise and interests in a range of fields, including: citizenship and human rights; corporeal feminism; reproductive rights, auto-biography and life writing; postcolonial and transnational feminisms; and First Nations studies. This master's program offers a thriving environment that draws on the expertise of scholars from a wide range of academic disciplines.

The program is administered by the Department of Gender Studies and the Graduate Studies Advisory Committee.

The Graduate Co-ordinator, on behalf of the Department of Gender Studies, Graduate Studies Advisory Committee, makes recommendations to the Dean of Graduate Studies concerning admission, and financial support for students, and administers all other matters pertaining to the graduate program.

The Master of Gender Studies Degree offers, by full or part-time study, three degree options: thesis, project or internship.

15.2 Qualifications for Admission

1. Admission is limited and competitive. To be considered for admission, an applicant will normally hold an Honours Degree or equivalent, and will have a breadth of knowledge in Gender Studies satisfactory to the Graduate Studies Advisory Committee.
2. Applicants who do not have an adequate background in Gender Studies may be required to complete Gender Studies 3005 or Gender Studies 3025 or equivalent normally with a grade of 75% or higher.

15.3 Program of Study

1. Upon admission, each graduate student in the thesis program will be assigned an academic advisor for one year. The supervisory committee, formed prior to the development of the thesis project proposal, will include two supervisors. For students selecting the non-thesis option, one Supervisor will be selected.
2. All candidates are required to complete Gender Studies 6000, 6100, and 6200.
3. Three to 9 additional elective credit hours approved by the Graduate Studies Advisory Committee and the student's supervisor(s) will be required. These elective credit hours will comprise courses selected from graduate courses in cognate academic units, and/or Gender Studies 6300 and/or from the block of special topics courses in Gender Studies 6400-6420.
4. Each student will be required to give a public seminar on her/his thesis research, project or internship after the thesis proposal has been approved and before submission of her/his final thesis/project/internship report.

15.4 Thesis

1. Candidates for the Degree of Master of Gender Studies (thesis option) will be required to complete a minimum of 15 credit hours. Candidates will also be required to complete a thesis.
2. A thesis proposal, approved by the student's supervisors, will be presented to the Graduate Studies Advisory Committee for its approval. The thesis proposal must normally be approved by the Graduate Studies Advisory Committee no later than the end of the candidate's third semester in the program.
3. The thesis will be evaluated in accordance with the procedures outlined in General Regulation **Theses and Reports** of the School of Graduate Studies.

15.5 Project

1. Candidates for the Degree of Master of Gender Studies (project option) will be required to complete a minimum of 18 credit hours. Candidates will also be required to complete a project.
2. The Master's project must be interdisciplinary in nature and aimed at linking theoretical and practical knowledge by recognizing and articulating a problem relevant to Gender Studies and by developing and justifying theoretical and practical approaches. The project report should consist of the project (e.g. a film or video; a computer project; a website; a manual or guidebook; a kit of learning resources; photographs; audio or videotape, etc.) as well as a literature-based rationale, theoretical basis and justification for its use. The length of the written portion of the project should be 40-60 pages. Regardless of the form that the project takes (e.g. a film or video) a computer project; a website; a manual or guidebook; a kit of learning resources; photographs; audio or videotape, etc.) there must be a written project report.
3. A project proposal, approved by the student's supervisor, will be presented to the Graduate Studies Advisory Committee for its approval. The project proposal must normally be approved by the Graduate Studies Advisory Committee no later than the end of the candidate's third semester in the program.
4. The project will be evaluated in accordance with procedures outlined in General Regulation **Theses and Reports** of the School of Graduate Studies.

15.6 Internship

1. Candidates for the Degree of Master of Gender Studies (internship option) will complete a minimum of 18 credit hours. Candidates will also be required to complete an internship.
2. Internship placement shall be for one semester. Part-time internships of two semesters will require approval from the proposed agency or institution and the Graduate Studies Advisory Committee.
3. Students, in consultation with their supervisor and the Gender Studies Graduate Co-ordinator, will explore internship options and locate an eligible person to provide field instruction during their internship. Although consideration will be given to all factors affecting the location and type of all Gender Studies internships, the final decision regarding internship rests with the Head, Department of Gender Studies and the Dean of Graduate Studies.
4. Factors affecting the type and location of the internship include: the number of immersion hours per week; the extent to which the intern takes up a trainee, supervisory and/or research role and whether the intern would be working directly or indirectly with clients of the agency or institution.
5. Each internship shall be supervised by a Supervisory Committee of at least three members, including the candidate's supervisor, the field supervisor and Gender Studies Graduate Co-ordinator or her/his delegate.
6. The Supervisory Committee will meet with the intern and field supervisor at least once during the internship period to make an assessment of the nature and quality of the intern's progress, and to approve any modifications to the internship.
7. The internship proposal, approved by the student's supervisor, will be presented to the Graduate Studies Advisory Committee for its approval. The proposal must normally be approved by the Graduate Studies Advisory Committee no later than the end of the candidate's third semester in the program.

8. Regardless of the form that the internship takes, there must be a written internship report (40-60 pages). When the candidate completes the internship report, the Supervisory Committee will recommend to the Dean of Graduate Studies a grade of pass or fail. A candidate will be permitted to submit an internship report only after the Supervisory Committee has determined that the internship placement has been fully completed.
9. Should the Head, Department of Gender Studies, on the recommendation of the Supervisory Committee, terminate the internship prior to its completion, it may recommend to the Dean of Graduate Studies one of the following:
 - a. submission of a new internship proposal for a different field setting (once only);
 - b. selection of the thesis or project option;
 - c. termination of the student's program.

15.7 Courses

6000 Feminist Theory
 6100 Feminist Epistemologies and Methodologies
 6200 Graduate Seminar in Gender Studies
 6300 Feminism as Community
 6400-6420 Special Topics in Women's Studies

16 Regulations Governing the Degree of Master of Marine Studies (Fisheries Resource Management)

Vice-President (Marine Institute)

G. Blackwood

Associate Vice-President (Marine Institute) Academic and Student Affairs

P. Fisher

16.1 Administration

The programs will be administered by an Academic Director appointed by the Vice-President (Marine Institute), together with an Academic Advisory Committee.

An Academic Advisory committee will be appointed by the Dean of Graduate Studies on recommendation of the Vice-President (Marine Institute). This committee will consist of the Academic Director as Chair, three members from the Marine Institute and two members from other academic units of the University. Normally, all appointments will be for a period of three (3) years.

A Technical Advisory Committee consisting of a cross-section of members with professional expertise related to the fishery, will provide regular feedback on program content, instruction, and future direction of the Program. Members of this Committee will be appointed by the Dean of Graduate Studies on recommendation of the Vice-President (Marine Institute). The Academic Director will be an ex officio member and Chair of the Technical Advisory Committee. Normally all appointments will be for a period of three (3) years.

16.2 Programs

There are two graduate programs in Fisheries Resource Management: the **Graduate Diploma** and the **Master of Marine Studies**.

16.3 Graduate Diploma

The Graduate Diploma in Fisheries Resource Management provides an opportunity for fisheries professionals to enhance their perspective on fishery issues from a variety of disciplines.

16.3.1 Admission Requirements

To be admitted to the Graduate Diploma in Fisheries Resource Management, a student must be eligible to register in the Master of Marine Studies program (see **Master of Marine Studies, Admission Requirements** below).

16.3.2 Program of Study

The program is offered online and requires successful completion of 18 credit hours of course work selected from the **Courses** section below:

1. 5 core courses (15 credit hours)
2. 1 elective course (3 credit hours) from either **Category A** or **Category B** Electives

16.3.3 Evaluation

Candidates for the Graduate Diploma in Fisheries Resource Management must obtain a grade of B or better in all program courses.

16.4 Master of Marine Studies

The Master of Marine Studies (Fisheries Resource Management) (M.M.S.) is a multi-disciplinary program of study that will provide the candidate with exposure to all dimensions of modern fisheries resource management in an international context. The program is aimed at professionals working in or intending to enter careers in fisheries management. The program is offered online and requires successful completion of either (a) 24 credit hours of course work and a Major Report, or (b) 30 credit hours of course work. Students who have successfully completed the requirements for the Graduate Diploma may elect to continue their program of study in order to earn the Degree.

16.4.1 Admission Requirements

1. Admission to the program is on a competitive basis. To be considered for admission to the program an applicant must normally have an undergraduate degree with a minimum of a high second class standing from an institution recognized by the Senate.
2. In addition to the academic requirements in 1. above applicants will normally have a demonstrated commitment to fisheries through employment or experience in a sector of the fishery, in a regulatory agency or government Department connected to fisheries, in a

non-governmental agency, or through self-employment or consulting activities related to fisheries.

3. The deadlines for submission of applications for candidates wishing to enter studies are as follows:

Fall (September) semester: June 15

Winter (January) semester: October 15

Spring (May): semester: February 15

Applications received after listed deadlines will be considered as time and resources permit.

16.4.2 Program of Study

1. Candidates for the Master of Marine Studies (Fisheries Resource Management) shall be required to complete a minimum of either:
 - a. 24 credit hours of course work plus a Major Report on the **Course Work Plus a Major Report Route** completed in accordance with **General Regulation, Theses and Reports** of the School of Graduate Studies. Course work must include the following course selections from the **Courses** section below:
 - 5 core courses (15 credit hours)
 - 1 elective course (3 credit hours) from **Category A** Electives
 - 1 elective course (3 credit hours) from **Category B** Electives
 - 1 elective course (3 credit hours) from either **Category A** or **Category B**
 - b. 30 credit hours on a **Comprehensive Course Route** which must include the following course selections from the **Courses** section below:
 - 5 core courses (15 credit hours)
 - 2 elective courses (6 credit hours) from **Category A** Electives
 - 1 elective course (3 credit hours) from **Category B** Electives
 - 2 elective courses (6 credit hours) from either **Category A** or **Category B**
2. Dependent upon the applicant's academic background, other courses may be required by the Academic Advisory Committee.
3. Transfer of credit for graduate courses completed in other programs at the University or at other institutions recognized by Senate will be considered in accordance with School of Graduate Studies **General Regulations, Transfer of Course Credits**.
4. Those having partially completed the requirements for the degree under 2011-2012 Calendar Regulations may apply to transfer to one of the above program options and will be considered in accordance with the following:
 - a. Those having previously completed all coursework required for the degree, but who have not submitted the Major Report, may satisfy the **Comprehensive Course Route** requirements by successfully completing an additional 6 credit hours of courses as follows:
 - MSTM 6005 (for students who completed the former FRM 6009 to satisfy the 24 credit hours of courses required under previous program regulations, an additional elective course chosen from **Category A** or **B** must be selected in place of this course)
 - One further elective course (3 credit hours) from **Category A** or **B** electives
 - b. Those having previously completed all coursework required for the degree may satisfy the Major Report requirements by successfully completing:
 - MSTM 6001 (or the former FRM 6001)
 - MSTM 6002 (or the former FRM 6002)
 - MSTM 6003 (or the former FRM 6003)
 - MSTM 6004 (or either of the former FRM 6004 or FRM 6005)
 - MSTM 6005 (or the former FRM 6009)
 - a Major Report completed in accordance with **General Regulations, Theses and Reports** of the School of Graduate Studies together with the following course selections from the **Courses** section below:
 - 1 elective course (3 credit hours) from **Category A** Electives
 - 1 elective course (3 credit hours) from **Category B** Electives
 - 1 elective course (3 credit hours) from either **Category A** or **Category B**. The former FRM 6007 and/or FRM 6008 may be used to partially satisfy the elective requirement.
 - c. Those having previously partially completed the coursework required for the degree may satisfy the **Comprehensive Course Route** requirements by successfully completing:
 - MSTM 6001 (or the former FRM 6001)
 - MSTM 6002 (or the former FRM 6002)
 - MSTM 6003 (or the former FRM 6003)
 - MSTM 6004 (or either of the former FRM 6004 or FRM 6005)
 - MSTM 6005 (or the former FRM 6009) together with the following course selections from the **Courses** section below:
 - 1 elective course (3 credit hours) from **Category A** Electives
 - 1 elective course (3 credit hours) from **Category B** Electives
 - 3 elective courses (9 credit hours) from either **Category A** or **Category B**. The former FRM 6007 and/or FRM 6008 may be used to partially satisfy the elective requirement.

16.4.2.1 Course Work Plus a Major Report Route

24 credit hours of course work plus a Major Report completed in accordance with **General Regulations, Theses and Reports** of the School of Graduate Studies. Course work must include the following course selections from the **Courses** section below:

1. 5 core courses (15 credit hours)
2. 1 elective course (3 credit hours) from **Category A** Electives
3. 1 elective course (3 credit hours) from **Category B** Electives
4. 1 elective course (3 credit hours) from either **Category A** or **Category B**

16.4.2.2 Comprehensive Course Route

30 credit hours on the Comprehensive Course Route which must include the following course selections from the **Courses** section below:

1. 5 core courses (15 credit hours)
2. 2 elective courses (6 credit hours) from **Category A** Electives
3. 1 elective course (3 credit hours) from **Category B** Electives
4. 2 elective courses (6 credit hours) from either **Category A** or **Category B**

16.4.3 Evaluation

1. Candidates for the Master's Degree must obtain a grade of B or better in all program courses.
2. Candidates who have received a grade less than a B in a program course will be permitted to remain in the program, provided the course is retaken and passed with a grade of B or better. Alternatively the candidate may, on the recommendation of the Academic Advisory Committee, substitute another graduate course. Only one such repeat or substitution will be permitted in the program.
3. The Major Report will normally be undertaken towards the end of the program. The topic of the report and a faculty Supervisor will be chosen by the candidate in consultation with the Academic Advisory Committee. The report provides an opportunity to synthesise an original perspective on a selected fisheries issue through the examination of appropriate literature and other sources of information. Normally the report will be multi-disciplinary in nature and will result in a document equivalent to a publishable periodical journal article or a consultant's report on a particular issue. It will be assessed in accordance with **General Regulations, Theses and Reports** of the School of Graduate Studies.

16.5 Courses

16.5.1 Core Courses

MSTM 6001 Fisheries Ecology (*Credit restriction: credit may be obtained for only one of MSTM 6001 and the former FRM 6001*)

MSTM 6002 Fisheries Resource Assessment Strategies (*Credit restriction: credit may be obtained for only one of MSTM 6002 and the former FRM 6002*)

MSTM 6003 Fisheries Economics (*Credit restriction: credit may be obtained for only one of MSTM 6003 and the former FRM 6003*)

MSTM 6004 Fisheries Policy and Planning (*Credit restriction: credit may be obtained for only one of MSTM 6004, the former FRM 6004, and the former FRM 6005*)

MSTM 6005 Overview of World Fisheries (*Credit restriction: credit may be obtained for only one of MSTM 6005 and the former FRM 6009*)

16.5.2 Category A Electives

MSTM 6006 Business Management for Fisheries (*Credit restriction: credit may be obtained for only one of MSTM 6006 and the former FRM 6006*)

MSTM 6007 Fisheries Technology

MSTM 6008 Social and Philosophical Issues of Fisheries Management

MSTM 6009 Current Issues for Sustainable Fisheries

MSTM 6010 Legal Aspects of Fisheries Resource Management

16.5.3 Category B Electives

MSTM 6022 Communication and Conflict Resolution in a Technical Environment

MSTM 6023 Strategic Planning, Policy, Participation and Management in Technical Operations

MSTM 6033 Quality Systems

MSTM 6034 Project Management in the Offshore, Health, Fisheries and Engineering Technology Environments

MSTM 6039 Sustainability and Environmental Responsibility

MSTM 6044 Marine Environment Law and Pollution Control

MSTM 6056 Management for International Development

MSTM 6071 Management of Aquaculture Technology

17 Regulations Governing the Degree of Master of Maritime Management

Vice-President (Marine Institute)

G. Blackwood

Academic Director

J. Parsons

17.1 Administration

The Master of Maritime Management (M.M.M.) program will be administered by an Academic Director appointed by the Vice-President (Marine Institute), together with an Academic Advisory Committee.

An Academic Advisory Committee will be appointed by the Dean of Graduate Studies on recommendation of the Vice-President (Marine Institute). This committee will consist of the Academic Director as Chair, three members from the Marine Institute, one member from the Faculty of Business Administration and one member from another unit of the University. Normally, all appointments will be for a period of three (3) years.

A Technical Advisory Committee, consisting of a cross-section of members with professional expertise related to the maritime sector, will provide regular feedback on program content, instruction, and future direction of the Program. Members of this Committee will be appointed by the Dean of Graduate Studies on recommendation of the Vice-President (Marine Institute). The Academic Director will be an ex officio member and Chair of the Technical Advisory Committee. Normally all appointments will be for a period of three (3) years.

17.2 Program

The Master of Maritime Management (M.M.M.) is a comprehensive academic program that provides a broad understanding of the structure and operation of organizations and the factors that influence business decisions in the context of maritime-based organizations. It provides a maritime management focus through the development of knowledge and understanding of the nature of technical operations and the factors that have an impact on their success, as well as the ability to apply these concepts within their organizations.

The program is offered online and requires successful completion of either (i) 24 credit hours of course work and a comprehensive project and report (6 credit hours), or (ii) 30 credit hours of course work. Candidates will typically register on a part-time basis, but any who register for full time study may complete the program in three semesters.

17.2.1 Admission Requirements

1. Admission to the program is on a competitive basis. To be considered for admission to the program an applicant will normally possess a second class or better undergraduate degree from a university of recognized standing and will normally have:
 - a. a Memorial University of Newfoundland Bachelor of Maritime Studies or Bachelor of Technology, or a comparable undergraduate degree with appropriate maritime sector and business management course work; and
 - b. an appropriate technical knowledge and relevant marine sector employment experience.
2. The deadlines for submission of applications for candidates wishing to enter studies are as follows:
 - Fall (September) semester: June 15
 - Winter (January) semester: October 15
 - Spring (May) semester: February 15

Applications received after listed deadlines will be considered as time and resources permit.

17.2.2 Program of Study

1. Candidates for the Master of Maritime Management shall be required to complete a minimum of either:
 - a. Twenty-four credit hours of course work and a major project and report (6 credit hours). Course work includes two compulsory core courses (6 credit hours); and six elective courses (18 credit hours). Students on the project route will complete MSTM 6101 Project in Maritime Management (6 credit hours).
 - i. **Core Courses (Two to be completed):**
 - MSTM 6041 Marine Policy
 - MSTM 6042 Business of Shipping/Transportation of Goods
 - ii. **Elective Courses (Six to be completed: a minimum of one from Category A and three from Category B):**
 - Category A**
 - MSTM 6022 Communication and Conflict Resolution in a Technical Environment
 - MSTM 6023 Strategic Planning, Policy, Participation and Management in Technical Operations
 - MSTM 6030 Principles of Management for Engineering Technology Enterprises
 - MSTM 6034 Project Management in the Offshore, Health, Fisheries and Engineering Technology Environments
 - MSTM 6039 Sustainability and Environmental Responsibility
 - MSTM 6052 Management of Intellectual Property
 - MSTM 6054 Technology Assessment
 - Category B**
 - MSTM 6027 Coastal and Ocean Environmental Policies
 - MSTM 6043 Marine Law
 - MSTM 6044 Marine Environment Law and Pollution Control
 - MSTM 6045 Port Operations and Management
 - MSTM 6046 Information Systems in the Marine Environment
 - MSTM 6047 Maritime Security and Event Investigation
 - MSTM 6048 Emerging Issues in International Marine Transportation
 - MSTM 6049 Maritime Risk Analysis and Management
 - MSTM 6050 Maritime Health, Safety, Environment and Quality
 - iii. **Project in Maritime Management**
 - MSTM 6101 Project in Maritime Management (6 credit hours)
 - Students will choose a topic in consultation with the Academic Director and will work independently to carry out an in-depth study of a problem or application within the area of maritime management and fully document and present their findings. Preferably the problem will be directly related to a workplace situation.
 - b. Thirty credit hours on a course-based route. Course work includes two compulsory core courses (6 credit hours); and eight elective courses (24 credit hours).
 - i. **Core Courses (Two to be completed):**
 - MSTM 6041 Marine Policy
 - MSTM 6042 Business of Shipping/Transportation of Goods
 - ii. **Elective Courses (Eight to be completed: a minimum of two from Category A and four from Category B):**
 - Category A**
 - MSTM 6022 Communication and Conflict Resolution in a Technical Environment
 - MSTM 6023 Strategic Planning, Policy, Participation and Management in Technical Operations
 - MSTM 6030 Principles of Management for Engineering Technology Enterprises
 - MSTM 6034 Project Management in the Offshore, Health, Fisheries and Engineering Technology Environments
 - MSTM 6039 Sustainability and Environmental Responsibility
 - MSTM 6052 Management of Intellectual Property
 - MSTM 6054 Technology Assessment
 - Category B**
 - MSTM 6027 Coastal and Ocean Environmental Policies
 - MSTM 6043 Marine Law
 - MSTM 6044 Marine Environment Law and Pollution Control
 - MSTM 6045 Port Operations and Management

MSTM 6046 Information Systems in the Marine Environment
 MSTM 6047 Maritime Security and Event Investigation
 MSTM 6048 Emerging Issues in International Marine Transportation
 MSTM 6049 Maritime Risk Analysis and Management
 MSTM 6050 Maritime Health, Safety, Environment and Quality

Up to three relevant elective courses (9 credit hours) may be transferred from other graduate programs within the School of Graduate Studies or from other post-secondary institutions recognized by Senate, subject to the approval of the Dean of Graduate Studies on the recommendation of the Academic Director.

17.2.3 Evaluation

1. Candidates for the Master of Maritime Management degree must obtain a grade of B or better in all program courses.
2. Candidates who receive a grade of less than B in any course will be permitted to remain in the program provided the course is repeated and passed with a grade of B or better. Alternatively, the candidate may, on the recommendation of the Academic Director, and with the approval of the Dean of Graduate Studies, substitute another graduate course. Only one course repetition or substitution will be permitted during the candidate's program after which the candidate shall be required to withdraw from the program.

18 Regulations Governing the Degree of Master of Music

Professor and Dean

E. Waterman

Professor and Associate Dean

M. Volk

The Master of Music (M.Mus.) program provides the environment for accelerated advances in comprehension, skills and abilities as a performing musician, music pedagogue or conductor while offering experience in the metier of the contemporary musician. To that end, the School of Music has forged active partnerships with many of the professional music organizations and institutions within the arts community in the greater St. John's region which afford an exceptional range of professional experiences to its graduate students. Included among these partners are the Newfoundland Symphony Orchestra, the Canadian Broadcasting Company, Heritage Canada, the Newfoundland and Labrador Arts Council and many others. Within the areas of specialization offered for the M.Mus., there is considerable flexibility available to further focus the program to meet specific interests and needs.

18.1 Program of Study

The Degree of Master of Music (M.Mus.) is offered by full-time study, normally commencing in the Fall semester. Three areas of specialization are offered:

1. Conducting. Students may focus in choral conducting, instrumental conducting, or a combination of choral and instrumental conducting.
2. Performance. Instruction is offered in voice, piano, organ, flute, clarinet, saxophone, oboe, trumpet, euphonium, trombone, tuba, guitar, violin, viola and cello.
3. Performance/Pedagogy. Instruction is offered in voice, piano, organ, flute, clarinet, saxophone, oboe, trumpet, euphonium, trombone, tuba, guitar, violin, viola and cello.

The specialization of Ethnomusicology is available through the degrees Master of Arts and Doctor of Philosophy. For further information see the section **Regulations Governing the Degree of Master of Arts** and the section **Regulations Governing the Degree of Doctor of Philosophy**, respectively.

18.2 Qualifications for Admission

1. Admission to the program is limited and competitive. The application deadline is December 15 for admission to the following Fall semester. Under special circumstances, applicants may be considered for admission to the Winter semester. For further information, contact the School of Music.
2. To be eligible for consideration for admission, applicants shall meet the requirements set out in **General Regulations for Admission, Master's Program**. Applicants to the M.Mus. will normally hold a Bachelor of Music or equivalent from a recognized university or conservatory. Preference will be given to applicants who hold first class standing in their undergraduate program.
3. In addition to the requirements above, admission is further determined by audition and diagnostic examinations.
 - a. Auditions for September entry are normally held in late February or early March of each year. Check the School of Music website at www.mun.ca/music for dates and locations.
 - b. Applicants to the M.Mus. in Performance or Performance/Pedagogy may submit the audition as a professional quality video recording if they are unable to attend the live auditions. An unedited live performance is preferred. The audition program should display a range of performance styles and repertoire. Applicants should consult the School of Music website at www.mun.ca/music for details on length of audition and appropriate repertoire.
 - c. Applicants to the M.Mus. in Conducting should submit professional quality video recordings of their work with a minimum of two different types of ensembles. These video recordings should include both rehearsals and performances.
 - d. Applicants to all M.Mus. programs will be required to write diagnostic examinations measuring their skills and knowledge in the standard areas of musical literacy. These include music theory and analysis, aural skills, and music history and literature which includes repertoire knowledge in the performance area. Applicants who display deficiencies in any of these areas may still be considered for admission. Once admitted, however, they will be required to take remedial course work in addition to the required program.
 - e. Voice and choral conducting applicants will have language competency assessed during the audition. Students admitted in voice and in choral conducting who lack sufficient background in English, German, French and Italian diction and basic comprehension will be required to take remedial undergraduate course work.
 - f. Further information about the audition requirements, the diagnostic exams and language competency requirements is available at www.mun.ca/music/programs/graduate/admission.php or from the Associate Dean, School of Music.

18.3 Degree Requirements

1. The Degree of Master of Music is normally completed in two years of full-time study. Comprehensive examinations are not administered. The normal residency period may, in some instances, be reduced through Summer and Intersession study.
2. All candidates for the M.Mus. must complete at least 31 credit hours. Further courses may be required depending on the background of the individual student.
3. All candidates must complete:
 - a. Music Research Methods: Music 6000 (1 credit hour)
 - b. Music Seminar: Music 6002
 - c. Career Skills for Musicians: Music 6700
 - d. Further courses may be required depending on the background of the individual student.
4. Candidates in Conducting must complete an additional 24 credit hours according to their area of focus:
 - a. Choral Conducting
 - i. Choral Conducting: Music 6310, 6311, 7310
 - ii. Instrumental Conducting: Music 6210
 - iii. Score Study and Analysis: Music 6100
 - iv. Choral Repertoire: Music 6007
 - v. Electives: Six credit hours. With the approval of the School of Music. 3 credit hours may be from related disciplines.
 - b. Instrumental Conducting
 - i. Instrumental Conducting: Music 6210, 6211, 7210
 - ii. Choral Conducting: Music 6310
 - iii. Score Study and Analysis: Music 6100
 - iv. Orchestral or Instrumental Ensemble Repertoire: Music 6006 or 6008
 - v. Electives: Six credit hours. With the approval of the School of Music. 3 credit hours may be from related disciplines.
 - c. Combined Choral/Instrumental Conducting
 - i. Instrumental Conducting: Music 6210, 6211
 - ii. Choral Conducting: Music 6310, 6311
 - iii. Score Study and Analysis: Music 6100
 - iv. Ensemble Repertoire: One of Music 6006, 6007, or 6008
 - v. Electives: Six credit hours. With the approval of the School of Music. 3 credit hours may be from related disciplines.
5. Candidates in Performance must complete an additional 24 credit hours as follows:
 - a. Principal Applied Study: Music 645A/B, 745A/B
 - b. Other Applied Study: 3 credit hours from Music 6500-6506, 646A/B
 - c. Music Pedagogy: Music 6400
 - d. Electives: Six credit hours. With the approval of the School of Music. 3 credit hours may be from related disciplines.
6. Candidates in Performance/Pedagogy must complete an additional 24 credit hours as follows:
 - a. Principal Applied Study: Music 647A/B, 747A/B
 - b. Music Pedagogy: Music 6400 and 6600
 - c. Pedagogy Internship: Music 6610
 - d. Electives: 3 credit hours

Master of Music Curriculum Summary Table

Master of Music	Conducting			Performance	Performance/ Pedagogy
Research	6000, 6002			6000, 6002	6000, 6002
Career Skills	6700			6700	6700
Applied	Choral 6210 6310 6311 7310	Instrumental 6210 6211 6310 7210	Combined 6210 6211 6310 6311	645A/B 745A/B 3 credit hours chosen from 646A/B, 6500- 6506	647A/B 747A/B
Complementary	6007 6100	6006 or 6008 6100	one of 6006, 6007, 6008 6100	6400	6400, 6600, 6610
Electives	6 credit hours, of which 3 may be from related disciplines			6 credit hours, of which 3 may be from related disciplines	3 credit hours

18.4 Evaluation

1. Candidates must meet all requirements of the **General Regulations** of the School of Graduate Studies.
2. Candidates must obtain a grade of at least 65% in all program courses to receive credit for the course toward their program requirements. Candidates who fail to receive 65% or more in a required course must repeat the course. Candidates who fail to receive 65% or more in an elective course must either repeat the course or replace it with another program course. Any student who receives a grade of less than 65% in two courses or in a repeated course will be required to withdraw from the program.

3. In addition, failure to receive a grade of 75% or higher in any of Music 645A/B, Music 745A/B, Music 647A/B, Music 747A/B, Music 6210, Music 6211, Music 6310, Music 6311, Music 7210 or Music 7310 will lead to termination of the student's program."

18.5 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the School will allow. All courses are 3 credit hours unless otherwise indicated.

6000 Music Research Methods (1 credit hour)
 6002 Graduate Seminar
 6005 Performance Practice
 6006 Instrumental Ensemble Repertoire
 6007 Choral Repertoire
 6008 Orchestral Repertoire
 6009 Music Literature
 6100 Score Study and Analysis
 6210 Instrumental Conducting I
 6211 Instrumental Conducting II
 6212 Instrumental Conducting Internship I (1 to 3 credit hours)
 6213 Instrumental Conducting Internship II (1 to 3 credit hours)
 6310 Choral Conducting I
 6311 Choral Conducting II
 6312 Choral Conducting Internship I (1 to 3 credit hours)
 6313 Choral Conducting Internship II (1 to 3 credit hours)
 6400 Music Pedagogy
 645A/B Principal Applied Study I (6 credit hours)
 646A/B Secondary Principal Applied Study (4 credit hours)
 647A/B Principal Applied Study I (6 credit hours)
 6500 Chamber Music (2 credit hours per semester. Maximum: 8 credit hours)
 6501 Chamber Music (3 credit hours per semester. Maximum: 12 credit hours)
 6502 Opera Performance (2 credit hours)
 6503 Opera Performance (3 credit hours)
 6504 Chamber Music (1 credit hour per semester. Maximum: 4 credit hours)
 6505 Conducted Instrumental Ensemble (1 credit hour per semester. Maximum: 4 credit hours)
 6510 Seminar in Performance Issues
 6600 Pedagogy Seminar
 6610 Pedagogy Internship I
 6611 Pedagogy Internship II
 6700 Career Skills for Musicians
 6701 Music in the Community (1 credit hour)
 6702 Music in the Community (2 credit hours)
 6703 Music in the Community (3 credit hours)
 6750 Music Industries Internship (2 credit hours)
 7002 Research Paper
 7010 World Music: Music of Asia and Oceania
 7011 World Music: Music of Africa and the Americas
 7012 Canadian Musical Traditions
 7013 Music and Culture
 7017 Folksong
 7018 Jazz and Blues: The Roots of Popular Music
 7210 Instrumental Conducting III
 7310 Choral Conducting III
 745A/B Principal Applied Study II (6 credit hours)
 747A/B Principal Applied Study II (6 credit hours)

Special Topics Courses

6800-6809
 6900-6909
 7800-7809

19 Regulations Governing the Degree of Master of Nursing

Professor and Dean

J. McFetridge-Durdle

Professor and Associate Dean (Graduate Program and Research)

S. Solberg

19.1 Program

1. The responsibility for the administration of all graduate programs shall reside with the Dean of Graduate Studies.
2. Applicants for the program shall be required to apply for admission to the Dean of the School of Graduate Studies and shall be expected to follow the regulations, policies and practices required of the School. Deadline for receipt of applications should be no later than February 15. If space is available, students who apply after the deadline date may be accepted.
3. The School of Nursing offers a Master of Nursing (M.N.) program with three options: (thesis, non-thesis and nurse practitioner) as well as a Post Masters Nurse Practitioner Graduate Diploma.

19.2 Qualifications for Admission

1. Applicants to the Master of Nursing program in any of the three options listed above must have a baccalaureate Degree in nursing, or an equivalent from an institution recognized by the University and a knowledge of nursing satisfactory to the School of Nursing.
2. Admission to the program is limited and competitive. To be considered for admission, the applicant must have maintained at least a

grade B standing in the baccalaureate program.

3. Applicants are also required to have a minimum of one year's experience in nursing practice, and to have completed an undergraduate nursing research course, and a statistics course normally within the last 5 years such as Statistics 2500 or Education 2900 or their equivalents.
4. Applicants must hold a practising licence from the Association of Registered Nurses of Newfoundland and Labrador or must be currently registered as a practising nurse in another Canadian jurisdiction. Applicants from other countries who do not meet the above criteria will be assessed on an individual basis. However, they must submit proof of registration as a practising nurse (or an equivalency) from their country or jurisdiction.
5. In addition to the above requirements, candidates seeking admission to the MN-Nurse Practitioner Degree option must have two years of clinical experience preferably in their chosen specialty area. As well, candidates must have a letter from a health care agency and a clinical preceptor guaranteeing the candidate a preceptored clinical placement for the final semester of their program.
6. In addition to requirements 1 and 4, candidates seeking admission to the Post Masters Nurse Practitioner Graduate Diploma program must have completed a Masters Degree in Nursing or an equivalent degree with a nursing focus and have two years of clinical nursing experience preferably in their chosen specialty area. As well, candidates must have a letter from a health care agency and clinical preceptor guaranteeing the candidate a preceptored clinical placement for the final semester of their program.
7. Only in exceptional circumstances and only on the recommendation of the School of Nursing shall the Dean of Graduate Studies consider applicants who do not meet admission requirements listed above.

19.3 Registration

See School of Graduate Studies **General Regulations, Registration.**

19.4 Programs of Study

There are three routes offered that lead to a Master of Nursing Degree: 1. Thesis option, 2. Non-thesis option, and 3. Nurse Practitioner option. Normally the program will require two years to complete when taken on a full-time basis.

In addition to the M.N. Degree program, the School of Nursing also offers a Post Masters Nurse Practitioner Graduate Diploma.

19.4.1 Thesis Option

1. Candidates must complete an approved program of study consisting of a minimum of 19 credit hours in graduate program courses and a thesis.

Required courses:

6010 Research in Nursing I: Quantitative Methods

6011 Philosophical and Theoretical Foundations of Nursing

6100 Research in Nursing II: Qualitative Methods

Either 6200 Nursing Individuals and Families through Life Transitions, and N6210 Nursing Therapeutics for Individuals and Families

OR 6220 Concepts for Population-based Nursing, and 6230 Interventions for Population-based Nursing

One nursing elective

2. Candidates shall submit a thesis on an approved subject in which systematic research has been conducted under the direction of a Supervisor recommended by the Dean of the School of Nursing and approved by the Dean of Graduate Studies.
3. The program of each candidate shall be approved by the Dean of Graduate Studies on the recommendation of the Dean of the School of Nursing.

19.4.2 Non-Thesis Option

1. Candidates must complete an approved program of study consisting of a minimum of 28 credit hours in graduate program courses and 6 credit hours in a consolidated practicum.

Required courses:

6010 Research in Nursing I: Quantitative Methods

6011 Philosophical and Theoretical Foundations of Nursing

6100 Research in Nursing II: Qualitative Methods

6040 Nursing Informatics

Either 6200 Nursing Individuals and Families through Life Transitions and 6210 Nursing Therapeutics for Individuals and Families

OR 6220 Concepts for Population-based Nursing, and 6230 Interventions for Population-based Nursing

Three of the following courses:

6020 Program Development in Nursing

6031 Education in Nursing

6050 Leadership in Nursing

6060 Policy and Politics in Nursing and Health Care

Other approved electives

One of the following consolidated practicums:

6610, 6611 Practicum in Advanced Clinical Practice

6620, 6621 Practicum in Nursing Administration

6630, 6631 Practicum in Nursing Research/Research Utilization

6640, 6641 Practicum in Health Policy

6650, 6651 Practicum in Nursing Education

The consolidated practicum will normally consist of 300 hours of field experience.

2. The program of each candidate shall be approved by the Dean of Graduate Studies on the recommendation of the Dean of the School of Nursing.

19.4.3 Nurse Practitioner Option

1. Candidates must complete an approved program of studies consisting of a minimum of 36 credit hours in graduate program courses and an integrated clinical practice experience, comprising 12 credit hours.

Required courses:

6010 Research in Nursing I: Quantitative Methods (4 credit hours)

6011 Philosophical and Theoretical Foundations of Nursing (3 credit hours)
 6100 Research in Nursing II: Qualitative Methods (3 credit hours)
 6020 Program Development in Nursing (3 credit hours)
 6200 Nursing Individuals and Families through Life Transitions (3 credit hours)
 6210 Nursing Therapeutics for Individuals and Families (3 credit hours)
 6701 Advanced Practice Issues and Role Development (2 credit hours)
 6703 Advanced Health Assessment and Clinical Practicum I (4 credit hours)
 6704 Applied Pathophysiology and Clinical Practicum II (4 credit hours)
 6705 Pharmacotherapy and Therapeutics (3 credit hours)

Either one of: 6800 Adult Advanced Clinical Decision Making (4 credit hours), 6802 Family/All Ages Clinical Decision Making (4 credit hours) or, one of: 6803 to 6809 Nursing Specialty Option Courses (4 credit hours)

690X Advanced Clinical Practicum II (The integrated practice component will normally consist of a minimum of 400 hours of preceptored specialty clinical practice and biweekly seminars) (12 credit hours)

- The program of each candidate shall be approved by the Dean of Graduate Studies on the recommendation of the Dean of the School of Nursing.

19.4.4 Post Masters Nurse Practitioner Graduate Diploma

- Candidates with a Master's Degree in Nursing or an equivalent Degree with a nursing focus must complete an approved program of study consisting of a minimum of 21 credit hours in graduate program courses and integrated clinical practice experience, comprising 12 credit hours.

Required courses:

6701 Advanced Practice Issues and Role Development (2 credit hours)
 6703 Advanced Health Assessment and Clinical Practicum I (4 credit hours)
 6704 Applied Pathophysiology and Clinical Practicum II (4 credit hours)
 6705 Pharmacotherapy and Therapeutics (3 credit hours)

Either one of: 6800 Adult Advanced Clinical Decision Making (4 credit hours), 6802 Family/All Ages Clinical Decision Making (4 credit hours) or, one of: 6803 to 6809 Nursing Specialty Option Courses (4 credit hours)

690X Advanced Clinical Practicum II (The integrated practice component will normally consist of a minimum of 400 hours of preceptored specialty clinical practice and biweekly seminars) (12 credit hours)

- Programs for some candidates may exceed the above minimum requirements.
- The program for each candidate shall be approved by the Dean of Graduate Studies on the recommendation of the Dean of the School of Nursing.

19.5 Evaluation

- In order to continue in graduate studies and in order to qualify for a Master's Degree, a candidate shall obtain an A or B grade in each program course.
- If the candidate is in the Non-thesis Option, the candidate must obtain a Pass grade for the practicum component of the program.
- When the Dean of the School of Nursing has determined on the basis of consultation with the candidate, the Associate Dean, Graduate Program and Research, and the thesis or practicum Supervisor, that a candidate has fallen below a satisfactory level, the Dean of the School of Nursing may recommend to the Dean of Graduate Studies that such a candidate be required to withdraw from the program.
- To remain in good standing candidates are required to maintain professional behaviour consistent with the current *Code of Ethics* of the Canadian Nurses Association and, when applicable, the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans. Candidates who fail to meet this requirement will be required to withdraw from the School of Nursing upon recommendation of the Graduate Studies Committee.

19.6 Thesis

See School of Graduate Studies **General Regulations, Theses and Reports**.

19.7 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates as far as the resources of the School of Nursing will allow:

6010 Research in Nursing I: Quantitative Methods (4 credit hours)
 6011 Philosophical and Theoretical Foundations of Nursing (3 credit hours)
 6020 Program Development in Nursing (3 credits hours) (Pre or co-requisite: 6011)
 6031 Education in Nursing (3 credit hours) (Not required by students who have completed 6030. Credit may not be obtained for both 6030 and 6031)
 6040 Nursing Informatics (3 credit hours)
 6050 Leadership in Nursing (3 credit hours)
 6060 Policy and Politics in Nursing and Health Care (3 credit hours)
 6100 Research in Nursing II: Qualitative Methods (3 credit hours)
 6200 Nursing Individuals and Families through Life Transitions (3 credit hours) Pre or co-requisite: 6011 (Not required by students who have completed 6400)
 6210 Nursing Therapeutics for Individuals and Families (3 credit hours) Pre or co-requisite: 6200 (Not required by students who have completed 6400)
 6220 Concepts for Population-based Nursing (3 credit hours) Prerequisites: 6011 (Not required by students who have completed 6410)
 6230 Interventions for Population-based Nursing (3 credit hours) Pre or co-requisite: 6220 (Not required by students who have completed 6410)
 6310-6350 Special Topics in Nursing (electives)
 6501-10 Individual Readings and Research in Special Areas
 6610-6611 Practicum in Advanced Clinical Practice (6 credit hours) (Prerequisites: All required and elective courses including 6020 and 6050)
 6620-6621 Practicum in Nursing Administration (6 credit hours) (Prerequisites: All required and elective courses including 6050 and 6060)

6630-6631 Practicum in Nursing Research/Research Utilization (6 credit hours) (Prerequisites: All required and elective courses including 6060)

6640-6641 Practicum in Health Policy (6 credit hours) (Prerequisites: All required and elective courses including 6050 and 6060)

6650-6651 Practicum in Nursing Education (6 credit hours) (Prerequisites: All required and elective courses including 6020 and 6031)

6701 Advanced Practice Issues and Role Development (2 credit hours)

6703 Advanced Health Assessment and Clinical Practicum I (4 credit hours)

6704 Applied Pathophysiology and Clinical Practicum II (4 credit hours)

6705 Pharmacotherapy and Therapeutics (3 credit hours)

6800 Adult Advanced Clinical Decision Making (4 credit hours)

6802 Family/All Ages Clinical Decision Making (4 credit hours)

One of: 6803 to 6809 Nursing Specialty Option Courses (4 credit hours)

690X Advanced Clinical Practicum II (The integrated practice component will normally consist of a minimum of 400 hours of preceptored specialty clinical practice and biweekly seminars) (12 credit hours)

20 Regulations Governing the Degree of Master of Philosophy

Programs leading to the Degree of Master of Philosophy (M.Phil.) are offered at present in German Language and Literature, and in the Humanities.

20.1 Qualifications for Admission

1. Admission is limited and competitive. To be considered for admission an applicant shall hold a Bachelor's Degree or its equivalent from an institution recognized by the Senate and shall have a knowledge of his or her proposed field of specialization satisfactory to the Department(s) concerned when interdisciplinary study is intended or to the Board of Studies in the case of the program in Humanities, and to the Dean.
2. Preference will normally be given to applicants who hold an appropriate Honours Degree either from Memorial University of Newfoundland, or from another university whose Honours Degree is of comparable standing. Any other applicant who holds a Bachelor's Degree or its equivalent will be considered for admission provided that:
 - a. the applicant's undergraduate record after the first year shows an average of at least grade B in courses in the proposed field of specialization.
 - b. the applicant's overall undergraduate record after the first year shows an average of at least grade B in all courses taken, and
 - c. the Department or Board of Studies satisfies the Dean that the applicant's work exhibits evidence of academic excellence.

Only in exceptional circumstances, and only on the recommendation of the Department or the Board of Studies, will the Dean consider applicants who do not meet the requirements a. and b. Such applicants, however, must meet the requirement c.
3. An applicant may be required to demonstrate a satisfactory knowledge of the proposed field of study in an examination administered by the Department(s), or Board of Studies.
4. Applicants whose mother tongue is not English are reminded that a high degree of literacy in English is required of students at the University. In most cases instruction is in English, and examinations are to be written in English. (Language departments, however, give instruction in the pertinent language and often require examinations to be written in that language. In addition, other departments may permit and even require examinations to be written in a language other than English).
5. An applicant may be required to pass a qualifying examination.

Note: Some Departments have particular regulations in addition to these, and applicants are advised to turn to the relevant parts of this Calendar and acquaint themselves with both the **General Regulations** and the regulations of the program in which they are interested.

20.2 Program of Study

1. Every candidate shall read at least 30 credit hours in program courses in one subject or in a combination of closely related subjects as recommended by the Department(s) or Board of Studies, and approved by the Dean.
2. A candidate may be required also to take additional credit hours in program courses, which must be recommended by the Department(s) or Board of Studies, and approved by the Dean.
3. Students registered in the program in Humanities will be required to maintain and submit for evaluation a program Journal (See **Program of Study, 3. of the Regulations for the Degree of Master of Philosophy in Humanities**).
4. No candidate while classified as a part-time student may take more than 6 credit hours in any one semester.
5. No candidate may take more than 9 credit hours in graduate courses in a single semester, nor any credit hours in undergraduate courses at the same time as 9 credit hours in graduate courses; in no case may graduate and undergraduate credit hours combined exceed 12 in any one semester.
6. The course program will culminate in a general comprehensive examination (see **Evaluation - General Comprehensive Examination** below).
7. Every candidate shall be assigned to a tutor recommended by the Department(s) or Board of Studies and approved by the Dean.
8. The Dean may approve an application to transfer from the M.Phil. to the M.A. only when a new integrated program, acceptable to the Dean, is submitted.

20.3 Period of Study

The period of study for the Master of Philosophy Degree shall not normally exceed three years, during which time the candidate shall spend at least two semesters in full-time attendance as a graduate student at this University.

20.4 Evaluation

See also **Evaluation under General Regulations**

1. Students registered in undergraduate courses shall satisfy examination requirements in these courses.
2. The academic requirements for the Degree of Master of Philosophy shall be met when the candidate has successfully completed all course requirements of the program and has passed a general examination which consists of both written and oral parts. The Dean, on the recommendation of the Department(s) or Board of Studies, shall determine the times and places for general examinations; and, on the recommendation of the Department(s) or Board of Studies, shall appoint examiners, one of whom shall be from outside the Department(s) concerned. In the M.Phil. in Humanities, a program Journal is also required.

20.5 Evaluation - General Comprehensive Examination

1. Each candidate must pass a general comprehensive examination.
2. The examination committee shall be appointed by the Dean on the recommendation of the Department(s) or Board of Studies. The committee shall consist of either three or five members, at least one of whom must come from outside the Department(s) concerned. The candidate shall be informed of the names of the committee well before the examination.
3. The candidate and the tutor will normally agree when the candidate may sit the general comprehensive examination. However, the Department(s) or Board of Studies must accede to the candidate's request to sit a comprehensive examination, except that in no circumstances may a candidate attempt the general comprehensive examination before his or her course program is completed.
4. The schedule for the examination shall be agreed by the candidate, the tutor, and the examining committee, and shall be promulgated by the Dean.
5. The examination shall consist of a written part and an oral part. The time between the written and the oral parts shall normally be from one to four weeks.
6. The oral examination shall be from one to three hours in length, and shall be conducted by the examining committee, and shall be open to the examination committee and to members of the Department(s) or Board of Studies only.
7. A candidate must satisfy the examining committee in both parts of the examination to obtain a pass.
8. The successful completion of the comprehensive examination is the final academic requirement for the Master of Philosophy Degree.

20.6 Departmental Regulations

Every candidate in a graduate program shall comply with any additional program requirements and with the **General Regulations**.

20.7 German

Associate Professor and Head of the Department

E. Warkentin

20.7.1 Program of Study

The degrees of Master of Arts and Master of Philosophy are offered in German Language and Literature and may be taken by full-time or part-time study. No graduate work is offered in Russian at this time.

1. In addition to the general requirements, candidates will be expected to have acquired a superior knowledge of the spoken and written language and may, depending on their academic background and field of specialization, be asked to take advanced undergraduate courses.
2. All candidates will complete at least 15 credit hours and a thesis for the M.A. and at least 30 credit hours for the M.Phil., and the entire program of study and research will normally be of two-years' duration.

20.7.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow:

6000 German Civilization I
 6001 German Civilization II
 6100 History of the German Language I
 6101 History of the German Language II
 6200 Medieval German Literature I
 6201 Medieval German Literature II
 6300 German Literature, 1500-1700 I
 6301 German Literature, 1500-1700 II
 6400 German Literature of the Enlightenment and Storm and Stress I
 6401 German Literature of the Enlightenment and Storm and Stress II
 6500 German Classicism I
 6501 German Classicism II
 6600 German Romanticism I
 6601 German Romanticism II
 6700 German Realism I
 6701 German Realism II
 6800 German Literature, 1880-1933 I
 6801 German Literature, 1880-1933 II
 6900 Contemporary German Literature I
 6901 Contemporary German Literature II
 7000 Special Subject or Author I
 7001 Special Subject or Author II
 7002-7020 Special Topics in German Studies

Deutsch

Professor und Vorstand der Abteilung

E. Warkentin

Auf dem Gebiet der Germanistik werden die Grade Master of Arts (Magister Artium) und Master of Philosophy (Magister Philosophiae) geboten. Sie können sowohl von voll- wie auch von halbbeitlich Studierenden erworben werden. Auf dem Gebiet der Slawistik wird z.Zt. kein weiterführendes Studium geboten.

1. Ausser den allgemeinen Zulassungsbestimmungen wird von den Kandidaten überdurchschnittliche Kenntnis des Deutschen in Sprache und Schrift erwartet. Ihrer akademischen Vorbildung und ihrem Fachgebiet entsprechend, kann ihnen eventuell geraten werden, gleichzeitig fortgeschrittene Kurse der Unterstufe zu belegen.
2. Für den Master of Arts sind mindestens 15 Kreditstunden zu absolvieren und eine wissenschaftliche Arbeit in Übereinstimmung mit den allgemeinen Zulassungsbestimmungen einzureichen, für den Master of Philosophy sind mindestens 30 Kreditstunden vorgeschrieben. Das ganze Studienprogramm dauert normalerweise zwei Jahre.

Kurse

Von den hier aufgeführten Kursen für Graduierte wird jeweils eine Auswahl angeboten, die sowohl den Anforderungen des Studierenden wie den Möglichkeiten der Abteilung gerecht wird.

6000 Deutsche Kulturkunde I
 6001 Deutsche Kulturkunde II
 6100 Geschichte der deutschen Sprache I
 6101 Geschichte der deutschen Sprache II
 6200 Mittelhochdeutsche Literatur I
 6201 Mittelhochdeutsche Literatur II
 6300 Deutsche Literatur 1500-1700 I
 6301 Deutsche Literatur 1500-1700 II
 6400 Deutsche Literatur der Aufklärung und des Sturm und Drang I
 6401 Deutsche Literatur der Aufklärung und des Sturm und Drang II
 6500 Deutsche Klassik I
 6501 Deutsche Klassik II
 6600 Deutsche Romantik I
 6601 Deutsche Romantik II
 6700 Deutscher Realismus I
 6701 Deutscher Realismus II
 6800 Deutsche Literatur 1880-1933 I
 6801 Deutsche Literatur 1880-1933 II
 6900 Deutsche Gegenwartsliteratur I
 6901 Deutsche Gegenwartsliteratur II
 7000 Wahlthema oder-Autor I
 7001 Wahlthema oder-Autor II
 7002-7020 Wahlthemen in German Studies

20.8 Humanities**Assistant Professor and Director, Board of Studies**

J. Dyer

The Master of Philosophy in Humanities has been designed for students from any discipline. It is directed to students who hold an Honours bachelor's Degree or its equivalent. The object of the M.Phil. in Humanities program is to provide students with an opportunity to see the historical and logical context of their own disciplinary points of view. The program is based on the interaction of a group of students of varying backgrounds and interests studying a common core of texts in a shared set of courses.

The program draws scholarly participation from faculty members in a range of academic disciplines within the School of Graduate Studies. The program is administered by a Board of Studies with membership appointed by the Dean of Arts, chosen from the participating faculty.

Master of Philosophy

In addition to meeting these regulations students must also meet the **General Regulations Governing the Degree of Master of Philosophy**.

This program is offered by the Faculty of Arts, and will draw scholarly participation chosen from those appropriately qualified faculty members wishing to participate, regardless of Department or Faculty affiliation.

20.8.1 Qualifications for Admission

1. Admission is limited and competitive. The number of students admitted to the program will be strictly limited to ensure small classes and maximum student-faculty contact. To be considered for admission an applicant will normally hold an Honours Bachelor's Degree (or equivalent) from an institution recognized by the Senate, and will have a breadth of knowledge in one or more of the Humanities disciplines satisfactory to the Board of Studies, and to the Dean.
2. Applicants who do not hold an Honours Degree (or equivalent) will be required to complete, prior to admission, a number of undergraduate courses, the nature and number of which will be determined on the basis of the applicants' undergraduate record by the Director of Studies in consultation with the Board of Studies. Candidates will be required to complete such designated pre-admission courses with a minimum overall average of 70%.

20.8.2 Administration

1. The program will be administered by a Board of Studies, the members of which will be appointed by the Dean of Arts chosen from the participating faculty.
2. There will be a Director of Studies who will be an *ex officio* of the Board of Studies and will make recommendations to the Dean concerning admission, financial support for students, and all other matters pertaining to the program.
3. Responsibility for the allocation of teaching and the support of related research will be managed by agreement between the Deans of the appropriate Faculties, the Heads of Departments of participating faculty members, and the Director of Studies, in consultation with the Dean of Graduate Studies.
4. The Board of Studies will be empowered to secure external grant funding where appropriate, and to manage all related administrative and financial matters as necessary.

20.8.3 Program of Study

1. Every candidate shall normally read 30 credit hours in the 10 regulation courses listed below.
2. With permission of the Director of Studies, a candidate may elect to substitute up to two of these courses with courses from other graduate programs in this University. Attendance in other programs requires the permission of the departments involved. (See also School of Graduate Studies General Regulation **Program Requirements, Transfer of Course Credits** which allows for further transfer of credits already taken but not yet applied to a graduate degree.)
3. Every candidate shall be required to maintain and submit a program Journal which will be monitored and evaluated by the Board of Studies. The Journal will comprise the candidate's critical reflections arising out of analyses of designated key themes common to the several disciplines which constitute the program.

20.8.4 Comprehensive Examination

1. Each candidate must pass a general comprehensive examination.
2. The Examination Committee shall be appointed by the Dean of Graduate Studies on the recommendation of the Board of Studies. The Committee shall normally consist of three members. One member of the Committee is normally the tutor. The candidate shall be informed of the names of the committee well before the examination.
3. The candidate and the tutor will normally agree when the candidate may sit the general comprehensive examination. However, the Board of Studies must accede to the candidate's request to sit a comprehensive examination, except that in no circumstances may a candidate attempt the general comprehensive examination before his or her course program is completed.
4. The schedule for the examination shall be agreed by the candidate, the tutor, and the Examining Committee, and shall be promulgated by the Dean.
5. The examination shall consist of a written part and an oral part. The time between the written and the oral parts shall normally be from one to four weeks.
6. The program journal is an extended paper or series of linked papers which analyses and reflects critically on issues encountered by the candidate during the course of the program. Papers and/or projects completed during courses may be incorporated into the program journal, but shall not, of themselves, constitute the entire journal.
7. The oral examination shall be from one to three hours in length, shall be conducted by the Examining Committee, and shall be open only to the Examination Committee, members of the Board of Studies and members of the Departments concerned.
8. A candidate must satisfy the Examining Committee in both parts of the examination to obtain a pass.
9. The successful completion of the comprehensive examination is the final academic requirement for the Master of Philosophy Degree.

20.8.5 Courses

6000 Speaking and Writing I
 6001 Speaking and Writing II
 6010 Readings in History I
 6011 Readings in History II
 6020 Readings in Western Literature I
 6021 Readings in Western Literature II
 6030 Readings in Philosophy I
 6031 Readings in Philosophy II
 6040 Readings in Science and Technology
 6041 Seminar in Humanities

21 Regulations Governing the Degree of Master of Physical Education

Associate Professor and Dean

A. Card

Professor and Associate Dean

D. Behm

The Degree of Master of Physical Education (M.P.E.) is offered by full-time and part-time study. Part-time study is available through Internet-based distance education technology.

21.1 Qualifications for Admission

1. Admission is limited and competitive. The deadline for receipt of applications is March 1 for admission into the subsequent Fall semester. To be considered for admission an applicant shall normally hold a Bachelor's Degree in Physical Education, Recreation and Leisure Studies or a related discipline, with at least second class standing, from an institution recognized by Senate. In addition to the above, preference will be given to applicants with work experience, obtained either through Cooperative Education programs or through employment deemed appropriate.
2. Any other applicant who holds a Bachelor of Physical Education or Recreation and Leisure Studies Degree or its equivalent may be considered for admission provided that:
 - a. the applicant's undergraduate record after the first year shows an average of at least grade B in physical education and/or recreation and leisure studies courses, OR
 - b. the applicant has raised his/her overall academic standing to second class following the completion of the undergraduate degree, through the successful completion of an approved pattern of undergraduate courses.
3. Only in exceptional circumstances and only on the recommendation of the School of Human Kinetics and Recreation shall the Dean of Graduate Studies consider applicants who do not meet these admission requirements.

21.2 Program of Study and Research

1. The Degree of Master of Physical Education is offered under three options:

Option i. The program shall consist of a minimum of 15 credit hours in graduate courses plus a thesis. The thesis shall be on an approved subject in which systematic research has been conducted by the candidate under the direction of the Supervisor.

Option ii. The program shall consist of a minimum of 15 credit hours in graduate courses plus a project report. The project shall be on an approved subject in which action-research has been conducted by the candidate under the direction of the Supervisor.

Option iii. The program shall consist of a minimum of 24 credit hours in graduate courses plus a comprehensive examination in the candidate's major area of study.
2. The candidate's major area of study shall be Administration, Curriculum and Supervision in Physical Education.
 In conjunction and collaboration with other Faculties and Schools of Memorial University of Newfoundland, students may pursue their special interests through an interdisciplinary course of study. The student's interests may be accommodated through individual reading and research in these special areas.
3. The required courses for the degree shall normally include:

Option I: HKR 6500, one of 6000 or 6001, 6120, plus two of 6003, 6111, 6121, 6122, 6123, 6124, 6125, 6610-6615 (plus thesis)

Option ii: HKR 6500, one of 6000 or 6001, 6120, plus 3 of 6003, 6111, 6121, 6122, 6123, 6124, 6125, 6610-6615 (plus project)

Option iii: HKR 6500, one of 6000 or 6001, 6120, plus 5 of 6003, 6111, 6121, 6122, 6123, 6124, 6125, 6610-6615 (plus comprehensive examination)

Equivalent courses may be substituted from other Faculties or Schools subject to the approval of the School of Human Kinetics and Recreation Graduate Studies Committee. In addition, all on-campus candidates shall be required to complete four semester-length seminar courses (HKR 6510-6513). Off-campus or part-time candidates who cannot attend the on-campus seminar series can substitute 24 hours of participation (over their two year tenure) and present once at national, provincial or regional conferences, workshops, professional development seminars or equivalent activities.

21.3 Evaluation

1. Candidates must obtain an A or B grade in each program course. In accordance with General Regulation **Evaluation, Evaluation of Graduate Students** only one course may be repeated.
2. When the Dean has determined, on the basis of consultation with the candidate and the instructors, that a candidate's work has fallen below a satisfactory level, he or she may recommend to the Dean of Graduate Studies that the candidate be required to withdraw from the program.

21.4 Thesis and Project Report

1. A student completing a Master of Physical Education thesis option will be required to present a thesis proposal for his or her proposed thesis normally by the end of the third semester. The thesis proposal shall normally consist of a full written proposal (including literature review) submitted to the Supervisory Committee, a summary to be distributed to graduate students and faculty one week prior to the presentation and a formal presentation normally at the seminar series. The candidate may be questioned on his/her proposal by the Supervisory Committee and seminar audience. Any deficiencies noted during the presentation should be carefully considered by the student and the Supervisory Committee prior to proceeding with the thesis.
2. Evaluation of the thesis or project report shall be governed by School of Graduate Studies **General Regulations, Theses and Reports**. The thesis or project report shall normally be evaluated by two examiners approved by the Dean.
3. When the thesis or project report has been completed to the satisfaction of the Dean, the Dean shall recommend that the candidate be awarded the degree.

21.5 Comprehensive Examinations

1. Candidates electing to qualify for the Degree under Option iii must write a comprehensive examination. The comprehensive examination shall examine the candidate's ability to integrate and apply material from all course work completed during study for the Degree. The candidate may be required to appear for an oral examination.
2. The comprehensive examination shall normally be constructed and evaluated by an examining committee of three examiners, at least two of whom shall be faculty members of the School of Human Kinetics and Recreation appointed by the Dean on the recommendation of the Dean of the School.
3. A candidate may not write the examination before completing the course work for the Degree.

Note: *Every candidate in graduate studies shall comply with the **General Regulations**, the Degree Regulations and any additional requirements of the Department.*

21.6 Courses

6000 Quantitative Methods in Physical Education
 6001 Qualitative Research Methods in Physical Education
 6002 Scientific and Cultural Foundations of Physical Education
 6003 Physical Education, Culture and Society
 6110 Physical Education, Recreation and Sport Management
 6111 Canadian Delivery Systems in Physical Education, Recreation and Sport
 6120 Curriculum Development in Physical Education
 6121 Physical Education Leadership
 6122 Comprehensive School Health
 6123 Coaching and Long-term Athlete Development in the Education System
 6124 Adapted Physical Activity for Persons with Physical and Intellectual Disabilities
 6125 Evaluation and Testing in Physical Education
 6130 Computer Applications in Physical Education
 6410 Sport and Society
 6420 History of Physical Education and Sport
 6500 Introduction to Research in Physical Education
 6600 Contemporary Issues and Trends in Physical Education
 6510-6513 Graduate Seminar Series (non-credit)
 6610-15 Individual Reading and Research in Special Areas

22 Regulations Governing the Degree of Master of Public Health

Professor and Dean

J. Rourke

Professor and Interim Associate Dean

D. McKay

Associate Professor and Acting Assistant Dean

D. Gustafson

The degree of Master of Public Health (M.P.H.) is offered by the Faculty of Medicine, with specializations in **Population and Public Health** and **Nutrition and Dietetics**.

The Population and Public Health specialization delivers an advanced program of study for students from various academic fields who are interested in a professional degree that will prepare them for practical work in a variety of public health practice settings. The program is available for full-time and part-time study noting that full-time attendance is required during the Public Health Practicum (or Public Health Capstone Research Project) portion of the program. It is anticipated that full-time students will complete the program in 12 months in accordance with **Table I - Master of Public Health Recommended Course Sequence for Full-Time Students in the Population and Public Health Specialization**.

The Nutrition and Dietetics specialization provides a research enriched program of study for full-time students who wish to pursue a career in dietetics or community nutrition. This specialization offers an opportunity for advanced academic study in the field of public health. Upon completion of the program, which includes a dietetics internship, students will be eligible to write the qualifying exam of Dietitians of Canada. It is anticipated that full-time students will complete the program in 24 months in accordance with **Table II - Master of Public Health Recommended Course Sequence for Full-Time Students in the Nutrition and Dietetics Specialization**.

The **General Regulations** of the School of Graduate Studies and the Degree Regulations outlined below will apply.

22.1 Qualifications for Admission

Admission to the Master of Public Health is limited and competitive. The regulations and procedures for admission are as given under the **General Regulations** of the School of Graduate Studies governing Master's degrees. In addition, to be considered for admission to the Nutrition and Dietetics specialization applicants must have successfully completed an undergraduate dietetics program accredited by Dietitians of Canada as indicated at www.dietitians.ca.

22.2 Program of Study

22.2.1 Population and Public Health

1. Minimum requirements for the M.P.H. degree in Population and Public Health will include the successful completion of 42 credit hours as follows:
 - a. Eight core courses: Public Health Leadership and Management (MED 6725), Epidemiology I (MED 6270), Policy and Decision Making (MED 6288), Communicable Disease Prevention and Control (MED 6724), Biostatistics I (MED 6200), Health Promotion (MED 6723), Environmental Health (MED 6722) and Disease and Injury Prevention (MED 6721).
 - b. Six additional credit hours in elective courses chosen from the **Courses** listing below, or other courses as approved by the M.P.H. program coordinator.
 - c. The Public Health Seminar Series courses (MED 6700 - 6701).
 - d. Either, the Public Health Practicum (MED 6710) or the Public Health Capstone Research Project (MED 6711) as determined by the Graduate Program Committee depending on the professional background and experience of the candidate.

The Public Health Practicum is a full-time practice experience conducted in a work setting and following the guidelines set forth by the Public Health Agency of Canada (PHAC) at www.phac-aspc.gc.ca/index-eng.php.

All course work must be completed prior to the initiation of either the Public Health Practicum or the Public Health Capstone Research Project.

Table I - Master of Public Health Recommended Course Sequence for Full-Time Students in the Population and Public Health Specialization

Semester	Courses
Fall	MED 6270 Epidemiology I MED 6288 Policy and Decision Making MED 6700 Public Health Seminar Series I MED 6724 Communicable Disease Prevention and Control MED 6725 Public Health Leadership and Management MED Elective Course
Winter	MED 6200 Biostatistics I MED 6701 Public Health Seminar Series II MED 6721 Disease and Injury Prevention MED 6722 Environmental Health MED 6723 Health Promotion MED Elective Course
Spring	MED 6710 Public Health Practicum, or MED 6711 Public Health Capstone Project

22.2.2 Nutrition and Dietetics

1. Minimum requirements for the M.P.H. degree in Nutrition and Dietetics will include the successful completion of the following:
 - a. Six core courses: Public Health Leadership and Management (MED 6725), Epidemiology I (MED 6270), Community Health Research Methods (MED 6280), Biostatistics I (MED 6200), Community Nutrition (MED 6731), Professional Practice (MED

6730)

- b. The Public Health Seminar Series courses (MED 6700 - 6701)
- c. The Dietetics Research Project (MED 671A/B)
- d. The Dietetics Internship (MED 6733 - 6736). The Dietetics Internship is a practice experience conducted in a work setting and following the guidelines set forth by the Dietitians of Canada.

Dietetics Internship I & II (MED 6733 & 6734) are non-credit, mandatory, part-time internship components completed during the first and second academic semesters of the program in accordance with **Table II - Master of Public Health Recommended Course Sequence for Full-Time Students in the Nutrition and Dietetics Specialization**. A grade of NC (No credit) will be awarded for these two internship components.

Building on the components of Dietetics Internship I & II, Dietetics Internship III & IV (MED 6735 & 6736) are full-time internship blocks each of which will normally extend beyond the regular semester timeframe. Evaluation of the internship blocks will be on a PASS/FAIL basis.

All core courses and seminars must be completed prior to the initiation of the Dietetics Internship III (MED 6735) and/or the Dietetics Research Project (MED 671A/B).

Table II - Master of Public Health Recommended Course Sequence for Full-Time Students in the Nutrition and Dietetics Specialization

Semester	Courses
Fall	6725 Public Health Leadership and Management 6270 Epidemiology I 6280 Community Health Research Methods 6700 Public Health Seminar Series I 6733 Dietetics Internship I
Winter	6200 Biostatistics I 6731 Community Nutrition 6730 Professional Practice 6701 Public Health Seminar Series II 6734 Dietetics Internship II
Spring	671B Dietetics Research Project
Fall	671A Dietetics Research Project
Winter	6735 Dietetics Internship III
Spring	6736 Dietetics Internship IV

22.3 Courses

A selection of the following graduate courses shall be offered to meet the requirements of candidates, as far as the resources of the Faculty allow:

6102 Critical Theory in Health and Society
 6200 Biostatistics I
 6220 Introduction to Community Health
 6247 Chronic Disease Epidemiology
 6250 Basic Clinical Epidemiology
 6270 Epidemiology I
 6275 Epidemiology II
 6280 Community Health Research Methods
 6282 Canadian Health Care System
 6288 Policy and Decision Making
 6290 Determinants of Health: Healthy Public Policy
 6293 Knowledge Transfer and Research Uptake
 6294 Advanced Qualitative Methods
 6390 Human Population Genetics
 6700 Public Health Seminar Series I (1 credit hour)
 6701 Public Health Seminar Series II (1 credit hour)
 671A/B Dietetics Research Project (6 credit hours)
 6710 Public Health Practicum (10 credit hours)
 6711 Public Health Capstone Project (10 credit hours)
 6720 Public Health Surveillance
 6721 Disease and Injury Prevention
 6722 Environmental Health
 6723 Health Promotion
 6724 Communicable Disease Prevention and Control
 6725 Public Health Leadership and Management
 6730 Professional Practice
 6731 Community Nutrition
 6733 Dietetics Internship I (non-credit component)
 6734 Dietetics Internship II (non-credit component)
 6735 Dietetics Internship III (17 week Internship block - 10 credit hours)
 6736 Dietetics Internship IV (16 week Internship block - 10 credit hours)

23 Regulations Governing the Degree of Master of Science

Professor and Dean

M. Abrahams

Professor and Associate Dean (Graduate and Research)

M. Courage

The degree of Master of Science (M.Sc.) is offered at present in Aquaculture, Biochemistry, Biology, Chemistry, Cognitive and Behavioural Ecology, Computational Science, Computational Science (Co-operative), Computer Science, Earth Sciences (Geology), Earth Sciences (Geophysics), Environmental Science, Experimental Psychology, Food Science, Geography, Instrumental Analysis, Marine Biology, Mathematics, Physical Oceanography, Physics, Statistics. Interdisciplinary studies are encouraged; applicants should consult the academic unit concerned.

23.1 Qualifications for Admission

1. Admission is limited and competitive. To be considered for admission an applicant will normally hold at least a high second class Honours Degree, or an M.D. Degree, or the equivalent of either, both in achievement and depth of study, from an institution recognized by the Senate, and shall have knowledge of the proposed field of specialization satisfactory to the Dean.
2. Any other applicant may be considered for admission provided that:
 - a. the applicant's undergraduate record after the first year shows an average of at least Grade B in courses in the proposed field of specialization.
 - b. the applicant's overall undergraduate record after the first year shows an average of at least Grade B in all courses taken.
 In addition, an applicant may be required to demonstrate a satisfactory knowledge of the proposed field of study in an examination administered by the academic unit concerned.
3. Only in exceptional circumstances, and only on the recommendation of the academic unit concerned, will the Dean consider applicants who do not meet these requirements of Clause 2.
4. Applicants who do not possess the prerequisite academic qualifications should consult the appropriate academic unit about a program of further undergraduate courses. Such a program will be intended to raise their qualifications to a level considered academically equivalent to Honours. Such courses may not be used to fulfill the regulation course requirements of the M.Sc. Degree.
5. A high degree of literacy in English is required of all graduate students in the University.

Note: Some Departments have specific regulations in addition to those outlined above, and prospective applicants are advised to turn to the relevant part of this Calendar and acquaint themselves with the regulations of the Department or appropriate academic unit in which they are interested.

23.2 Program of Study and Research

1. The program of study for the Master of Science Degree shall consist of the successful completion of a program of courses and, in accordance with the specific program regulations, either of a thesis embodying original research or of a project and report.
2. Every candidate shall read at least 6 credit hours in graduate program courses in one subject or in closely related subjects, and such other courses as may be required in an individual program. Undergraduate courses may, if necessary, be included as additional courses.
3. Where Departmental regulations require more than the minimum number of credit hours, the Dean, on the recommendation of the appropriate academic unit, may waive in part the credit hour requirements for a Master's Degree, provided that no student may take less than the 6 required credit hours in graduate program courses.
4. Students may, with the approval of the Dean, augment their studies with 6 credit hours in other courses of their choice. The grading system in non-program courses shall be that appropriate to the particular course, and the final grades in these courses will be recorded on the student's transcripts. However, passing grades are not required in these non-program courses in order to continue in graduate studies or obtain a Master's Degree. (See General Regulation **Evaluation, Evaluation of Graduate Students**).
5. Every candidate shall submit a thesis or report on an approved subject in which systematic research has been conducted under the direction of a Supervisor recommended by the academic unit concerned and approved by the Dean. The candidate may be required to take an oral examination.
6. The program of courses, the thesis or report topic and the Supervisor, and all changes in these, must be approved by the Dean.

23.3 Evaluation

1. In order to continue in the School of Graduate Studies and in order to qualify for a Master's Degree, a candidate shall obtain an A or B grade in each program course. (See General Regulation **Evaluation, Evaluation of Graduate Students**).
2. When it has been determined, on the basis of consultation with the candidate, the instructors in graduate courses, and the thesis or report Supervisor, that a candidate's work has fallen below a satisfactory level, the Supervisor or the Head of the appropriate academic unit may recommend to the Dean that such a candidate be required to withdraw from the program.

23.4 Thesis

See General Regulation **Theses and Reports**

*Note: Every candidate in graduate studies shall comply with the **General Regulations**, the Degree Regulations and any additional requirements of the appropriate academic unit.*

23.5 Aquaculture

Administrative Committee

Mr. C. Couturier, Fisheries and Marine Institute - Chair
 Dr. S. Dufour, Department of Biology
 Dr. K. Gamperl, Department of Ocean Sciences
 Dr. L. Halfyard, Fisheries and Marine Institute
 Dr. I. McGaw, Department of Ocean Sciences
 Dr. C. Parrish, Department of Ocean Sciences
 Dr. F. Shahidi, Department of Biochemistry

The program of study leading to the Master of Science in Aquaculture is designed to instruct students in research using scientific principles derived from a wide range of disciplines including Behaviour, Biochemistry, Biology, Ecology, Food Science, Genomics, Nutrition and Physiology. It is an interdisciplinary program and often involves several fields of study. Research problems may include field and/or laboratory studies of one or more species of marine or freshwater flora and/or fauna. The Aquaculture group consists of faculty members from the Fisheries and Marine Institute of Memorial University of Newfoundland and the Departments of Biology, Biochemistry, and Ocean Sciences of Memorial University of Newfoundland. Research scientists at other institutions, e.g., Fisheries and Oceans Canada, complement the group in offering advice, facilities and expertise to students in the program.

The Aquaculture Administrative Committee is responsible for the program. This Committee is composed of seven members appointed by the Dean of Science including two to three members from the Department of Ocean Sciences, two to three members from the Fisheries and Marine Institute of Memorial University of Newfoundland, and two members from appropriate academic units at Memorial University of Newfoundland. In addition, the Heads of the Departments of Biochemistry, Biology, and Ocean Sciences, and the Head of the School of Fisheries of the Fisheries and Marine Institute of Memorial University of Newfoundland are ex-officio members. The Committee makes recommendations to the Dean of the School of Graduate Studies concerning the academic requirements of the program: admission, course programs of individual students, financial support, composition of supervisory committees, and theses examiners. The Chair of the Committee will also ensure that a supervisory report form for each student in the program is submitted annually to the Dean.

23.5.1 Qualifications for Admission

To be considered for admission to the Master of Science in Aquaculture, an applicant shall normally hold one of the following: at least a second class Honours degree, or an equivalent both in achievement and depth of study, from an institution recognized by the Senate, or successful completion of the Advanced Diploma in Sustainable Aquaculture offered by the Fisheries and Marine Institute of Memorial University of Newfoundland, with academic standing deemed appropriate by the Committee.

23.5.2 Program of Study

1. The Master of Science Degree requires the successful completion of a program of courses and of a thesis embodying original research.
2. All candidates will be required to take 6 credit hours in graduate courses which will normally include at least one of the following: AQUA 6000 - Shellfish Culture and Enhancement, AQUA 6100 - Finfish Aquaculture, or AQUA 6200 - Aquaculture and the Environment.
3. Candidates who do not hold the Advanced Diploma in Sustainable Aquaculture may be required to successfully complete a selection of its component courses.
4. Further courses may be required depending on the background of the individual student.
5. Before the thesis is submitted, the student shall present an open seminar on the topic of investigation to the appropriate academic units, as recommended by the Administrative Committee. Any serious deficiencies in the thesis noticed at this stage should be carefully considered, in consultation with the Supervisor, for rectification.
6. The student will be required to comply with all other regulations governing the graduate Degree of Master of Science.

23.5.3 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates as far as the resources of the Department will allow:

Aquaculture

AQUA 6000 - Shellfish Culture and Enhancement
 AQUA 6100 - Finfish Aquaculture
 AQUA 6200 - Aquaculture and the Environment
 AQUA 6201-6209 - Special Topics in Aquaculture (Prerequisite: Permission of Chair of Program)

Biochemistry

BIOC 6670 - Biological Waste Treatment

Biology

BIOL 6000 - Research Topics in Microbiology
 BIOL 6710 - Marine Benthic Biology
 BIOL 7101 - Topics in Marine Biology
 BIOL 7220 - Quantitative Methods in Biology
 BIOL 7933 - Advanced Topics in Marine Invertebrates
 BIOL 7938 - Genomics
 BIOL 7531 - Biological Oceanography
 BIOL 7535 - Research Methods in Marine Science
 BIOL 7550 - Fishery Biology
 BIOL 7551 - Fisheries Resource Management
 BIOL 7560 - Physiology of Marine Invertebrates
 BIOL 7561 - Physiology of Marine Vertebrates
 BIOL 7570 - Marine Benthic Biology
 BIOL 7910 - Community and Ecosystem Ecology

Cognitive and Behavioural Ecology

CABE 6351 - Behavioural Ecology and Sociobiology

Engineering

ENGI 9603 - Environmental Sampling and Pollutant Analysis (*Cross listed as ENVS 6005*)
 ENGI 9605 - Advanced Waste Water Treatment
 ENGI 9622 - Environmental Statistics

Environmental Science

ENVS 6000 - Environmental Science and Technology
 ENVS 6001 - Earth and Ocean Systems
 ENVS 6002 - Environmental Chemistry and Toxicology
 ENVS 6003 - Applied Ecology
 ENVS 6007 - Environmental Risk Assessment (same as Engineering 9609)

Geography

GEOG 6250 - Conservation of Natural Resources

GEOG 6410 - Climatology

Marine Studies (Fisheries Resource Management) Program Courses

MSTM 6001 - Fisheries Ecology

MSTM 6005 - Overview of World Fisheries

MSTM 6009 - Current Issues for Sustainable Fisheries

Physics

PHYS 6316 - Ocean Data Analysis

PHYS 6320 - Ocean Turbulence and Mixing

Technology Management (Aquaculture Technology Option) Program Courses

MSTM 6056 - Management of International Development

MSTM 6071 - Management of Aquaculture Technology

MSTM 6072 - Animal Husbandry Management

MSTM 6073 - Aquaculture Environmental Management

MSTM 6074 - Aquaculture Site and Operational Assessment

MSTM 6075 - Aquaculture Engineering Technology Management

Note: Consult the Program for a list of titles and information regarding availability.

23.6 Biochemistry

Professor and Head of the Department

P. Davis

23.6.1 Program of Study

The Degree of Master of Science is offered in Biochemistry or Food Science to full-time and part-time students.

The admission requirements for the graduate programs in Biochemistry and Food Science are as given under **Regulations Governing Master of Science Degrees**. Depending on the background and/or area of specialization, a candidate's program may include additional courses taken for credit in Biochemistry, Food Science or related subjects.

The program of a candidate for the M.Sc. Degree shall be the responsibility of the supervisory committee, composed of the Supervisor and at least two other faculty members recommended with the concurrence of the Supervisor by the Head of the Department or delegate.

It is the responsibility of the student to arrange regular meetings with his or her supervisory committee. A semi-annual report, prepared by the Supervisor and signed by all members of the supervisory committee, is required to be given to the Head of the Department or delegate.

All graduate students are expected to attend and participate in the Departmental seminars.

A student completing an M.Sc. Degree will be required to present a seminar on his/her research area. The seminar will normally take place during the last semester of the student's program.

Any deficiencies noted during the seminar should be carefully considered by the student and the supervisory committee prior to submission of the thesis for final examination.

23.6.2 Courses

A series of advanced courses in the areas outlined below will be offered. Normally only one course will be offered per semester.

6200 Current Biochemical Research Topics I

6210 Current Biochemical Research Topics II

6400 Control of Intermediary Metabolism

6410 Molecular Endocrinology

6420 DNA: The Structure and Function of Genes (Prerequisite: An introductory course in molecular biology, or its equivalent, at the senior undergraduate level, e.g., Biochemistry 4100)

6421 RNA: Structure, Function and Synthesis (Prerequisite: An introductory course in molecular biology, or its equivalent, at the senior undergraduate level, e.g., Biochemistry 4100)

6422 Regulation of Protein Synthesis (Prerequisite: An introductory course in molecular biology, or its equivalent, at the senior undergraduate level, e.g., Biochemistry 4100)

6430 Bioenergetics

6440 Membranes

6450 Proteins

6500 Enzymology

6520 Nutritional Biochemistry

6530 Food Biochemistry

6590 Molecular Biology I (*cross-listed as Biology 6590 and Medicine 6590*) Prerequisites: Biology 4241, Biochemistry 4100 (or equivalent)

6591 Molecular Biology II (*cross-listed as Biology 6591 and Medicine 6591*) Prerequisites: Biology 4241, Biochemistry 4100 (or equivalent)

6592 Bacterial Genetics (*cross-listed as Biology 6592*) Prerequisite: Biology 4241 or Biochemistry 4100 (or equivalent)

6593 Selected Readings in Molecular Biology (*cross-listed as Biology 6593*) Prerequisites or Co-requisites: Biology 6590, 6591/ Biochemistry 6590, 6591/Medicine 6590, 6591 (or equivalent)

6600 Metabolic Toxicology

6610 Comparative Biochemistry

6620 Biochemical Adaptation

6630 Marine Biochemistry

6640 Biochemistry of Cancer

6650 Science and Technology of Seafoods

6660 Industrial Microbiology

6670 Biological Waste Treatment

6680 Processing and Quality of Foods

23.7 Biology

Associate Professor and Head of the Department

P. Marino

The Degree of Master of Science is offered in Biology and Marine Biology to full-time and part-time students. Students interested in animal behaviour should also consult the section in the Calendar describing the **Master of Science in Cognitive and Behavioural Ecology program**. In addition, a **Master of Science Degree is offered in Aquaculture**. See appropriate sections of this Calendar.

23.7.1 Biology

1. The program of a candidate shall be the responsibility of a Supervisory Committee composed of the Supervisor and at least two other appropriate members recommended to the Dean by the Head (or delegate) of the Department with the concurrence of the Supervisor.
2. The Supervisory Committee shall interview the student normally within a month of first registration, to discuss the student's program and to explore any areas of weakness in the candidate's biological knowledge, especially where these relate to the intended areas of research.
3. A student will be required to take a minimum of 6 credit hours and Biology 7000 (Graduate Core Seminar).
4. It is the function of a Supervisory Committee to have regular meetings, at least annually, with its graduate student. A meeting report, signed by all members of the Supervisory Committee and student, must be given to the Department. A copy will be sent to the graduate student and to the Dean of Graduate Studies.
5. The candidate will present a tentative outline of the proposed research to the Supervisory Committee, with a copy to the Department by the end of the second semester, and preferably prior to commencement of the research.
6. The student will present a research seminar to the Department, normally by the end of the second semester following admission, to describe the research topic being investigated and the methodologies to be employed. This seminar provides an opportunity for the student to receive constructive input from the broad biological community.
7. The candidate must present a thesis seminar of 30-40 minutes duration to the Department prior to submission of the thesis to the School of Graduate Studies. The candidate will be questioned by a panel approved by the Departmental Graduate Studies Committee, in consultation with the student's Supervisory Committee. All others in attendance will be invited to question the candidate before adjournment. Deficiencies noted at this stage should be carefully considered by the student and the Supervisory Committee prior to submission of the thesis for final examination.
Under exceptional circumstances, this requirement may be waived by the Head of the Department (or delegate).
8. Each Master's candidate shall spend at least one semester in residence as a full-time student within the Department during the program. It is recommended that this semester be at the beginning of the program.
Under exceptional circumstances, this requirement may be waived by the Head of the Department (or delegate).
9. If candidates, in the opinion of the Supervisor, Committee and Department, are not making satisfactory progress, they will be required to withdraw from the program.
10. Theses shall conform to **Theses and Reports** of the **General Regulations** of the School of Graduate Studies and to the regulations in the Departmental Guidelines.

23.7.2 Marine Biology

1. A program of study leading to a Degree of Master of Science with a specialization in Marine Biology is governed by the above regulations.
2. Students will be required to take Biology 7000 (Graduate Core Seminar) and an additional 12 credit hours. These 12 credit hours must include Biological Oceanography 7531, and at least two of 6710, 7535, 7540, 7541, 7551, 7560, and 7561. The remaining credit hours may be selected from any other Biology graduate courses or relevant graduate courses in other Departments.

23.7.3 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow:

6000 Research Topics in Microbiology
 6100 Modern Problems in Botany
 6110 Advanced Phycology
 6120 Mycology
 6350 Behavioural Ontogeny (*Cross-listed as Psychology 6350*)
 6351 Behavioural Ecology and Sociobiology (*Cross-listed as Psychology 6351*)
 6355 Field Course in Animal Behaviour (*Cross-listed as Psychology 6355*)
 6400 Parasitic Protozoology
 6410 Helminthology
 6420 Parasitic Arthropods
 6590 Molecular Biology I (*Cross-listed as Biochemistry 6590 and Medicine 6590*) Prerequisites: Biology 4241, Biochemistry 4100 (or equivalent)
 6591 Molecular Biology II (*Cross-listed as Biochemistry 6591 and Medicine 6591*) Prerequisites: Biology 4241, Biochemistry 4100 (or equivalent)
 6592 Bacterial Genetics (*Cross-listed as Biochemistry 6592*) Prerequisite: Biology 4241 or Biochemistry 4100 (or equivalent)
 6593 Selected Readings in Molecular Biology (*Cross-listed as Biochemistry 6593*) Prerequisites or Co-requisites: Biology 6590, 6591/ Biochemistry 6590, 6591/Medicine 6590, 6591 (or equivalent)
 6700 Biology of the Molluscs
 6710 Marine Benthic Biology
 6900 Entomology
 6910 Applied Entomology
 7000 Graduate Core Seminar
 7101 Topics in Marine Biology
 7110 Cellular Physiology and Cytology
 7140 Physiology of Parasitism
 7201 Topics in Cellular and Molecular Biology and Physiology

7210 Arctic and Subarctic Biology
 7220 Quantitative Methods in Biology
 7250 Topics in Wildlife Biology
 7270 Ecology of Newfoundland
 7300 Ornithology
 7301 Topics in Ecology and Conservation Biology
 7510 Ichthyology
 7520 Advances in Fish Biology
 7530 The Molecular Basis of Development
 7531 Biological Oceanography
 7535 Research Methods in Marine Science
 7540 Plankton Dynamics
 7541 Physiological Ecology of Phytoplankton
 7550 Fishery Biology
 7551 Fisheries Resource Management
 7560 Physiology of Marine Invertebrates
 7561 Physiology of Marine Vertebrates
 7570 Marine Benthic Biology
 7600 Effect of Organic and Inorganic Pollutants on Biological Systems
 7910 Community and Ecosystem Ecology
 7931 Research Methods in Genetic Biotechnology
 7920-7960 Special Topics in Biology (*Note: Biology 7931 may be delivered in an accelerated format outside of the regular semester timeframe*)

23.8 Chemistry

Professor and Head of the Department

P. Pickup

23.8.1 Program of Study

- The Degree of Master of Science in Chemistry is offered as full-time or part-time study.
 - Preference for admission will be given to students with a B.Sc. (Honours) Degree in Chemistry from a recognized university.
 - Students holding a B.Sc. Degree in Chemistry from a university of recognized standing with a minimum overall average of 65% and minimum average of 65% in all Chemistry courses taken after the first year will be considered for admission to the Chemistry M.Sc. program. Students not admissible under 1.a. may, on the advice of the Supervisory Committee, be required to pass qualifying exams and/or supplementary undergraduate courses with a minimum B grade.
 - Students with a first class B.Sc. in an area other than Chemistry will also be considered for admission. Students not acceptable under 1.a. or 1.b. who have a strong background in an appropriate area of specialization may, on the advice of the Supervisory Committee, be required to pass qualifying exams and/or supplementary undergraduate courses with a minimum B grade.
 - Candidates are normally required to write American Chemical Society (ACS) placement test(s) in the first two weeks of the initial semester of registration in order to determine an appropriate course program.
- Candidates will be assigned a Supervisory Committee consisting of the Supervisor and at least two other appropriate faculty members appointed by the Dean on the recommendation of the Chemistry Deputy Head (Graduate Studies).
- The program of a candidate must be arranged by the Supervisor before the second semester of registration in consultation with the Supervisory Committee and the student. It is the responsibility of the Supervisory Committee to meet at least annually with the student, to provide guidance at all stages of the candidate's program, and, in consultation with the student, to prepare written annual progress reports for submission to the Dean of Graduate Studies.
- Candidates are normally required to successfully complete Chemistry 6001 (Master's Seminar) and a minimum of 6 credit hours of graduate Chemistry courses with a minimum B grade. Additional program courses may be assigned by the Supervisory Committee.
- Candidates are required to attend Departmental seminars.
- Candidates must submit a thesis deemed acceptable to two examiners as described under **Regulations Governing Master of Science Degrees**. An oral defence is not required.

23.8.2 Courses

6001 Master's Seminar
 6004 Project Seminar
 6110 Analytical Chemistry II
 6150 Advanced Spectroscopic Techniques
 6151 Analytical Separations and Organic Mass Spectrometry
 6152 Electroanalytical Techniques
 6153 Techniques in Sampling, Trace Analysis and Chemometrics
 6154 Business Management and Good Laboratory Practice
 6155 Computers in Instrumental Analysis and Basic Electronics (same as Med 6070)
 6160 Laboratory Projects in Sampling, Electroanalysis and Trace Analysis
 6161 Laboratory Projects in Analytical Separations and Spectroscopic Techniques
 6190-9 Selected Topics in Analytical Chemistry
 6201 Bioinorganic Chemistry
 6202 Main Group Chemistry
 6204 Mechanisms in Catalysis
 6205 Photochemistry of Transition Metal Complexes
 6206 Green Chemistry
 6210 Organometallic Chemistry
 6290-9 Selected Topics in Inorganic Chemistry
 6300 Quantum Chemistry I
 6301 Quantum Chemistry II
 6302 Molecular Spectroscopy
 6304 Computational Chemistry I

6310 Electronic Structure Theory
 6323 Chemical Thermodynamics I
 6324 Chemical Thermodynamics II
 6340 Biophysical Chemistry
 6350 Electrochemical Kinetics
 6360 Solid State Chemistry
 6370 Nanoscale Phenomena
 6380 Adsorption on Surfaces
 6381 Surface and Interface Science
 6382-9 Selected Topics in Physical Chemistry
 6390-8 Selected Topics in Physical Chemistry
 6399 Chemical Kinetics and Dynamics
 6401 Organic Spectroscopic Analysis I
 6402 Organic Spectroscopic Analysis II
 6421 Natural Products Chemistry
 6460 Organic Synthesis
 6470 Physical Organic Chemistry
 6490-9 Selected Topics in Organic Chemistry
 6590-9 Selected Topics in Theoretical and Computational Chemistry
 6600 Applications of Inorganic and Organometallic Chemistry to Toxicology

23.8.3 Instrumental Analysis

1. Program of Study

- The Department of Chemistry in collaboration with other faculty in Science offers a course-based program in instrumental analysis leading to the Degree of Master of Science. The program is available on a full-time or part time basis and will normally require four semesters of study. The program is designed for students who wish to pursue career opportunities in all areas of applied science which require in-depth knowledge and laboratory expertise in analytical instrumentation.
- The program will be administered by a Program Committee consisting of the Deputy Head (Graduate Studies) who will be chair, the Program Co-ordinator (Chemistry) and a third faculty member from another science Department. The Program Committee will be responsible for overseeing that a level of standards be maintained.
- The Program Co-ordinator will be responsible for coordinating the course offerings and for soliciting student projects for the program to be approved by the Program Committee.

2. Qualifications For Admission

Admission is limited and competitive. To be considered for admission, applicants shall normally hold a Bachelor's Degree in Science (with at least a minor in Chemistry, and having completed Chemistry 4100 or equivalent) with at least a second class standing from an institution recognized by the Senate. The Program Committee will make recommendations on admission to the Dean of Graduate Studies.

3. Program Requirements

- All programs must be approved by the Program Committee and by the Dean of Graduate Studies. All **General Regulations** of the School of Graduate Studies shall apply to this Degree.
- The program requires the completion of the 24 credit hours representing the eight required program courses, one project seminar, and a project report. Normally, completion of the program will require four semesters of study.
- A project seminar will be given to the Department of Chemistry at the end of the student's program.
- Students will be required to complete a research project, the scope of which will normally require no more than two semesters of full-time effort. The Project Report shall be evaluated according to the procedures outlined in **Theses and Reports**.

4. Required Courses

6004 Project Seminar
 6150 Advanced Spectroscopic Techniques
 6151 Analytical Separations and Organic Mass Spectrometry
 6152 Electroanalytical Techniques
 6153 Techniques in Sampling, Trace Analysis and Chemometrics
 6154 Business Management and Good Laboratory Practice
 6155 Computers in Instrumental Analysis and Basic Electronics (Same as Medicine 6070)
 6160 Laboratory Projects in Sampling, Electroanalysis and Trace Analysis
 6161 Laboratory Projects in Analytical Separations and Spectroscopic Techniques

23.9 Cognitive and Behavioural Ecology

Administrative Committee

Dr. I. Fleming, Department of Ocean Sciences - Co-Chair
 Dr. C. Walsh, Department of Psychology - Co-Chair
 Dr. T. Chapman, Department of Biology
 Dr. W. Montevicchi, Department of Psychology
 Dr. C. Purchase, Department of Biology
 Mr. P. Regular, Graduate Student Representative
 Dr. A. Storey, Department of Psychology
 Dr. I. Warkentin, Grenfell Campus

23.9.1 General Information

- The Cognitive and Behavioural Ecology Program is interdisciplinary and designed to train students in research that integrates cognitive and behavioural studies at the ecological level. Molecular, developmental and evolutionary aspects of cognition and behaviour are also studies. Supervisors include faculty from the Departments of Biology, Ocean Sciences, Psychology, the Faculty of Medicine and the Environmental Science Program at Grenfell Campus, as well as adjunct faculty from the Canadian Wildlife Service, Department of Fisheries and Oceans, the Newfoundland and Labrador Forestry and Wildlife Divisions and Parks Canada. The Departments of Biology and Psychology jointly offer the Master of Science and the Doctor of Philosophy degrees in Cognitive and Behavioural Ecology.

- The Administrative Committee is responsible for the Program. Committee members are appointed by the Dean of Science, on the recommendation of the Chair of the Committee and of the Heads of Biology and Psychology. The Committee Chair is elected by the committee members and appointed by the Dean of Science. The Committee makes recommendations to the Dean of Graduate Studies concerning admissions and academic requirements. In consultation with supervisors, recommendations are made concerning course programs, financial support, thesis committees, comprehensive and thesis topics, examiners and students' annual progress. Upon program completion, the Committee certifies that all requirements for the appropriate degree have been met. The Department of the Supervisor ensures that adequate facilities are provided for each candidate. Students in the Cognitive and Behavioural Ecology Program are considered for teaching assistantships in the Psychology or Biology Departments.

23.9.2 Program of Study

- Students normally take four courses (12 credit hours) in the first year. Students will be required to take Quantitative Methods in Biology (BIOL 7220) or Advanced Statistics in Psychology (6000) unless they have already passed an equivalent graduate or Honours course, Behavioural Ecology and Sociobiology (CABE 6351), Field and Lab Methods in Animal Behaviour and Behavioural Ecology (CABE 7000) and one elective, in consultation with the Supervisor.
- Upon completion but before submission of the thesis, the student is required to give a formal thesis presentation.
- The student will be required to comply with all other regulations governing the graduate Degree of Master of Science.

Table of Credit Restrictions - Master of Science in Cognitive and Behavioural Ecology

(Credit may be obtained for only one course from each of the pairs of courses listed in this table.)

Present Course	Former Course
CABE 6240	Biopsychology 6240
CABE 6350	Biopsychology 6350
CABE 6351	Biopsychology 6351
CABE 7000	Biopsychology 7000

23.9.3 Courses

Biology 7220 Quantitative Methods in Biology
 Cognitive and Behavioural Ecology 6240 Special Topics
 Cognitive and Behavioural Ecology 6350 Behavioural Ontogeny
 Cognitive and Behavioural Ecology 6351 Behavioural Ecology and Sociobiology
 Cognitive and Behavioural Ecology 7000 Field and Lab Methods in Animal Behaviour and Behavioural Ecology
 Psychology 6000 Advanced Statistics in Psychology

23.10 Computational Science

Professor and Program Chair

M. Plumer

23.10.1 Administrative Committee

The Administrative Committee, appointed by the Dean of the School of Graduate Studies on the recommendation of the Dean of the Faculty of Science, consists of at least one representative of each participating academic unit, and one member external to the University.

23.10.2 Participating Departments and Organizations

This interdisciplinary program offers the Master of Science Degree in both Computational Science and Computational Science (Co-operative). The departments of Biochemistry, Chemistry, Computer Science, Earth Sciences, Mathematics and Statistics, Physics and Physical Oceanography and the Faculty of Engineering and Applied Science are participants in this program. Other departments and faculties may be involved, depending on the nature of the thesis or project. External organizations may provide placements for co-op students, jointly supervise students, share computing resources and participate in teaching courses.

23.10.3 Admission Criteria and Procedures

- The criteria for acceptance of an applicant are: his or her anticipated successful and timely completion of the program, and the willingness of a participating faculty member to supervise the applicant.
- Students will be expected to hold a B.Sc. (Honours) or B.Eng. Degree with honours standing, or equivalent, with a strong computational orientation. At the time of application, the student is expected to provide evidence (for example, transcripts of completed courses) of his or her knowledge of a modern computer language such as Fortran, and/or C and/or C++, and/or Matlab, and/or Python. Evidence of knowledge of differential equations; and/or linear algebra and/or computer graphics would be an asset. Students with an inadequate background may be encouraged to take certain undergraduate courses.
- Admission decisions will be made by the School of Graduate Studies on the recommendation of the Chair of the Administrative Committee.

23.10.4 Program of Study

- The goal of Computational Science is to solve technical problems, in science and engineering, using computers and computational methods. Our program is designed to educate students to apply computational, numerical and programming concepts and tools to solve and model complex problems in science and engineering.
- The Program is offered in thesis and project (non-thesis) versions, with the option of a co-operative education program. It is intended that the overall level of student effort and performance required in each version will be comparable. The normal length of time to complete each option is 24 months.
- The work for the thesis or project will be carried out under the guidance of a supervisor (or joint supervisors). The home department of the student will be the same as that of the Supervisor. Upon completion of the work for the thesis or project, to be submitted to the

School of Graduate Studies for examination, each student is required to present a seminar suitable for the interdisciplinary audience of Computational Science program students.

4. All students are required to complete a minimum of 3 core courses (9 credit hours) selected from the list of **Core Courses** listing below. All students are also recommended to complete CMSC 6940 (1 credit hour). Additional courses are required in accordance with the program options as outlined below and will normally be selected from the student's discipline of specialization. The course requirements for each student are approved by the Program Chair on the recommendation of the student's supervisor(s), and should reflect the interdisciplinary nature of the program. Students are expected to attend research seminars in their home department as well as those relevant to Computational Science, when advertised.
 - a. The thesis option requires the completion of a minimum of four graduate courses (12 credit hours) numbered 6000 or higher, which must include three courses (9 credit hours) from the **Core Courses** listing below. Equivalent courses may be considered for substitution with approval of the Program Chair. CMSC 6940 (one credit hour) is also recommended. The additional course(s) will normally be chosen from the **Additional Courses** listing below in the same discipline as the thesis work. The submission of an acceptable thesis is required. The thesis is to contain an original scholarly contribution which must be submitted to the School of Graduate Studies for final examination. Each student is also required to present a seminar on their thesis research topic that demonstrates their use of computational techniques to solve a problem in science or engineering.
 - b. The project option requires the completion of a minimum of seven graduate courses (21 credit hours) numbered 6000 or higher, which must include at least three courses (9 credit hours) from the **Core Courses** listing below. Equivalent courses may be considered for substitution with approval of the Program Chair. CMSC 6940 (one credit hour) is also recommended. An acceptable project report is also required which must be submitted to the School of Graduate Studies for final examination. The additional courses will normally be chosen from the **Additional Courses** listing below in the same discipline as the project work. The project, which will include an in-depth written report, shall require the equivalent of at least one and no more than two semesters of full time work.

23.10.5 Co-operative Education Option

1. A co-operative education option will be available. Students in this option may follow the thesis or non-thesis version of the program. It is expected to take up to 24 months to complete. Students will be asked to indicate if they wish to follow this option at the time of application.
2. Students who are accepted into the M.Sc. program may be provisionally accepted into the co-op option. During their first two semesters, such students will interview with the Co-operative Education Services Centre and with prospective work term employers. Satisfactory performance in this phase of the program will lead to confirmation of acceptance into the co-op option, and allow the student to spend two of the next three terms working in industrial or government settings. Upon completion of each work term, the student must submit an acceptable work report.
3. Following the completion of the two work terms, each student must complete any remaining course requirements and project report or thesis. Assuming that prior written authorization of the employer and the supervisory committee was obtained and submitted to the School of Graduate Studies, students may include material from the work terms in their reports or theses. For students following the non-thesis version of the program, the two work-term reports may be combined into a single, integrated report for this purpose. All other students must write a thesis on a research project which may be based on research completed during the work terms.
4. Students who are accepted into the co-op option are not guaranteed placements. In the event that a student fails to obtain two semesters of placements, but successfully completes all other requirements of the Degree, he or she will still be eligible for graduation, but without the designation of a co-op degree.

23.10.6 Courses

Core Courses

Mathematics 6210 Numerical Solutions of Differential Equations
 Computational Science 6910 Matrix Computations and Applications
 Computational Science 6920 Scientific Computing
 Computational Science 6930 Algorithms for Distributed and Shared Memory Computers
 Computer Science 6731 Topics in Numerical Methods
 Computational Science 6900-6909 Special Topics

Additional Courses

The following courses are identified as suitable for students in this program. Other courses may be permitted with the approval of the Program Chair.

Biochemistry

6420 DNA: The Structure and Function of Genes
 6421 RNA: Structure, Function and Synthesis
 6422 Regulation of Protein Synthesis
 6430 Bioenergetics
 6440 Membranes
 6450 Proteins

Chemistry

6201 Bioinorganic Chemistry
 6204 Mechanisms in Catalysis
 6205 Photochemistry of Transition Metal Complexes
 6210 Organometallic Chemistry
 6300 Quantum Chemistry I
 6301 Quantum Chemistry II
 6302 Molecular Spectroscopy
 6304 Computational Chemistry I
 6310 Electronic Structure Theory
 6323 Chemical Thermodynamics I
 6324 Chemical Thermodynamics II
 6340 Biophysical Chemistry
 6350 Electrochemical Kinetics
 6360 Solid State Chemistry
 6380 Adsorption on Surfaces
 6381 Surface and Interface Science
 6382-6389 Selected Topics in Physical Chemistry

6390-6398 Selected Topics in Physical Chemistry
 6399 Chemical Kinetics and Dynamics
 6401 Organic Spectroscopic Analysis I
 6402 Organic Spectroscopic Analysis II
 6470 Physical Organic Chemistry
 6590-6599 Selected Topics in Theoretical and Computational Chemistry
 6600 Applications of Inorganic and Organometallic Chemistry to Toxicology

Computational Science (CMSC)

601W Work Term 1
 602W Work Term 2
 6900-6909 Special Topics
 6910 Matrix Computations and Applications
 6920 Scientific Programming
 6925 Tools of the Trade for Programming High Performance Computers (2 credit hours)
 6930 Algorithms for Distributed and Shared Memory Computers
 6940 Computer Based Research Tools and Applications (1 credit hour)

Computer Science

6713 Software Engineering
 6722 Advanced Computer Architectures
 6728-6729 Special Topics in Computer Systems - Computer Networks
 6731 Topics in Numerical Methods
 6738-6739 Special Topics in Numerical Methods
 6752 Applications of Computer Graphics
 6756 Digital Image Processing

Earth Sciences

6141 Rotation of the Earth
 6142 Theory of Global Geodynamics
 6171 Advanced Exploration Seismology
 6172 Borehole Seismic
 6175 Gravity and Magnetic Methods
 6177 Mathematical Formulations of Seismic Wave Phenomena
 6918 Airborne and Borehole Electromagnetic Methods
 6994 Special Topics in Earth Sciences - Geophysical Inversion and Applications
 7110 Physics of the Solid Earth
 7120 Crustal Geophysics

Mathematics and Statistics

6102-6119 Special Topics in Applied Mathematics
 6201 Numerical Methods for Partial Differential Equations
 6210 Numerical Solution of Differential Equations (required course for Computational Science)
 6212 Numerical Methods for Initial Value Problems
 6588 Selected Topics in Statistics and Probability - Generalized Additive Models with Applications in Scientific Visualization

Physics and Physical Oceanography

6000 Condensed Matter Physics I
 6200 Nonlinear Dynamics
 6308 Ocean Dynamics I
 6309 Ocean Dynamics II
 6310 Physical Oceanography
 6316 Ocean Measurements and Data Analysis
 6317 Ocean Acoustics
 6318 Numerical Modelling
 6320 Turbulence
 6321 Coastal Oceanography
 6323 Stability Theory
 6400 Statistical Mechanics
 6402 Theory of Phase Transitions
 6800 Group Theory
 6850 Quantum Mechanics I

Engineering and Applied Science

9015 Ocean Engineering Hydrodynamics
 9052 Ice Properties and Mechanics
 9501 Finite Element Analysis
 9713 Stochastic Hydrology
 9815 Electromagnetic Propagation
 9821 Digital Signal Processing
 9826 Advanced Control Systems
 9861 High-Performance Computer Architecture
 9865 Advanced Digital Systems
 9869 Advanced Concurrent Programming
 9871 Information Theory and Coding

23.11 Computer Science

Associate Professor and Head of the Department

E. Brown

The degrees of Master of Science and Doctor of Philosophy are offered in Computer Science.

23.11.1 Admission Requirements

Admission into a Master's program in Computer Science is restricted to candidates holding at least a Bachelor degree (major in Computer Science or Computer Engineering) with a minimum average of 75% overall. When circumstances warrant, this requirement may be waived on the recommendation of the Head of the Department. Applicants should also refer to the **Qualifications for Admission** given under the **Regulations Governing the Degree of Master of Science** within the School of Graduate Studies section of the current Calendar. International applicants are strongly encouraged to submit results of the (general) Graduate Record Examination (GRE) test.

23.11.2 Programs

23.11.2.1 Option 1 - Thesis Route

1. Candidates are required to complete a minimum of 15 credit hours in graduate program courses, 9 of which must be in Computer Science (excluding COMP 601W and COMP 6999).
2. Full-time students are expected to complete their course work within their first year of studies. Part-time students are expected to complete their course work by the end of the seventh semester in program.
3. Each candidate is required to submit an acceptable thesis. The thesis project may involve a theoretical investigation and/or the development of an original, practical system. Each candidate is required to present a tentative outline of his/her proposed research to the Supervisor, with a copy to the Department Committee on Graduate Studies, by the end of his/her third semester in the program (sixth semester for part-time students). A fifteen minute oral presentation of the proposal is to be scheduled and given within four weeks of the submission date.
4. Prior to submission of a thesis, normally in the last semester of the program, candidates are required to present a seminar on the thesis topic, methods employed and research results.

23.11.2.2 Option 2 - Course/Project Route with Work Term

1. Candidates are required to complete a minimum of 24 credit hours in graduate program courses, of which at least 18 credit hours must be in Computer Science.
2. Within this credit requirement, a student must take the following courses:
COMP 6999 (Master's Project)
One course in Software Engineering (COMP 6713)
One course in Algorithms (COMP 6743 or COMP 6783)
One course in Information Systems (COMP 6742 or COMP 6751)
3. Additionally students must complete one co-operative education work term (COMP 601W). Under normal circumstances, students will undertake their work term in the Spring semester.
4. The dates for starting and finishing each work term are shown in the **University Diary**.
5. Students must successfully complete at least 12 credit hours (four courses) prior to beginning their work term.
6. Students will conduct job searches through the **Division of Co-operative Education** in cooperation with the Department of Computer Science. Students who do not wish to accept a work term job arranged by the Division shall be responsible for finding an alternative. Such jobs must be confirmed by letter from the employer and approved by the Head of Computer Science and by the Division on or before the first day of the work term. Work term jobs may be outside St. John's and possibly outside Newfoundland and Labrador.
7. Each work term placement will be supervised by the candidate's program Supervisor, the on-site Supervisor assigned by the employer and the Division of Co-operative Education Co-ordinator. The overall evaluation of the work term is the responsibility of the program Supervisor, on-site Supervisor and the Division of Co-operative Education Co-ordinator. The work term shall consist of two components:
 - a. On-the-job Student Performance as evaluated by the on-site Supervisor and the Division of Co-operative Education Co-ordinator, in consultation with the program Supervisor.
 - b. A Work Report graded by the program Supervisor in consultation with the on-site Supervisor.
8. Evaluation of the work term will result in the assignment of one of the following final grades:
 - a. Pass: Indicates that PERFORMANCE MEETS EXPECTATIONS in both the work report and work performance.
 - b. Fail: Indicates FAILING PERFORMANCE in the work report and/or the work performance. If a failing grade is assigned, the student's Masters program will be terminated.

23.11.3 Other Regulations

1. Students from either **Option 1 - Thesis Route** or **Option 2 - Course/Project Route with Work Term** may request to transfer between both options once during their studies. The transfer requires an approval from the Head of Department.
2. All candidates are expected to take an active part in seminars and other aspects of the academic life of the Department of Computer Science.
3. The Department of Computer Science Graduate Student Research Forum takes place in the Winter semester of the academic year. All M.Sc. students must present at the Research Forum at least once during their program.
4. Full-time students are expected to complete all program requirements in two years. Part-time students are expected to complete all program requirements in four years.

23.11.4 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow. Normally, students will be expected to complete their course work during the fall and winter semesters. Courses might not be offered in the spring semester.

601W Work Term
6711 Syntax and Semantics of Programming Languages
6712 Compiling Techniques
6713 Software Engineering
6714 Functional Programming
6715 Logic Programming

6716 Concurrent Programming
 6718-6719 Special Topics in Programming Languages
 6720 Distributed and Parallel Computing
 6721 Operating Systems Design
 6722 Advanced Computer Architectures
 6723 Microprocessor Systems
 6724 VLSI Design (same as Engineering 9863)
 6725 Computational Aspects of VLSI (same as Engineering 9864)
 6726 Modelling and Analysis of Computing Systems
 6727 Introduction to High Performance Computer Systems
 6728-6729 Special Topics in Computer Systems - Computer Networks
 6731 Topics in Numerical Methods
 6732 Matrix Computations
 6738-6739 Special Topics in Numerical Methods
 6741 Advanced Automata Theory
 6742 Theory of Databases
 6743 Complexity of Computational Problems
 6745 Special Topics - Advanced Computational Geometry
 6748-6749 Special Topics in Theoretical Computer Science
 6751 Database Technology and Information Retrieval
 6752 Applications of Computer Graphics
 6753 Artificial Intelligence
 6754 Post-Genomic Computational Biology
 6755 Knowledge-Based Systems
 6756 Digital Image Processing
 6758-6769 Special Topics in Computer Applications
 6770-6790 Special Topics in Computer Science (excluding 6783)
 6783 Applied Algorithms
 6999 Master's Project

23.12 Earth Sciences

Associate Professor and Head of the Department

R. Mason

The degrees of Master of Science and Doctor of Philosophy are offered in Earth Sciences (Geology) and Earth Sciences (Geophysics) by full-time and part-time study.

23.12.1 Program of Study

1. Admission into a Master's Degree program in Earth Sciences (Geology) and Earth Sciences (Geophysics) is restricted to candidates holding at least a B.Sc. Degree with second class Honours. When circumstances warrant, this requirement may be waived by the School of Graduate Studies on the recommendation of the Head of the Department.
2. Each candidate will be assigned a multi-member supervisory committee. This committee shall consist of the Supervisor and at least one other member. Within two weeks of the first registration in the M.Sc. Degree program, a candidate will meet with his/her supervisory committee. Within six months, the student and the supervisory committee will agree on a written thesis proposal outlining the objectives, methods, timetable and funding for the project, and provide the proposal (signed by the student and supervisory committee) to the Head for inclusion in the student's file.
3. A candidate for the M.Sc. Degree must complete a minimum of 6 credit hours in program courses. The courses must be selected from the overview and general courses below or with the approval of the supervisory committee and Head of the Department, other graduate level courses including those offered by other departments. Depending on background and/or area of specialization, a candidate also may be required to complete additional courses in earth sciences or related subjects.
4. All course requirements should be completed within one year from the date of first registration in the M.Sc. Degree program.
5. A candidate is required to give an oral presentation to the Department on the results of his/her research. This presentation must be given during the second year of the program.
6. The M.Sc. Degree program will conclude with a thesis examination as prescribed in the **Regulations Governing the Degree of Master of Science**.
7. The Supervisor and the Head of the Department may recommend to the Dean of Graduate Studies that a candidate who is not making satisfactory progress be required to withdraw from the program.

23.12.2 Courses

A selection of courses will be offered to meet the requirements of candidates as far as the resources of the Department will allow.

Overview Courses

7110 Physics of the Solid Earth
 7120 Crustal Geophysics
 7300 Changes in Global Paleoenvironment
 7400 Tectonic Regimes
 7410 Engineering and Environmental Geology
 7500 Chemical Fluxes in the Earth
 7810 Paleogeology (same as the former 6810. Credit may be obtained for only one of 7810 or 6810)

General Courses

6070 Quantitative Techniques in Mineralogy and Metamorphic Petrology
 6141 Rotation of the Earth
 6142 Theory of Global Geodynamics
 6152 Paleomagnetism
 6171 Advanced Exploration Seismology
 6172 Borehole Seismic
 6175 Gravity and Magnetic Methods

6177 Mathematical Formulations of Seismic Wave Phenomena
 6210 Genesis of Mineral Deposits
 6320 Marine Geology
 6400 Flow and Transport in Fractured Rock
 6410 Advanced Engineering and Environmental Geology
 6420 Deformation Mechanisms
 6500 Stable Isotope Geochemistry
 6510 Trace Element Geochemistry
 6520 Methods in Advanced Research in Geochemistry
 6540 Radiogenic Isotope Geochemistry
 6550 Biogeochemistry
 6600 Petroleum Geology
 6740 Modern and Ancient Sedimentary Environments
 6750 Sequence Stratigraphy
 6820 Palynology and Paleobotany
 6900-6999 Special Topics in Earth Sciences

23.13 Environmental Science

(see also **Master of Environmental Science**)

Board of Studies

Dr. J. Wroblewski, Department of Ocean Sciences - Chair
 Dr. C. Campbell, Division of Science, Grenfell Campus, ex-officio
 Dr. B. Chen, Faculty of Engineering and Applied Science
 Dr. R.. Chuenpagdee, Department of Geography
 Dr. P. Marino, Head, Department of Biology
 Dr. W. Montevicchi, Department of Psychology
 Dr. L. Tarasov, Department of Physics and Physical Oceanography
 Dr. S. Ziegler, Department of Earth Sciences

23.13.1 Program of Study

1. The Environmental Science Program is an interdisciplinary graduate program involving the departments of the Faculty of Science, the Faculty of Arts, the Faculty of Medicine, and the Faculty of Engineering and Applied Science. There are three Environmental Science Graduate Degree streams: the Master of Science (M.Sc., Environmental Science), Master of Environmental Science (M.Env.Sci.), and the Doctor of Philosophy (Ph.D., Environmental Science). The program is available on a full or part-time basis.
2. The program is administered by a Board of Studies appointed by the Dean of Science. Supervisors of graduate students in the program include faculty from the Faculty of Science, the Faculty of Arts, the Faculty of Engineering and Applied Science, the Faculty of Medicine, and the Environmental Science Program at the Grenfell Campus, as well as adjunct appointees to the program (as a co-supervisor).

23.13.2 Qualifications for Admission

Admission is limited and competitive. To be considered for admission applicants shall normally hold a Bachelor's (Honours) degree in Science, Geography, or Environmental Science with at least second class standing, or equivalent, or a Bachelor's degree in Engineering from an institution recognized by the Senate or shall have qualifications and/or experience in environmental science acceptable to the Dean of Graduate Studies and the Board of Studies. The Board of Studies make recommendations on admission to the Dean of Graduate Studies.

23.13.3 Degree Requirements

1. To the extent that resources permit, individual programs will be developed to suit students' interests and needs. However all programs must be approved by the Board of Studies and by the Dean of Graduate Studies. All **General Regulations** of the School of Graduate Studies shall apply to these degrees.
2. The Master of Science (Environmental Science) is a research Degree which includes a thesis and course work. The thesis research will focus on environmental topics relevant to the student's background. The course component has two aims: to broaden the student's understanding of environmental issues; and to provide further training in areas of research specialization for the thesis.
3. Each student will have a Supervisory Committee normally consisting of a Supervisor and two others. The Supervisory Committee will be appointed by the Dean of Graduate Studies on the recommendation of the Board of Studies for Environmental Science.
4. The program of each student will consist of a minimum of 12 credit hours in program courses which will include ENVE/ENVS 6000 and ENVS 6010. Of the 6 credit hours remaining in program courses, 3 credit hours will be from ENVE/ENVS 6001, 6002 and 6003 and the other 3 credit hours will be related to the student's specialty and will normally be chosen from graduate courses offered by the Faculties of Science, Arts, Medicine and Engineering and Applied Science.
5. All students will be required to submit a thesis embodying the results of systematic research on an approved topic. The thesis will be evaluated according to procedures outlined in **General Regulations, Theses and Reports**.

23.13.4 Courses

ENVE/ENVS 6000 Environmental Science and Technology
 ENVE/ENVS 6001 Earth and Ocean Systems
 ENVE/ENVS 6002 Environmental Chemistry and Toxicology
 ENVE/ENVS 6003 Applied Ecology
 ENVS 6004 Environmental Pollution and Mitigation (cross-listed as ENGI 9601)
 ENVS 6007 Environmental Risk Assessment (cross-listed as ENGI 9609)
 ENVS 6008 Air Pollution (same as ENGI 9624)
 ENVS 6009 Environmental Science Project
 ENVS 6010 Environmental Seminar
 ENVS 6201-6210 Special Topics in Environmental Science

23.14 Food Science

See **Biochemistry**.

23.15 Geography

Professor and Head of the Department

C. Mather

23.15.1 General Information

1. The degrees of Master of Arts and Master of Science are offered in Geography by full-time or part-time study.
2. Admission requirements are set forth in the **General Regulations** of the School of Graduate Studies and Degree Regulations for **Master of Arts** and **Master of Science**.
3. The deadline for submission of applications for admission is January 15. Candidates will normally commence their programs in the Fall semester.
4. An applicant will be admitted to a graduate program only if a faculty member agrees to act as Supervisor. A supervisory committee will be established after admission, normally consisting of the Supervisor and two other individuals, one of whom will normally be a member of the Department.
5. Major research areas for graduate study at the master's level are cultural, political, historical, economic, urban, resource management, community and regional development, geomorphology, Quaternary environments, climatology and geographic information sciences.
6. Candidates will register for the M.A. program if their fields of interest lie in an area of Human Geography or for the M.Sc. if their fields of interest are in Physical Geography or Geographic Information Sciences.
7. It is expected that the program of study and research for the M.A. or M.Sc. will normally be completed in a maximum of two years of full-time work, or three years of part-time work.
8. Candidates must successfully complete a minimum of 12 credit hours of graduate program courses with a minimum grade of B in each. Geography 6000 and 6001 will be required courses for all candidates who have not already completed equivalent courses at the Honours or post-graduate level.
9. Candidates whose undergraduate Degree is not in geography will normally be required to complete some additional undergraduate program courses during their first year of study, in addition to the required graduate program courses. Normally four such undergraduate courses will be required, and a minimum grade of 70% must be obtained in each.
10. Each candidate will be required to present a seminar on their research to the Department.
11. Each candidate must submit a thesis based on their own original research. This thesis will be examined in accordance with the **General Regulations** of the School of Graduate Studies.

23.15.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates as far as the resources of the Department will allow:

6000 Development of Geographical Thought and Practice I
 6001 Development of Geographical Thought and Practice II
 6002 Directed Readings in Geography
 6100 Research Techniques in A Selected Field of Geography I
 6101 Research Techniques in A Selected Field of Geography II
 6120 Geospatial Modelling and Analysis
 6150 Environmental Remote Sensing and Image Analysis
 6200 Economic Geography I
 6201 Economic Geography II
 6204 Sustainable Community and Regional Development
 6250 Conservation and Sustainability of Natural Resources
 6251 Survey Design, Questionnaire Development and Techniques of Data Collection
 6300 Problems in Fisheries Geography
 6400 Fluvial Geomorphology
 6401 Glacial Geomorphology
 6402 Coastal Geomorphology
 6410 Climatology
 6420 Quaternary Geography
 6430 Biogeography
 6500 Cultural Geography
 6600 Historical Geography
 6700 Political Geography
 6800 Urban Geography
 6821 Advanced Computer Mapping
 6900 Graduate Seminar in Regional Geography
 6990-95 Special Topics in Geography

23.16 Geology

See **Earth Sciences**

23.17 Geophysics

See **Earth Sciences**

23.18 Instrumental Analysis

See **Chemistry**

23.19 Mathematics and Statistics

Professor and Head of the Department

E. Goodaire

The degrees of **Master of Applied Statistics** (see appropriate calendar entry), Master of Science and Doctor of Philosophy are offered in the Department of Mathematics and Statistics. The Masters' degrees are offered by full-time and part-time studies.

23.19.1 Specific Requirements for the M.Sc. in Mathematics

Every candidate for the M.Sc. in Mathematics is required to complete one of two options.

- Option 1:** At least 15 credit hours in graduate courses, at most 3 of which may be from seminar courses (excluding MATH 696A/B) and at least 9 of which must be in courses selected from the list below with at least 3 credit hours in three of the indicated subject areas. Remaining course selections to satisfy the total credit hour requirement for this option may be chosen from the departmental course offerings, excluding MATH 6299. A thesis is required as per **General Regulations, Theses and Reports**.
- Option 2:** At least 23 credit hours in graduate courses, including MATH 696A/B, MATH 6299 and at least 9 credit hours in courses selected from the list below with at least 3 credit hours in three of the indicated subject areas. Remaining course selections to satisfy the total credit hour requirement for this option may be chosen from the departmental course offerings, excluding those in the range 6900-6950.
 - Algebra: 6320, 6321
 - Analysis: 6310, 6311, 6312
 - Applied Mathematics: 6100, 6201 or 6212, 6120
 - Combinatorics: 6340, 6341, 6342
 - Topology: 6300 or 6301, 6332

23.19.2 Specific Requirements for the M.Sc. in Statistics

Every candidate for the M.Sc. in Statistics is required to complete STAT 6510 and STAT 6560 plus at least 12 credit hours in graduate courses. Candidates must attend the Seminar Series in Statistics (non-credit) or register for an additional 3 credit hour graduate course. A thesis is required as per **General Regulations, Theses and Reports**.

Table of Credit Restrictions for Present Mathematics Courses with Former Mathematics Courses

(Credit may be obtained for only one course from each of the pairs listed in this table.)

Present Course	Former Course	Present Course	Former Course
6323	6030	6212	6080
6321	6032	6310	6130
6322	6035	6330	6200
6340	6040	6331	6210
6341	6041	6332	6350
6342	6042	6312	6500

23.19.3 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow:

Mathematics

6100 Dynamical Systems
 6101 Modern Perturbation Theory
 6102 Mathematical Biology
 6104 Infinite Dimensional Dynamical Systems
 6110-6119 Special Topics in Applied Mathematics
 6120 Theoretical Fluid Dynamics
 6121 Functional Differential Equations
 6130 Introduction to General Relativity
 6160 Partial Differential Equations
 6201 Numerical Methods for Partial Differential Equations
 6202-6209 Special Topics in Numerical Analysis
 6210 Numerical Solution of Differential Equations
 6212 Numerical Methods for Initial Value Problems
 6299 Master's Project
 6300 Algebraic Topology I (Homology Theory)
 6301 Algebraic Topology II (Homotopy Theory)
 6302 Algebraic Topology III (Theory of Fibre Bundles)
 6304-6309 Special Topics in Topology
 6310 Functional Analysis
 6311 Complex Analysis
 6312 Measure Theory
 6313 Functional Analysis II
 6315-6319 Special Topics in Analysis
 6320 Group Theory
 6321 Ring Theory
 6322 Nonassociative Algebra
 6323 Homological Algebra
 6324-6329 Special Topics in Algebra

6330 Analytic Number Theory
 6331 Algebraic Number Theory
 6332 Point Set Topology
 6340 Graph Theory
 6341 Combinatorial Design Theory
 6342 Advanced Enumeration
 6343-6349 Special Topics in Combinatorics
 6351 Advanced Linear Algebra
 6910 Topology Seminar
 6940 Analysis Seminar
 6950 Algebra Seminar
 696A/B Graduate Seminar (2 credit hours)

Statistics

6500 Probability (*credit restricted with former 6586*)
 6503 Stochastic Processes
 6505 Survival Analysis
 6510 Mathematical Statistics
 6520 Linear Models
 6530 Generalized Linear Longitudinal Mixed Models
 6540 Time Series Analysis
 6545 Statistical Computing
 6550 Nonparametric Statistics
 6560 Continuous Multivariate Analysis
 6561 Categorical Data Analysis
 6563 Sampling Theory
 6570-6589 Selected Topics in Statistics and Probability (excluding 6586)
 6930 Statistics Seminar

23.20 Physics and Physical Oceanography

Professor and Head of the Department

J. Whitehead

Programs leading to the Degree of Master of Science in Physics and in Physical Oceanography are offered to both full and part-time students. Because Oceanography is multidisciplinary in nature, undergraduate students who plan to undertake Physical Oceanography studies are urged to consult the faculty member in charge of Physical Oceanography programs at their earliest opportunity, in order to ensure the appropriateness of their undergraduate course selections. The Degree of Doctor of Philosophy in Physics is offered through both full-time and part-time study in Atomic and Molecular Physics, Condensed Matter Physics, and Physical Oceanography. The following Departmental Regulations are supplementary to the General Regulations governing the M.Sc. and Ph.D. degrees. A thorough familiarity with the latter Regulations should be regarded as the prerequisite to further reading in this section.

The Department of Physics and Physical Oceanography compiles, and regularly reviews, a brochure which contains reasonably detailed descriptions of currently active research projects, as well as a comprehensive listing of recent research publications, and other material which may be of interest to prospective graduate students.

23.20.1 Program of Study

1. Admission to a M.Sc. program in the Department of Physics and Physical Oceanography is normally restricted to candidates holding an Honours B.Sc. Degree in Physics. However, depending on background and area of specialization and with particular reference to Physical Oceanography, other Baccalaureate degrees in science, applied science or mathematics, may be accepted.
2. A program of study for the M.Sc. Degree in Physics or Physical Oceanography shall normally include a minimum of 12 graduate credit hours. However, depending on the student's background and area of specialization, more or fewer graduate and/or undergraduate courses may be required.
3. Except with the special permission of the Department and the approval of the Dean of Graduate Studies, a candidate may not take any courses in addition to those approved for his/her M.Sc. program.
4. Before submission of the thesis to the School of Graduate Studies for examination, the student must present a seminar on the topic of his/her thesis research.

23.20.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow:

6000 Condensed Matter Physics I
 6001 Condensed Matter Physics II
 6002 Superconductivity
 6003 Path Integral Techniques in Condensed Matter Physics
 6010-19 Special Topics in Condensed Matter Physics
 6040 Biophysics
 6060-69 Special Topics in Interdisciplinary Areas
 6200 Nonlinear Dynamics
 6308 Ocean Dynamics I
 6309 Ocean Dynamics II
 6310 Physical Oceanography
 6313 Physical Fluid Dynamics
 6314 Field Oceanography
 6315 Polar Oceanography
 6316 Ocean Measurements and Data Analysis
 6317 Ocean Acoustics
 6318 Numerical Modelling
 6319 Climate Dynamics
 6320 Turbulence

6321 Coastal Oceanography
 6322 Stratified Fluids
 6323 Stability Theory
 6324 Models in Ocean Ecology
 6360-69 (excluding 6363) Special Topics in Physical Oceanography
 6363 Laboratory Experiments in Geophysical Fluid Dynamics
 6400 Statistical Mechanics
 6402 Theory of Phase Transitions
 6403 Stochastic Processes, Time-Dependent and Non-equilibrium Statistical Mechanics
 6502 Electrodynamics
 6720 Theory of Molecules
 6721 Molecular Spectroscopy
 6722 Light Scattering Spectroscopy
 6730 Molecular Theory of Liquids and Compressed Gases
 6740 Physics of Atomic Collisions
 6760-69 Special Topics in Atomic and Molecular Physics
 6800 Group Theory
 6810-19 Special Topics in Theoretical and Mathematical Physics
 6850 Quantum Mechanics I
 6851 Quantum Mechanics II
 6900 Techniques in Experimental Condensed Matter Physics
 6910-19 Special Topics in Experimental and Applied Physics

Table of Credit Restrictions - Physics and Physical Oceanography

(Credit may be obtained for only one course from each of the pairs of courses listed in this table.)

Present Course	Former Course	Present Course	Former Course
6001	6051	6321	6303
6002	6822	6321	6304
6003	6820	6323	6303
6200	6821	6402	6401
6308	6312	6403	6401
6309	6311	6403	6824
6313	6301	6502	6500
6316	6302	6502	6501
6317	6823	6722	6790

Members of the Department carry out research in several areas of experimental and theoretical physics, including atomic and molecular physics, condensed matter physics, physical oceanography, theoretical geophysics and applied nuclear physics. In atomic and molecular physics, there are experimental programs in collision-induced infrared absorption spectroscopy, electron emission spectroscopy of simple molecules, molecular ions and free radicals, laser-induced fluorescence spectroscopy, and Raman spectroscopy, and theoretical work on atomic and molecular collisions. The work in condensed matter physics includes experimental programs in solid state nuclear magnetic resonance on systems of biophysical interest, Raman spectroscopy of lipid bilayers and membranes, studies of phase transitions using Brillouin and Raman spectroscopy, studies of instabilities and pattern formation in simple fluid dynamical systems, and spectroscopic studies of molecular crystals. Theoretical condensed matter physics research involves studies of magnetism, superconductivity, and the statistical mechanics of polymers and lipid bilayers. The physical oceanography group carries out field and laboratory research on several projects which take advantage of Newfoundland's unique oceanographic environment, using acoustic and other remote sensing techniques. These include studies of circulation on the Newfoundland and Labrador shelves, Labrador current dynamics, fjord dynamics, submarine canyons and sediment transport dynamics in the nearshore zone and on the shelf. Theoretical oceanographic studies involve the modelling of ocean circulation, gravity wave phenomena and other aspects of ocean dynamics. Research in theoretical geophysics is concentrated on whole-Earth dynamics, with special emphasis on the physics of the liquid core (the Earth's "third ocean") as inferred from its wave spectrum and the associated momentum transfer to the deformable solid parts of the Earth. In nuclear physics, research is done on the atmospheric concentrations of radioactive elements and on dosimetry for medical applications.

Note: For Geophysics, see **Earth Sciences**

23.21 Psychology

Professor and Head of the Department

I. Neath

The Degree of Master of Science is offered in Experimental Psychology. The Degree of Doctor of Philosophy is offered in Experimental Psychology. Interested students may wish to consult the sections in the Calendar describing the **Master of Applied Social Psychology (Cooperative)** and the Master of Science and Doctor of Philosophy in Cognitive and Behavioural Ecology programs.

Applications

All applicants are required to submit results from the General section of the Graduate Record Examinations.

At least one letter of reference should come from someone who is familiar with the applicant's research capability.

23.21.1 Program of Study

A candidate may be accepted into a program leading to the M.Sc. in Experimental Psychology.

Experimental Psychology

1. The areas of specialization offered are: Animal Behaviour (see **Cognitive and Behavioural Ecology Program**), Behavioural Neuroscience and Clinical, Cognitive, Developmental and Social Psychology.

- Candidates shall normally complete 15 credit hours, including: Advanced Statistics in Psychology (6000), Research Design (6001), Core Graduate Seminar in Psychology (699A/B), and 6 credit hours related to their area of specialization. Candidates will also register for the Colloquium Series in Psychology (6010) each Fall and Winter semester of their program for a maximum of four registrations.
- Every candidate shall submit an original thesis based upon an approved experimental research topic.

23.21.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow:

6000 Advanced Statistics in Psychology
 6001 Research Design
 6010 Colloquium Series in Psychology (repeatable, non-credit)
 6100-6130 Special Topics in Experimental Psychology
 6200 Learning I
 6201 Learning II
 6203 Behavioural Pharmacology
 6210 Behavioural Analysis of Toxins
 6351 Behavioural Ecology and Sociobiology (*Cross-listed as CABA 6351*)
 6400 Theory and Methods in Social Psychology
 6401 Social Cognition
 6402 Group Processes
 6403 Program Evaluation and Applied Research
 6404 Project in Applied Social Psychology (*Note: This course is open only to students in the Master of Applied Social Psychology*)
 6500 Developmental Psychology I
 6501 Developmental Psychology II
 6502 Developmental Changes During Old Age
 6700 Perception
 6710 Human Information Processing
 6720 Human Memory
 6800 Behavioural Neuroscience I
 6801 Behavioural Neuroscience II
 6810 Psychometrics
 6910 Personality
 699A/B Core Graduate Seminar in Psychology (3 credit hours).

24 Regulations Governing the Degree of Master of Science in Kinesiology

Associate Professor and Dean

A. Card

Professor and Associate Dean

D. Behm

The Degree of Master of Science in Kinesiology (M.Sc. (Kinesiology)) is offered to qualified full-time and part-time students by the School of Human Kinetics and Recreation. The **General Regulations** of the School of Graduate Studies of Memorial University of Newfoundland outlined in the current Calendar, and the Degree Regulations of the School of Human Kinetics and Recreation outlined below will apply to the Master of Science in Kinesiology program.

24.1 Qualifications for Admission

- The admission requirements for the Master of Science in Kinesiology are as given under the **General Regulations** of the School of Graduate Studies. Admission is limited and competitive. Preference for admission may be given to students with undergraduate degrees in relevant disciplines, with a minimum overall B average. Applications submitted through the School of Graduate Studies will be evaluated by the Graduate Studies Committee of the School of Human Kinetics and Recreation. Admission of a candidate to the program shall be made by the Dean of Graduate Studies.
- Only in exceptional circumstances, and only on the recommendation of the Dean of the School of Human Kinetics and Recreation, shall the Dean of Graduate Studies consider applicants who do not meet the requirements above.

24.2 Program and Degree Requirements

- The Degree of Master of Science in Kinesiology is offered in the areas of Exercise and Work Physiology, Biomechanics/Ergonomics, Sport Psychology, and Socio-cultural Studies of Physical Activity and Health.
- The program of a candidate for the Master of Science in Kinesiology shall be the responsibility of the Supervisory Committee, composed of the Supervisor and at least one other faculty member recommended with the concurrence of the Supervisor by the Dean of the School, or delegate.
- Candidates for the Master of Science in Kinesiology shall be required to complete a minimum of 15 credit hours plus a thesis. Either HKR 6000 or HKR 6001 is normally required for all candidates. In addition, all on-campus candidates shall be required to complete four semester-length seminar courses (HKR 6510-6513). Off-campus or part-time candidates who cannot attend the on campus seminar series can substitute 24 hours of participation in (over their two year tenure) and one presentation at national, provincial or regional conferences, workshops, professional development seminars or equivalent activities. The remaining course requirements will be selected, in agreement with the Supervisory Committee, to reflect the kinesiology areas of specializations offered with the School.
- It is the responsibility of the student to arrange regular meetings with their supervisory committee. An annual report, prepared by the Supervisor and signed by all members of the Supervisory Committee and the student, is submitted to the Dean of the School of Human Kinetics and Recreation (or delegate) as required by the School of Graduate Studies.
- Depending on the background of the candidate or his/her area of intended specialization, a candidate's program may be modified. Such modifications may include a reduction in course requirements where a student demonstrates that he or she brings graduate

level competency to their program in specific areas, or may include additional graduate or undergraduate courses, as specified by the student's Supervisory Committee. A minimum of three courses or 9 credit hours completed in the School of Human Kinetics and Recreation is mandatory.

6. A student completing a Master of Science in Kinesiology will be required to present a thesis proposal for his or her proposed thesis normally by the end of the third semester of study. The thesis proposal shall normally consist of a full written proposal (including literature review) submitted to the Supervisory Committee, a summary to be distributed to graduate students and faculty one week prior to the presentation and a formal presentation normally at the seminar series. The candidate may be questioned on his/her proposal by the Supervisory Committee and seminar audience. Any deficiencies noted during the presentation should be carefully considered by the student and the Supervisory Committee prior to proceeding with the thesis.
7. All graduate students are expected to attend and participate in the School of Human Kinetics and Recreation seminars and thesis proposal presentations.
8. In conjunction and collaboration with other Faculties and Schools of Memorial University of Newfoundland, students may pursue their special interests through electives from departments/schools outside the School of Human Kinetics and Recreation. These courses must be approved by the Graduate Studies Committee and the Dean of Graduate Studies in the preceding semester.
9. Candidates may apply for transfer course credits. All course transfers require the approval of the Dean of Graduate Studies, on the recommendation of the Dean of the School of Human Kinetics and Recreation, and are subject to General Regulation **Program Requirements, Transfer of Course Credits** of the School of Graduate Studies.

24.3 Evaluation

1. In order to continue as a candidate for a Master of Science in Kinesiology Degree, a candidate who receives a final grade of 'C' or less in a program course must repeat that course and obtain a minimum grade of 'B'. In the case of an elective course a suitable replacement course, acceptable to the Graduate Studies Committee of the School of Human Kinetics and Recreation, may be substituted for the failed course. Only one such repetition/replacement shall be permitted in the candidate's graduate program. Should a grade of lower than 'B' be obtained in the repeated course/replacement course, or any other program course, the candidate shall be required to withdraw from the program.
2. When the Graduate Studies Committee of the School of Human Kinetics and Recreation has determined, through consultation with the candidate, the instructors of graduate courses and the program advisor or thesis Supervisor that the candidate's work has fallen below satisfactory level, it may request that the Dean of the School of Human Kinetics and Recreation recommend to the Dean of Graduate Studies that the candidate's program be terminated.

24.4 Period of Study

The period of study for a graduate program shall not normally exceed seven years beyond first registration.

1. A candidate in full-time attendance may register for a maximum of 12 credit hours in any regular semester and a maximum of 6 credit hours in intersession or summer session.
2. A candidate in part-time attendance may register for a maximum of 3 credit hours in any semester, including intersession or summer session.

24.5 Thesis

The School of Graduate Studies General Regulation describes the requirements in **Theses and Reports**.

24.6 Courses

HKR 6000 Quantitative Methods in Physical Education
 HKR 6001 Qualitative Research Methods in Physical Education
 HKR 6003 Physical Education, Culture and Society
 HKR 6111 Canadian Delivery Systems in Physical Education, Recreation and Sport
 HKR 6120 Curriculum Development in Physical Education
 HKR 6121 Physical Education Leadership
 HKR 6122 Comprehensive School Health
 HKR 6123 Coaching and Long-term Athlete Development
 HKR 6124 Adapted Physical Activity for Persons with Physical and Intellectual Disabilities
 HKR 6130 Computer Applications in Physical Education
 HKR 6201 Foundations of Sport Psychology and Mental Training Techniques
 HKR 6202 Intervention and Enhancement Techniques in Mental Training Consultation
 HKR 6203 Sport Psychology Consulting
 HKR 6310 Exercise Physiology I
 HKR 6320 Exercise Physiology II
 HKR 6330 The Application and Implementation of Kinesiology Technologies
 HKR 6340 Occupational Biomechanics
 HKR 6410 Sport and Society
 HKR 6500 Introduction to Research in Physical Education
 HKR 6510-6513 Graduate Seminar Series (non-credit)
 HKR 6610-15 Individual Reading and Research in Special Areas

25 Regulations Governing the Degree of Master of Science in Medicine

Professor and Dean

J. Rourke

Professor and Interim Associate Dean

D. McKay

Associate Professor and Acting Assistant Dean

D. Gustafson

The Faculty of Medicine offers the degree of Master of Science in Medicine in eight program areas: Applied Health Services Research, Cancer and Development, Cardiovascular and Renal Sciences, Clinical Epidemiology, Community Health, Human Genetics,

Immunology and Infectious Diseases, and Neurosciences. Each program area has a Co-ordinator who is responsible for communicating the interests of the programs to the Faculty of Medicine Graduate Studies Committee and participates in the admission of graduate students into the program in Medicine. The Faculty of Medicine also offers the degree of Master of Public Health.

The Degree of Master of Science in Medicine (in all of the programs excluding the Applied Health Services Research Program) is offered in the Faculty of Medicine to full-time and part-time students. The Applied Health Services Research program is offered by full-time study only. The graduate diploma programs in Community Health and Clinical Epidemiology are offered by part-time study only.

The following regulations will apply in conjunction with the **General Regulations** of the School of Graduate Studies.

25.1 Master of Science in Medicine

25.1.1 Qualification for Admission

The admission requirements for each of the M.Sc. Program areas in Medicine are described under Programs of Study.

25.1.2 General Program Requirements

1. The program of study for the M.Sc. in Medicine Degree is the responsibility of the Supervisory Committee composed of a Supervisor and at least two other faculty members.
2. It is the responsibility of the supervisory committee to meet regularly (at least annually) with the student and to provide guidance at all stages of the candidate's program. An annual report prepared by the Supervisor and signed by the student and all members of the committee is required to be submitted to the Assistant Dean of Research and Graduate Studies (Medicine).
3. Course requirements are set by each of the program areas and are described under **Programs of Study**. In addition, all students will be required to complete GRAD 9991 (Graduate Research Integrity Program).
4. In addition to courses and research, graduate students are expected to participate in Faculty of Medicine seminars and journal clubs.
5. The M.Sc. in Medicine requires the successful completion of a research project and a written thesis.

25.1.3 Program Areas

25.1.3.1 Applied Health Services Research

The Applied Health Services Research program is jointly offered by the University of New Brunswick (UNB), Memorial University of Newfoundland (MUN), Dalhousie University (Dal), and the University of Prince Edward Island (UPEI). Students will be educated in an interdisciplinary environment and will develop a substantive understanding of: the Canadian health system, the conduct of ethical research, critical appraisal, appropriateness of research design for particular policy questions and determinants of health models. They will also gain first-hand exposure in a decision-making/policy environment and learn how to conduct research through completion of a thesis. Access to specific computer software and the Internet is required and will be the responsibility of each student.

1. Administration
 - a. An Advisory Board, consisting of the Deans of Graduate Studies, the Principals from each site, plus student representation as well as health care decision makers and stakeholders from the Atlantic Region will oversee the academic program across the Universities and ensure program integrity.
 - b. A Program Management Committee, consisting of the Principals and Site Co-ordinators from UNB, Memorial University of Newfoundland, Dal and UPEI will oversee the operation of the program.
 - c. At Memorial University of Newfoundland, the program shall be administered through the Office of Research and Graduate Studies (Faculty of Medicine) by a Principal who shall be appointed by the Dean of Graduate Studies on the recommendation of the Dean, Faculty of Medicine.
2. Qualifications for Admission
 - a. Admission is limited and competitive. To be considered for admission to the program, an applicant shall normally have a bachelor's degree with a minimum 75% average (or equivalent) from an institution recognized by the Senate. Normally, students should have completed an undergraduate course in statistics.
 - b. Students are normally admitted to the Fall semester (September). The deadline for receipt of applications is March 1. Late applications will only be considered if admissions decisions have not yet been made.
3. Program Requirements
 - a. All students will be required to successfully complete eight core courses, the Graduate Research Integrity Program, a four-month residency placement and a thesis. In addition, candidates must participate in five conference workshops each of one week duration.
 - b. Prior to submission of the thesis to the School of Graduate Studies for examination (see **General Regulation Thesis and Reports**), candidates shall present an open seminar.
 - c. Outline of program of study:

Term	Required Courses
Semester 1 Fall	Workshop 1 Theme: Orientation to first year MED 6282 MED 6284 MED 6286 Workshop 2 Theme: Research Issues and Critical Appraisal
Semester 2 Winter	MED 6288 MED 6290 MED 6292 Workshop 3 Theme: Policy and Decision Making
Semester 3 Spring	Residency Placement: All candidates are required to complete a 16-week residency placement. The residency placement is negotiated by the Principal in consultation with the student and governed by the agreements outlined in the Atlantic Regional Training Centre residency manual. Workshop 4 Theme: Orientation to second year
Semester 4 Fall	MED 6293 MED 6294 or MED 6295 Workshop 5 Theme: Communication and Dissemination
Semester 5 & 6 Winter & Spring	Thesis, including public presentation

25.1.3.2 Cancer and Development

The graduate program in Cancer and Development offers study in fundamental cell and molecular biological areas including viral oncogenesis, growth factors and oncogenes in developmental models, programmed cell death and drug resistance.

1. Qualifications for Admission

The admission requirements are as given under the **General Regulations** governing Master's degrees. All courses in the program have as a prerequisite, successful completion of an advanced, upper-level biochemistry, biology or medical course, with an emphasis on molecular biology or medicine.

2. Program Requirements

All students are required to attend, for credit, and participate in the Cancer and Development Journal Club (Cancer, Seminars, MED 6400-6403). One other graduate course (chosen from MED 6580, 6590, 6591, 6340, 6341 or 6342) is required for M.Sc. Medicine students although other courses may be required in individual cases.

25.1.3.3 Cardiovascular and Renal Science

The graduate program in Cardiovascular and Renal Sciences enables students to pursue research and academic studies in selected topics including hypertension and stroke, neural and endothelial control of vasculature and blood pressure as well as physiological mechanisms promoting heart failure. The faculty participating in the program consists of basic cardiovascular scientists and renal clinicians. Teaching within the program is integrated with the M.D. program.

1. Qualifications for Admission

The admission requirements are as given under the **General Regulations** governing Master's degrees.

2. Program Requirements

Students will be required to take a minimum of two graduate courses. Basic Cardiovascular and Renal Physiology (MED 6140) is required and must be taken within 1.5 years after entry into the program. Students will choose a second course from MED 6141, 6142, 6143, 6144 or 6194 or any other graduate course approved by the student's supervisory committee.

25.1.3.4 Clinical Epidemiology

The program in Clinical Epidemiology is aimed at university graduates intending a career in health services, faculty members seeking advanced training in clinical epidemiology, medical doctors and health care professionals interested in health care delivery research.

1. Qualifications for Admission

The admission requirements are as given under the **General Regulations** governing Master's degrees. In exceptional circumstances, a professional equivalent qualification will be considered for admission.

2. Program Requirements

- Students are required to take: MED 6262 or MED 6200, MED 6250, MED 6255 and MED 6260, plus one or more additional course(s) as recommended by the supervisory committee. In addition students are required to take the Seminar Series (MED 6400-6403).
- Students are expected to give an oral presentation of their thesis research.

25.1.3.5 Community Health

The graduate program in Community Health enables students to pursue research and academic studies in selected topics including community health, epidemiology, socio-behavioural health, biostatistics, health services utilization, health policy and health promotion.

1. Qualifications for Admission

The admission requirements are as given under the **General Regulations** governing Master's degrees. In exceptional

circumstances, a professional equivalent qualification will be considered. Students are expected to have successfully completed at least one basic university-level statistics course.

2. Program Requirements

Students are required to take three core courses: MED 6220, MED 6270 and MED 6280; 2 core stream courses: either the quantitative stream, consisting of MED 6200 and MED 6275 or the qualitative stream, consisting of MED 6294 and MED 6102; and 1 elective; and to attend, for credit, and participate in four semester-length seminar courses (MED 6400-6403).

25.1.3.6 Human Genetics

The graduate program in human genetics will enable students to pursue academic studies and research in a number of areas of genetics including cancer genetics, genetic epidemiology, gene mapping, medical genetics, birth defects and population genetics. Faculty members from all three divisions of the Faculty of Medicine (Basic Sciences, Community Health and Clinical Sciences) participate in the program.

1. Qualifications for Admission

The admission requirements are as given under the General Regulations governing Master's degrees. Applicants with backgrounds in the fields of genetics, biochemistry and biology are preferred.

2. Program Requirements

- Students will be required to complete a minimum of two graduate courses. Within the Human Genetics program the following courses are offered: Human Molecular Genetics (MED 6393), Human Population Genetics (MED 6390), Applied Human Genetics (MED 6392) and Selected Topics in Human Genetics (MED 6391). In addition, there are a number of courses in other graduate programs which could be suitable for some students in this program, including Epidemiology I (MED 6270), Molecular Biology of Cancer (MED 6580), Molecular Biology I (MED 6590) and Molecular Biology II (MED 6591). Course selection for each student is determined by the supervisory committee in consultation with the student and is based on the area of study and past course credits.
- Students are expected to participate in the activities of the genetics group. These include the weekly Journal Club/Research Discussion Group and the Genetics Seminar Series (MED 6400-6403).

25.1.3.7 Immunology and Infectious Diseases

The Immunology and Infectious Diseases group has an interdisciplinary character and consists of faculty from biomedical science oncology research. The graduate programs are designed to provide individualized training oriented towards basic research and a solid and scientific background in the discipline of immunology and infectious diseases.

1. Qualifications for Admission

The admission requirements are as given under the General Regulations governing Master's degrees. A Bachelor of Science Degree or equivalent is required.

2. Program Requirements

Students in the program are required to take three core courses: Immunology I (MED 6127), Immunology II (MED 6128), and Advanced Immunological Methods (MED 613A/B). Some students may be required to take additional courses depending upon their thesis topic. All students are required to attend, for credit, and participate in the Immunology and Infectious Diseases Seminar Series (MED 6400-6403) for a minimum of three semesters.

25.1.3.8 Neurosciences

The Neuroscience Program offers graduate studies in an interdisciplinary setting including faculty from biomedical science within the Faculty of Medicine and Department of Psychology in the Faculty of Science. Graduate students may pursue research in a number of specialty areas including the physiological basis of learning and memory, stroke and neuroplasticity, neuroregeneration, signal transduction mechanisms, neuronal circuitry and membrane physiology. The Neuroscience Program is a Chapter of the Society for Neuroscience.

1. Qualifications for Admission

The admission requirements are as given under the General Regulations governing Master's degrees. It is expected that the students will have had courses in biochemistry, biology and/or psychology with some exposure to basic university-level statistics.

2. Program Requirements

- Students in the program are required to take Systems Neuroscience (MED 6196) and one other graduate level course. Additional courses may be required based on the recommendation of the supervisory committee.
- Students are expected to attend and participate in the activities of the neuroscience group including the weekly seminar and journal club.

25.2 Graduate Diploma

The Faculty of Medicine offers a Graduate Diploma providing an opportunity for professionals and individuals within the health sector to obtain or upgrade their training in Community Health and Humanities or Clinical Epidemiology.

25.2.1 Qualifications for Admission

To be admitted to the graduate diploma program a student must be eligible to register as a graduate student, as given under the **General Regulations governing M.Sc. degrees**. In special circumstances, and upon the recommendation of the Community Health and Humanities, or Clinical Epidemiology Co-ordinator, a suitable combination of training and professional experience relevant to the program may be acceptable for admission.

25.2.2 Program Requirements

A graduate diploma in Community Health requires successful completion of MED 6220, MED 6270, 3 electives, and 2 semester-length seminar courses (MED 6400-6401).

A graduate diploma in Clinical Epidemiology requires successful completion of MED 6262 or MED 6200, 6250 and 6255 and the completion of a minimum of two of the Clinical Epidemiology seminar courses: Medicine 6400-6403 Research Seminars for M.Sc. Student I-IV.

25.2.3 Graduate Courses

6070 Seminars in Physiological Instrumentation
 6075 Human Physiology, Performance and Safety in Extreme Environments (HSPE)
 6090-6101 Special Topics
 6102 Critical Theory in Health and Society
 6103-6119 Special Topics
 6127 Immunology I
 6128 Immunology II (Prerequisite Medicine 6127)
 613A/B Advanced Immunological Methods (*same as the former 6130*)
 6131-6139 Special Topics
 6140 Basic Cardiovascular and Renal Physiology
 6141 Cardiovascular/Renal Techniques
 6142 Selected Topics in Cardiovascular and Renal Physiology
 6143 Cardiovascular Anatomy
 6144 Current Concepts in Cardiovascular and Renal Pathophysiology
 6180 Structure, Function and Pharmacology of Muscle
 6190 General Pharmacology
 6192 Pharmacology of Receptors and Receptor Effector Coupling Processes
 6193 Advanced Topics in Neuroscience
 6194 Advanced Topics in Physiology
 6195 Neurobiology of Nervous System Diseases
 6196 Systems Neuroscience
 6197 Cellular Neuroscience
 6198 Neuroanatomy for Graduate Students (accelerated format)
 6199 Health Sciences: Writing and Grantsmanship
 6200 Biostatistics I (*credit may be obtained for only one of MED 6200 or MED 6262*)
 6220 Introduction to Community Health
 6250 Basic Clinical Epidemiology
 6255 Clinical Research Design
 6260 Applied Data Analysis for Clinical Epidemiology
 6262 Biostatistics in Clinical Medicine (*credit may be obtained for only one of MED 6200 or MED 6262*)
 6265 Genetics and Clinical Epidemiology
 6270 Epidemiology I
 6274 Chronic Disease Epidemiology
 6275 Epidemiology II
 6276 Current Topics in Canada's Health Care System
 6277 Issues in Northern, Rural and Remote Health in Canada
 6278 Advanced Biostatistics for Health Research
 6279 Quantitative Methods for Applied Health Research
 6280 Community Health Research Methods
 6281 Theory and Approaches to Medical Publication
 6282 Canadian Health Care System
 6284 Research and Evaluation Design and Methods
 6286 Ethical Foundations of Applied Health Research
 6288 Policy and Decision Making
 6290 Determinants of Health: Healthy Public Policy
 6292 Qualitative and Quantitative Methods for Health Services Research
 6293 Knowledge Transfer and Research Uptake
 6294 Advanced Qualitative Methods
 6295 Advanced Quantitative Methods
 6296 Residency
 6340 Research Topics in Cancer I
 6341 Research Topics in Cancer II
 6342 Basic Principles of the Pathology of Cancer
 6390 Human Population Genetics
 6391 Selected Topics in Human Genetics
 6392 Applied Human Genetics
 6393 Human Molecular Genetics
 6394 Cancer Genetics
 6400 Research Seminars for M.Sc. Students I (one-credit hour)
 6401 Research Seminars for M.Sc. Students II (one-credit hour)
 6402 Research Seminars for M.Sc. Students III (one-credit hour)
 6403 Research Seminars for M.Sc. Students IV (one-credit hour)
 6410 Research Seminars for Ph.D. Students I (one-credit hour)
 6411 Research Seminars for Ph.D. Students II (one-credit hour)
 6412 Research Seminars for Ph.D. Students III (one-credit hour)
 6413 Research Seminars for Ph.D. Students IV (one-credit hour)
 6420 Medical Science/Social Responsibility in Health Care: Aspects of Medical History (Same as History 6125)
 6580 Molecular Biology of Cancer (Prerequisites: Biology 4241, Biochemistry 4100 [or equivalent])
 6590 Molecular Biology I - *cross-listed as Biology 6590 and Biochemistry 6590* (Prerequisites: Biology 4241, Biochemistry 4100 [or equivalent])
 6591 Molecular Biology II - *cross-listed as Biology 6591 and Biochemistry 6591* (Prerequisites: Biology 4241, Biochemistry 4100 [or equivalent])
 6900 Medical Geography I - Introduction to Geographic Information Science and Spatial Analysis in Health
 6901 Medical Geography II - Geospatial Analysis and Modelling in Health (Prerequisite: 6900)

26 Regulations Governing the Degree of Master of Science in Pharmacy

Associate Professor and Dean

L.R. Hensman

The Degree of Master of Science in Pharmacy (M.Sc. (Pharm.)) is offered to qualified full-time and part-time students by the School of Pharmacy. The **General Regulations** of the School of Graduate Studies of Memorial University of Newfoundland outlined in the current Calendar, and the Degree Regulations of the School of Pharmacy outlined below will apply to the M.Sc. (Pharm.) program. Every candidate in graduate studies shall comply with the **General Regulations**, the Degree Regulations and all additional requirements of the School of Pharmacy.

26.1 Qualifications for Admission

Admission to the M.Sc. (Pharm.) program will be offered on the basis of academic excellence. The basic requirements for admission are those established by the School of Graduate Studies of Memorial University of Newfoundland. The minimum qualification for admission is a recognized four-year undergraduate degree in Pharmacy, or a recognized four-year undergraduate degree in physical, chemical or biological science, or equivalent, with an overall B average.

Applications submitted through the School of Graduate Studies will be evaluated by the Graduate Studies Committee of the School of Pharmacy. No candidate will be admitted to the program without a recommendation of acceptance by the Graduate Studies Committee. Admission of a candidate to the M.Sc. (Pharm.) program shall be made by the Dean of Graduate Studies.

26.2 Formulation of Program of Study

Upon acceptance to the program, the Supervisor will assess the student's research interests, background, strengths and weaknesses. The Supervisor will formulate a program of study (see below) and select a supervisory committee for the student. The program of study will be selected on the basis of the thesis research, the background of the student, and the perceived need for specific graduate courses that will complement the student's working knowledge in his/her area of research. The supervisory committee will include the Supervisor, one other academic staff person from the School of Pharmacy, and one external academic staff person from Memorial University of Newfoundland. This committee will advise the student about his/her thesis research. Accordingly, they will meet with the student within two months of his/her initial registration, at the end of the second semester (8th month of study), at the end of the fourth semester (16th month), and immediately before the student begins to write the thesis. Both the program of study and the supervisory committee must be approved by the Graduate Studies Committee.

26.3 Program of Study

1. Minimum requirements for the M.Sc. (Pharm.) Degree will be the successful completion of:
 - a. Six credit hours in program graduate courses chosen from those available in Pharmacy, Medicine or Biochemistry.
 - b. Pharmacy Seminar
 - c. A thesis embodying original research
2. Graduate courses will be chosen based on the academic background of the student and the area of his/her thesis research.

Note: Qualified students accepted into the program who are considered to have an insufficient background for their thesis research may be required to successfully complete additional courses as selected by their Supervisor.
3. Pharmacy Seminar: All candidates for the Degree of M.Sc. (Pharm.) will be required to participate in the Pharmacy Seminar during the first two years of their program. Selected topics in pharmaceutical sciences will be presented and discussed by faculty, students and visiting speakers. Graduate students will be required to present one seminar each year. In the second year of study, the graduate student will present a progress report of his/her research in the seminar. Upon successful completion of the seminar the Chair of the Graduate Studies Committee will so notify the Dean of Graduate Studies.

26.4 M.Sc. (Pharm.) Thesis

Every candidate shall submit a thesis to the School of Graduate Studies. The thesis shall contain original research conducted by the candidate and approved by the supervisory committee.

In preparation for the thesis examination, the candidate will provide a copy of the thesis to each member of the supervisory committee. Each member of this committee will submit a written report to the Chairman of the Graduate Studies Committee.

Before the thesis is submitted, the student shall present an open seminar on the topic of investigation to the School of Pharmacy. Any serious deficiencies noticed at this stage should be carefully considered, in consultation with the supervisory committee, for revision.

Three copies of the thesis shall be submitted to the School of Graduate Studies through the School of Pharmacy, in a form and format as specified by the School of Graduate Studies.

As specified in General Regulation **Theses and Reports** of the School of Graduate Studies, the written thesis will be reviewed by examiners appointed by the Dean of Graduate Studies on the recommendation of the Dean of the School of Pharmacy or the Chairman of the Graduate Studies Committee.

26.5 Courses

Permission of the instructor and the Graduate Studies Committee of the School of Pharmacy is required for admission to any of the graduate Pharmacy courses.

- 6000 Medicinal Chemistry
- 6001 Advanced Physical Pharmacy
- 6002 Dosage Form Design and Novel Drug Delivery Systems
- 6003 Pharmacokinetic Modelling
- 6004 Principles of General Pharmacology
- 6005 Toxicology of Therapeutic Agents and Chemicals
- 6100-6104 Special Topics in Pharmacy

27 Regulations Governing the Degree of Master of Social Work

Professor and Dean

A. Al-Krenawi

The degrees of Master of Social Work and Doctor of Philosophy are offered in social work.

The Master of Social Work (M.S.W.) may be completed by part-time or full-time study. All program components, with the exception of on-campus institutes, are offered by distance format and not in a regular classroom format.

The focus of the M.S.W. program is creative approaches to critical thinking for leadership in diverse social work practice. The program allows professionally qualified social workers holding the Degree of B.S.W. or an equivalent professional undergraduate degree in Social Work to undertake intensive advanced work in a specialized area of social work knowledge and practice.

The program is designed to be accessible to students in remote and rural areas, and assumes that: (1) students will have a computer and Internet access; and (2) can travel to St. John's for the institute portion of the three practice courses. Students will be expected to incur charges for Internet services, long distance telephone charges, and travel and accommodation expenses.

Entrance into all courses and the offering of any course in an academic year is by approval of the School, consistent with the student's program. Students are admitted only into a designated program of studies.

The School of Social Work may deliver special offerings of the M.S.W. and/or other programs of the School to identified groups of out-of-province students where numbers warrant. These offerings will be self supporting, and therefore subject to an additional one-time non-refundable tuition fee as approved by the Board of Regents and payable on first registration following formal admission to the program. Students will also pay appropriate tuition fees for each semester during their tenure in the program.

Admission to the special offerings of these programs will be competitive, using the same procedures and standards that are in place for students applying to the St. John's campus program(s).

Subject to approval by the Graduate Studies Committee of the School of Social Work, students admitted to an out-of-province program offering may apply to transfer to the equivalent program on the St. John's campus. In such instances, the fee structure under which the student was admitted will not change. Subject to approval by the Graduate Studies Committee of the School of Social Work, students admitted to a St. John's based program may apply to transfer to the equivalent out-of-province program. In these instances, students transferring from the St. John's based program offerings to an equivalent out-of-province offering will be required to pay a pro-rated one-time fee upon formal transfer to the special offering.

27.1 Qualifications for Admission

1. Admission to the M.S.W. program is limited, selective, and competitive. Meeting the minimum criteria for admission does not guarantee acceptance to the program.
2. To be considered for admission, an applicant shall hold a Bachelor of Social Work (B.S.W.) degree (or an equivalent professional undergraduate degree in social work approved by the Graduate Studies Committee of the School of Social Work for recommendation to the Dean) from an institution recognized by the Senate, with at least second class standing, and an average of at least 70% in the last 60 undergraduate credit hours.
3. In addition to the stated academic requirements, the applicant must have completed, subsequent to obtaining the B.S.W. degree, at least two years employment in professional social work practice or in a comparable human service discipline or activity. Extensive relevant experience prior to undergraduate degree work may be recognized in full or partial fulfillment of this requirement.
4. For ten percent of seats per year, priority is given to applicants of First Nations/Aboriginal ancestry who meet the minimum criteria for admission. When the number of eligible applicants wishing to be considered under this clause exceeds the number of seats available, priority will normally be given to bona fide residents of Newfoundland and Labrador (see **Qualifications for Admission**). Applicants wishing to be considered under this clause shall complete the Educational Equity section of the Supplementary Information form at the time of application.
5. For an additional ten percent of seats per year, priority is given to applicants from other equity groups, based on a person's sexual orientation, gender identity, race, ethnicity, disability and/or being disadvantaged by their economic position/background and who meet the minimum criteria for admission. When the number of eligible applicants wishing to be considered under this clause exceeds the number of seats available, priority will normally be given to bona fide residents of Newfoundland and Labrador (see **Qualifications for Admission**). Applicants wishing to be considered under this clause shall complete the Educational Equity section of the Supplementary Information form at the time of application.
6. Notwithstanding the above, and in keeping with the School's commitment to achieving equitable representation in the student body, the Graduate Studies Committee of the School of Social Work, at its discretion, may give preference to additional applicants of First Nations/Aboriginal ancestry and/or members of other equity groups who meet the minimum criteria for admission.
7. Notwithstanding the above, and in keeping with the University's special obligation to educate the citizens of Newfoundland and Labrador, when the number of eligible applicants exceeds the number of seats available, priority will normally be given to bona fide residents of Newfoundland and Labrador (see **Qualifications for Admission**).
8. Applicants will be deemed bona fide residents of Newfoundland and Labrador if at the time of application they are currently residing or have a permanent address in the province.

27.2 Procedure for Admission

1. Applicants must submit an application for admission with supporting documentation to the School of Graduate Studies, which approves recommendations for admission made by the Graduate Studies Committee of the School of Social Work. The supporting documentation will consist of: an official transcript of the applicant's previous academic record submitted directly from the institution(s) attended; a statement of previous professional employment; a list of any published or unpublished works, a declaration of program emphasis and educational objectives; and two letters of appraisal, to be submitted by two referees, one assessing the applicant's previous academic performance and one assessing the applicant's previous practice performance. Letters of appraisal are to be submitted directly to the School of Graduate Studies by the referees.

Note: Independent of admission to the program, agencies providing the mandatory field internship may have a range of additional requirements such as Criminal Record Check, Child Protection Records Check, or Health Check.

2. The deadline date for receipt of applications for admission in September of each year is January 15 of the same year. All application forms and supporting documentation for admission to the program must be submitted to the School of Graduate Studies on or before the deadline of January 15. Under special circumstances, late applications and admissions in other semesters may be considered.
3. The Graduate Studies Committee of the School of Social Work may require the applicant to appear for a personal interview with one or more faculty members.

4. A person who meets the basic admission requirements under **Qualifications for Admission**, may, space permitting, take SCWK 6012 without applying for and being admitted to the M.S.W. program. Persons wishing to take a course under this provision must contact the M.S.W. Student Services Coordinator at least two months prior to the semester in which the course is scheduled. If there are available seats in the course, the applicant will need to submit to the School of Social Work the appropriate form requesting permission to register in a graduate course with evidence of B.S.W. graduation, academic transcripts, and a brief professional resume, and apply or reapply for admission to Memorial University of Newfoundland as an undergraduate.
5. A person who has completed an M.S.W. degree is eligible to register in any M.S.W. course offering, space permitting.

27.3 Plan of Study

1. A student's plan of study will be developed cooperatively by the student and the M.S.W. Student Services Coordinator.
2. Specified supplementary studies may be required to ensure requisite knowledge pertinent to the requirements for the degree.
3. A student electing a thesis program shall be assigned a Supervisor by the Dean of the School in consultation with the student. It is recommended that a thesis Supervisor be assigned as early in the program as possible. The thesis supervisor, when assigned, shall normally assume the duties of faculty advisor and Pathway mentor.
4.
 - a. Students who choose the thesis route, must complete a thesis, and a minimum of 21 credit hours consisting of SCWK 6012 (or the former 6011), 6013, 6014, 6413, 6917, and at least two of SCWK 6313, 6314, and 6315. Course route students must complete a minimum of 27 credit hours consisting of SCWK 6012 (or the former 6011), 6013, 6014, 6313, 6314, 6315, 6413, 6417 and 6917. Students in either route may be required to take additional courses.
 - b. In addition to the above, students will be required to register for SCWK 6000 during each of the relevant semesters as prescribed below, in accordance with their plan of study. This course comprises the academic mentorship component of the revised program and is designed to provide students with the opportunity to integrate curriculum with their individual academic and practice interests throughout their time in the program. For course route students, SCWK 6000 serves as a foundation for SCWK 6417. For thesis route students, SCWK 6000 serves as a foundation for their thesis.
 - i. Full-time students will register for SCWK 6000 beginning in the Fall of their first year and in each subsequent semester in which they are actively completing course work in the M.S.W. program.
 - ii. Part-time students completing the program in 6 semesters will register for SCWK 6000 beginning in the Fall of their first year and in each subsequent semester in which they are actively completing course work in the M.S.W. program.
 - iii. Part-time students completing the program in 9 semesters will register for SCWK 6000 beginning in the Fall of their second year and in each subsequent semester in which they are actively completing course work in the M.S.W. program.
 - iv. By the end of the sixth week of the first semester in which students are registered in SCWK 6000, they are required to submit a paper to their mentor, which, once agreed upon, will serve as an individual learning contract. The paper will outline: particular areas of interest, research, or study concentration; proposed goals, objectives, outcomes, and time frame; proposed list of readings; plan of study demonstrating how work in the various courses might be integrated or connected to their area of interest; and expectations of the mentor.

Students are also required to submit a written progress report due the last day of classes of each semester, beginning with the first semester in which they are registered in SCWK 6000. Students are also required to submit a written final report summarizing their experiences and accomplishments as per the initial learning contract. This report is due the last day of classes of the final semester in which students are registered in 6000.
 - v. A grade of NC (No Grade Expected) will be awarded in all semesters of the course prior to the final Semester. The final grade in this non-credit course will be either Pas or Fal.

27.4 Field Internship SCWK 6917

Each M.S.W. student is required to complete a 500 hour field internship that is to be conducted in a setting and supervised by a qualified field instructor approved by the School of Social Work. Field Instructors must have as a minimum qualification a M.S.W. Degree and a minimum of two years post-M.S.W. social work employment.

Field internships may be offered in whole or in part outside the normal start and end dates of a semester. Part-time field internships of two semesters will require approval from the proposed agency, field instructor, and the M.S.W. Field Education Coordinator.

The M.S.W. Field Education Coordinator is responsible for facilitating appropriate matches among the student, field instructor, and field internship setting. Although consideration will be given to all factors affecting the location and type of social work field internships, final approval of field internship rests with the School of Social Work. The School cannot guarantee the availability of M.S.W. field instruction in all communities and at all times. Students are responsible for their own financial support during the field internship.

At least four months prior to the commencement of the semester in which they intend to begin SCWK 6917, all students shall submit a completed Intent to Register in M.S.W. Field Internship form and a current resume to the M.S.W. Field Education Coordinator. At least six weeks before the internship commences, students shall submit an M.S.W. Field Internship Proposal to the Coordinator. The School of Social Work depends on the cooperation of community agencies external to the University to provide field internships and instruction to its students. Many of these agencies have a range of requirements, such as Criminal Record Check, Child Protection Records Check, or Health Check, which must be completed before starting the internship. Students unable to meet the agency's requirements may be delayed in their program or prevented from completing their program of study. Students are required to complete and update these requirements in a timely fashion and at their own expense. The procedures of any given agency may change from time to time and are beyond the control of the University.

Evaluation of the field internship will be on a PAS/FAIL basis. Students who voluntarily withdraw from the field internship without prior approval of the M.S.W. Field Education Coordinator and the Graduate Officer, or who conduct themselves in such a manner as to cause the agency and the M.S.W. Field Education Coordinator to terminate the placement, will normally be awarded a grade of FAIL in the field internship.

Students who voluntarily withdraw from the field internship with the prior approval of the M.S.W. Field Education Coordinator and the Graduate Officer cannot be guaranteed a second internship during that semester. In this case, the student will be awarded a grade of INC for the field internship. The student shall normally complete a field internship the following semester.

27.5 Course Format

To increase accessibility for students in remote and rural areas, we offer courses in the following formats:

1. SCWK 6012, 6013, 6014, and 6413 will be offered by distance delivery; that is, not in a regular classroom format.
2. SCWK 6313, 6314, and 6315 are distance courses with a mandatory on-campus institute component consisting of 36 hours of classroom instruction. Course materials and activities for the pre-institute and post-institute components of the courses are provided

to students through distance format. Students must be available on a full-time basis to attend classes and complete assignments and group projects during the Institute portion of these courses. It is recommended that students take leave from their employment for the duration of an on-campus institute, which may be scheduled in a combination of weekday, evening, and weekend hours within a two week time period. The final decision regarding the on-campus institute schedule rests with the School of Social Work.

3. SCWK 6917 can be completed in St. John's, or in a student's home community, where appropriate supervision is available.
4. SCWK 6000 and 6417 can be completed in St. John's or in a student's home community.
5. In exceptional circumstances, and contingent upon student numbers and school resources, additional course sections may be offered in a regular classroom format.

27.6 Period of Study

For students admitted to the program under **Plan of Study** above:

1. For part-time students, the program is designed to permit completion of all degree requirements within three academic years (nine semesters) or two academic years (six semesters). The following is a sample program of study for nine semesters:

Fall Semester:

SCWK 6012 in Year 1;
SCWK 6000, 6313, 6315, or 6413 in Year 2;
SCWK 6000; SCWK 6313, 6315, or 6413 in Year 3

Winter Semester:

SCWK 6013 in Year 1;
SCWK 6000; SCWK 6313, 6314, or 6413 in Year 2

Spring Semester:

SCWK 6014 in Year 1; SCWK 6000; SCWK 6314 or 6315 in Year 2
SCWK 6917 (Field Internship) may be completed in Fall/Winter/Spring of Year 3
SCWK 6417 (Pathway Scholarship) is the final requirement to be completed and may be completed in the same semester as SCWK 6917 (Field Internship). Students are required to register for SCWK 6000 concurrently with SCWK 6917 and 6417.

2. For full-time students, course route, the program is designed to permit completion of all degree requirements within one academic year (three semesters), as follows:

Fall Semester:

SCWK 6000, 6012, 6013, and 6313 (institute)

Winter Semester:

SCWK 6000, 6014, 6314 (institute) and 6413

Spring Semester:

SCWK 6000, 6315 (institute), 6417 (pathway scholarship), and 6917 (field internship)

3. For full-time students, thesis route, the program is designed to permit completion of all degree requirements within one academic year (three semesters), as follows:

Fall Semester:

SCWK 6000, 6012, 6013, and 6313* (institute)

Winter Semester:

SCWK 6000, 6014, 6314* (institute), and 6413

Spring Semester:

SCWK 6000, 6315* (institute), 6917 (field internship), Thesis

* Thesis students are required to complete only two of the three institute courses.

27.7 Evaluation

1. Failure to attain a final passing grade of A or B in a program course, or PAS in a PASS/FAIL course, shall lead to termination of the student's program, unless a re-read has been requested. Failure to obtain the required grades in the re-read shall lead to termination of the student's program.
2. To remain in good standing students are required to maintain professional behaviour consistent with the current Code of Ethics of the Canadian Association of Social Workers (www.casw-acts.ca/en/what-social-work/casw-code-ethics). Students who are registered in their home province are required to comply with the current Code of Ethics of their provincial association of social workers. Students who are not registered in their home province are required to comply with the current Code of Ethics of the Canadian Association of Social Workers (www.casw-acts.ca/en/what-social-work/casw-code-ethics). Students who fail to meet this requirement will be required to withdraw from the School upon the recommendation of the Graduate Studies Committee.

27.8 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the School will allow.

Program Courses

6000 Pathway (mandatory repeatable non-credit course)

6012 Critical Thinking and Reflection (*credit may not be obtained for both 6012 and the former 6011*)

6013 Leadership for Social Justice (Prerequisite/Co-requisite 6012) (*credit may not be obtained for both 6013 and the former 6540*)

6014 Leadership in Social Policy and Programs (Prerequisite/Co-requisite 6012) (*credit may not be obtained for both 6014 and the former 6530*)

6313 Perspectives with Individuals and Families (Prerequisite/Co-requisite 6012) (*credit may not be obtained for both 6313 and the former 6312 or 6322*)

6314 Perspectives with Diverse Communities (Prerequisite 6012) (*credit may not be obtained for both 6314 and the former 6230*)

6315 Perspectives with Groups (Prerequisite 6012) (*credit may not be obtained for both 6315 and the former 6332*)

6413 Research Theory, Design, and Analysis (Prerequisite/Co-requisite 6012) (*credit may not be obtained for both 6413 and the former 6412 or 6422*)

6417 Pathway Scholarship (following completion of all other program components) (*credit may not be obtained for both 6417 and the former 6432 or 6442*)

6917 Field Internship (Prerequisites 6012; 6013; 6014; 6313; and 6413 and Prerequisite/Co-requisite 6314 and 6315) (*credit may not be obtained for both 6917 and the former 6912*)

Graduate Research Integrity Program (refer to **Graduate Research Integrity Requirement**)

Program Core Courses for Students Admitted Prior to Fall 2011

6011 Critical Thinking and Ethical Evaluation for Assessment and Intervention

6312 Crisis Intervention, Brief and Integrated Therapies for Diverse Individuals (Prerequisite/Co-requisite 6011) (*credit may not be obtained for both 6312 and 6313*)

6322 Family Therapy: Promotion of Strengths and Prevention of Violence in Diverse Families (Prerequisite 6011) (*credit may not be obtained for both 6322 and 6313*)

6332 Social Work Perspectives in Interdisciplinary Team Development and Group Therapy (Prerequisite 6011) (*credit may not be obtained for both 6332 and 6315*)

6412 Research Design for Social Work Assessment and Evaluation (Prerequisite/Co-requisite 6011) (*credit may not be obtained for both 6412 and 6413*)

6422 Data Analysis for Social Work Assessment and Evaluation (Prerequisite 6011 and 6412) (*credit may not be obtained for both 6422 and 6413*)

6432 Research Internship (2 credit hours) (Prerequisite 6011, 6412 and 6422)

6442 Colloquium Presentation Integrating Theory and Research in Advanced Clinical Practice (1 credit hour) (following completion of all other program components)

6912 Advanced Clinical Practice Internship (Prerequisites 6011, 6312, 6322 and Prerequisite/Co-requisite 6332) (*credit may not be obtained for both 6912 and 6917*)

Graduate Research Integrity Program (refer to **Graduate Research Integrity Requirement**)

Program Elective Courses for Students Admitted Prior to Fall 2011

6230 Seminar in Community Development (*credit may not be obtained for both 6230 and 6314*)

6530 Seminar in Social Administration: Evaluation of Policies and Programs (*credit may not be obtained for both 6530 and 6014*)

6540 Supervision in Professional and Clinical Practice (*credit may not be obtained for both 6540 and 6013*)

6550 Feminist Therapy in Social Work Practice

Although the School does not currently offer a program in Social Policy and Administration, it has faculty expertise in these areas and, in the future, may offer the following courses:

6210 Seminar in Social Planning and Social Development

6220 Seminar in Organization Development

6510 Seminar in Social Administration: Social Policy Analysis, Development and Administration

6520 Seminar in Social Administration: Program Design and Development

6820-29 Individual Reading and Research in Special Areas

Thesis

See **General Regulations, Theses and Reports**.

Note: Every candidate shall comply with the **General Regulations** governing the School of Graduate Studies and the M.S.W. Degree Regulations.

28 Regulations Governing the Degree of Master of Technology Management

Vice-President (Marine Institute)

G. Blackwood

Academic Director

C. Coronado

28.1 Administration

The Program will be administered by an Academic Director appointed by the Vice-President (Marine Institute), together with an Academic Advisory Committee.

An Academic Advisory Committee will be appointed by the Dean of Graduate Studies on recommendation of the Vice-President (Marine Institute). This committee will consist of the Academic Director as Chair, three members from the Marine Institute and one member from each of the Faculty of Business Administration and the Faculty of Engineering and Applied Science. Normally, all appointments will be for a period of three (3) years.

A Technical Advisory Committee consisting of a cross-section of members with professional expertise related to the technology sector, will provide regular feedback on program content, instruction, and future direction of the Program. Members of this Committee will be appointed by the Dean of Graduate Studies on recommendation of the Vice-President (Marine Institute). The Academic Director will be an ex officio member and Chair of the Technical Advisory Committee. Normally all appointments will be for a period of three (3) years.

28.2 Program

The Master of Technology Management (MTM) is a comprehensive academic program that provides a broad understanding of the structure and operation of organizations and the factors that influence business decisions in the context of technology-based organizations. It provides a technology management focus through the development of knowledge and understanding of the nature of technical operations and the factors that have an impact on their success, as well as the ability to apply these concepts within their organizations.

The program consists of two Options:

- Engineering and Applied Science Technology Option
- Aquaculture Technology Option

The program is offered online and requires successful completion of either (i) 24 credit hours of course work and a comprehensive project and report (6 credit hours), or (ii) 30 credit hours of comprehensive course work. Candidates will typically register on a part-time basis, but any who register for full-time study will normally complete the program in one academic year.

28.2.1 Admission Requirements

Admission to the program is on a competitive basis.

1. The deadlines for submission of applications are as follows:

- Fall (September) semester: June 15

- Winter (January) semester: October 15
- Spring (May) semester: February 15

Applications received after listed deadlines will be considered as time and resources permit.

- To be considered for admission to the Engineering and Applied Science Technology Option an applicant will normally possess a second class or better undergraduate degree from a university of recognized standing and will normally have:
 - a Memorial University of Newfoundland Bachelor of Technology, Bachelor of Maritime Studies, or a comparable undergraduate degree with appropriate technology sector and business management course work; and
 - a minimum of two (2) years relevant employment experience.
- To be considered for admission to the Aquaculture Technology Option an applicant will normally possess a second class or better undergraduate degree from a university of recognized standing and will normally have:
 - a post-graduate aquaculture credential or an aquaculture focus in their undergraduate degree; or significant professional experience in the aquaculture industry; and
 - a minimum of two (2) years relevant employment experience.
- Upon acceptance into the program, students will be admitted to one of the two Options: the Engineering and Applied Science Technology Option or the Aquaculture Technology Option.

28.2.2 Program of Study

28.2.2.1 Master of Technology Management - Engineering and Applied Science Technology Option

- Candidates for the Master of Technology Management (Engineering and Applied Science Technology Option) shall be required to complete a minimum of either:
 - 24 credit hours of course work and a major project and report (6 credit hours). Course work includes two compulsory core courses (6 credit hours); and six elective courses (18 credit hours). Students on the project route will complete MSTM 6100: Project in Engineering and Applied Science Technology Management (6 credit hours).
 - Core Courses (Two to be completed):**
 - MSTM 6031 Overview of Technical Operations
 - MSTM 6032 Managing Technological Innovation
 - Elective courses (Six to be completed):**
 - MSTM 6022 Communication and Conflict Resolution in a Technical Environment
 - MSTM 6023 Strategic Planning, Policy, Participation and Management in Technical Operations
 - MSTM 6030 Principles of Management for Engineering Technology Enterprises
 - MSTM 6033 Quality Systems
 - MSTM 6034 Project Management in the Offshore, Health, Fisheries and Engineering Technology Environments
 - MSTM 6035 Information Technology Applications in the Health and Engineering Technology Environments
 - MSTM 6036 Supply Chain Management and Advanced Engineering Technology Operations
 - MSTM 6037 Risk Analysis and Operations in the Engineering Technology Sector
 - MSTM 6038 Manufacturing and Engineering Technology Management
 - MSTM 6039 Sustainability and Environmental Responsibility
 - MSTM 6052 Management of Intellectual Property
 - MSTM 6054 Technology Assessment
 - MSTM 6056 Management of International Development

Project in Engineering and Applied Science Technology Management

MSTM 6100 Project in Engineering and Applied Science Technology Management (6 credit hours). Students will choose a topic in consultation with the Academic Director and will work independently to carry out an in-depth study of a problem or application within the area of technology management and fully document and present their findings. Preferably the problem will be directly related to a workplace situation.
 - 30 credit hours on a comprehensive-course route. Course work includes two compulsory core courses (6 credit hours); and eight elective courses (24 credit hours).
 - Core Courses (Two to be completed):**
 - MSTM 6031 Overview of Technical Operations
 - MSTM 6032 Managing Technological Innovation
 - Elective Courses (Eight to be completed):**
 - MSTM 6022 Communication and Conflict Resolution in a Technical Environment
 - MSTM 6023 Strategic Planning, Policy, Participation and Management in Technical Operations
 - MSTM 6030 Principles of Management for Engineering Technology Enterprises
 - MSTM 6033 Quality Systems
 - MSTM 6034 Project Management in the Offshore, Health, Fisheries and Engineering Technology Environments
 - MSTM 6035 Information Technology Applications in the Health and Engineering Technology Environments
 - MSTM 6036 Supply Chain Management and Advanced Engineering Technology Operations
 - MSTM 6037 Risk Analysis and Operations in the Engineering Technology Sector
 - MSTM 6038 Manufacturing and Engineering Technology Management
 - MSTM 6039 Sustainability and Environmental Responsibility
 - MSTM 6052 Management of Intellectual Property
 - MSTM 6054 Technology Assessment
 - MSTM 6056 Management of International Development
- Up to three relevant elective courses (9 credit hours) may be transferred from other graduate programs within the School of Graduate Studies or from other post-secondary institutions recognized by Senate, subject to the approval of the Dean of Graduate Studies on the recommendation of the Academic Director.

28.2.2.2 Master of Technology Management - Aquaculture Technology Option

- Candidates for the Master of Technology Management (Aquaculture Technology Option) shall be required to complete a minimum of either:
 - 24 credit hours of course work and a major project and report (6 credit hours). Course work includes two compulsory core courses (6 credit hours); and six elective courses (18 credit hours). Students on the project route will complete MSTM 6102:

Project in Aquaculture Technology Management (6 credit hours).

i. **Core Courses (Two to be completed):**

MSTM 6031 Overview of Technical Operations
MSTM 6032 Managing Technological Innovation

ii. **Elective Courses (six to be completed including at least three from Category B):**

Category A

MSTM 6022 Communication and Conflict Resolution in a Technical Environment
MSTM 6023 Strategic Planning, Policy, Participation and Management in Technical Operations
MSTM 6033 Quality Systems
MSTM 6034 Project Management in the Offshore, Health, Fisheries and Engineering Technology Environments
MSTM 6037 Risk Analysis and Operations in the Engineering Technology Sector
MSTM 6039 Sustainability and Environmental Responsibility
MSTM 6052 Management of Intellectual Property
MSTM 6056 Management of International Development

Category B

MSTM 6071 Management of Aquaculture Technology
MSTM 6072 Animal Husbandry Management
MSTM 6073 Aquaculture Environmental Management
MSTM 6074 Aquaculture Site and Operational Assessment
MSTM 6075 Aquaculture Engineering Technology Management

Project in Aquaculture Technology Management

MSTM 6102 Project in Aquaculture Technology Management (6 credit hours). Students will choose a topic in consultation with the Academic Director or designate and will work independently to carry out an in-depth study of a problem or application within the area of aquaculture technology management and fully document and present their findings. Preferably the problem will be directly related to a workplace situation.

- b. 30 credit hours on a comprehensive-course route. Course work includes two compulsory core courses (6 credit hours); and eight elective courses (24 credit hours).

i. **Core Courses (Two to be completed):**

MSTM 6031 Overview of Technical Operations
MSTM 6032 Managing Technological Innovation

ii. **Elective courses (Eight to be completed including at least three from Category B):**

Category A

MSTM 6022 Communication and Conflict Resolution in a Technical Environment
MSTM 6023 Strategic Planning, Policy, Participation and Management in Technical Operations
MSTM 6033 Quality Systems
MSTM 6034 Project Management in the Offshore, Health, Fisheries and Engineering Technology Environments
MSTM 6037 Risk Analysis and Operations in the Engineering Technology Sector
MSTM 6039 Sustainability and Environmental Responsibility
MSTM 6052 Management of Intellectual Property
MSTM 6056 Management of International Development

Category B

MSTM 6071 Management of Aquaculture Technology
MSTM 6072 Animal Husbandry Management
MSTM 6073 Aquaculture Environmental Management
MSTM 6074 Aquaculture Site and Operational Assessment
MSTM 6075 Aquaculture Engineering Technology Management

2. Up to three relevant elective courses (9 credit hours) may be transferred from other graduate programs within the School of Graduate Studies or from other post-secondary institutions recognized by Senate, subject to the approval of the Dean of Graduate Studies on the recommendation of the Academic Director.

28.2.3 Evaluation

1. Candidates for the Master of Technology Management Degree must obtain a grade of B or better in all program courses.
2. Candidates who receive a grade of less than B in any course will be permitted to remain in the program provided the course is repeated and passed with a grade of B or better. Alternatively, the candidate may, on the recommendation of the Academic Director, and with the approval of the Dean of Graduate Studies, substitute another graduate course. Only one course repetition or substitution will be permitted during the candidate's program after which the candidate shall be required to withdraw from the program.

29 Regulations Governing the Degree of Doctor of Philosophy

In this and following regulations and notes, "Head" and "Department" shall be understood to mean "Dean or Director" and "Faculty or School" respectively, applying the regulations to a Faculty or School in which there are no Departmental divisions.

Students should consult the General Information and Regulations Governing All Graduate Students for information concerning the Degree of Doctor of Philosophy. For information concerning the number of courses required for specific programs, students should consult the following listing for the appropriate Department.

The degree of Doctor of Philosophy (Ph.D.) is offered in selected areas in Anthropology, Archaeology, Atomic and Molecular Physics, Biochemistry, Biology, Chemistry, Cognitive and Behavioural Ecology, Computer Science, Condensed Matter Physics, Earth Sciences (Geology), Earth Sciences (Geophysics), Education, Engineering, English Language and Literature, Environmental Science, Ethnomusicology, Experimental Psychology, Folklore, Food Science, Geography, History, Interdisciplinary, Linguistics, Management, Marine Biology, Mathematics, Medicine, Pharmacy, Physical Oceanography, Social Work, Sociology, Statistics and Theoretical Physics.

29.1 Anthropology

Associate Professor and Head of the Department

M. Tate

29.1.1 Program of Study

1. The Ph.D. in Anthropology is offered in historic anthropology and ethnography of Newfoundland and Labrador, and Western Europe.
2. An applicant must normally hold a Master's Degree with a specialization in social and cultural anthropology. In exceptional circumstances, a student who has spent three semesters in the M.A. program may be recommended for transfer into the Ph.D. stream.
3. Residency: the Department requires a minimum residency of two years for Ph.D. students.
4. A supervisory committee will be established for each student as per **General Regulations, Supervision, Ph.D. and Psy.D. Candidates**.
5. Students will normally be required to successfully complete two courses during their first three semesters in the program: Anthropology 6300 and 6890. The supervisory committee may require the candidates to complete additional graduate courses.
6. All candidates must demonstrate a reading knowledge of a second language to be determined in consultation with the supervisory committee. This language will normally be a language in which there is a substantial body of literature in Social and Cultural Anthropology. It could also be a field language pertinent to the candidate's project. The exam will be set and marked by an authority determined by the Head of the Department and the Dean of Graduate Studies as per **General Regulations, Evaluation, Evaluation of Graduate Students**, 4., and will normally be completed before the Comprehensive Examination is undertaken.
7. The Ph.D. Comprehensive Examination shall be administered in accordance with **General Regulations, Comprehensive Examinations**. The examination may be oral, written or both, and shall consist normally of three sessions, each of up to three hours duration, within a one week period, or three (3) one week take home examinations. Candidates will prepare for these examinations by undertaking supervised readings in three fields prescribed by the three members of the comprehensive exam committee. The examination will deal with specified areas of social/cultural anthropology. The examination will normally be scheduled in the third week of November each year in the second year of the candidate's program.
8. The candidate must submit a written thesis proposal for presentation to the Department two months following completion of his/her comprehensive examination.
9. As stated in the **General Regulations** for Graduate Studies, the time limit for completion of the Degree is 7 years.
10. Submission of dissertation and the oral defence of dissertation will follow **General Regulations, Theses and Reports, Evaluation of Ph.D. and Psy.D. Theses**.

29.1.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow.

6010 Cultural Ecology
 6071 Health and Illness: Cultural Contexts and Constructions
 6081 Anthropology of Gender
 6089 Anthropology of Underclass Life
 6100 Social Organization
 6110 Culture and Personality
 6140 The Community
 6210 Language and Culture
 6240 Atlantic Regional Studies
 6260 Social and Economic Development
 6280 Newfoundland Ethnography
 6281 Labrador Ethnography
 6282 Ethnography of a Single Region
 6300 Fieldwork and Interpretation of Culture
 6400 Current Themes in Cultural Anthropology
 6410 History of Anthropology
 6412 Anthropological Theory
 6413 Applied Anthropology
 6430 Audiovisual Anthropology
 6440 Master's Research Paper (9 credit hours)
 6580-6599 Special Areas in Anthropology
 6600 Contemporary Debates in Anthropology
 6890 Graduate Seminar

29.2 Archaeology

Professor and Interim Head of the Department

S. Brown

29.2.1 Program of Study

1. The Ph.D. in Archaeology is offered in prehistoric and historic archaeology of Northeastern North America and the Arctic.
2. An applicant must normally hold a Master's Degree with a specialization in archaeology.
3. The Department requires a minimum residency of six semesters for Ph.D. students.
4. A supervisory committee will be established for each student as per **General Regulations, Supervision, Ph.D. and Psy.D. Candidates**, 2.
5. Students will normally be required to successfully complete two courses during their first three semesters in the program: Archaeology 6700 and 6411. The supervisory committee may require the candidates to complete additional graduate courses.
6. All candidates must demonstrate a reading knowledge of a second language to be determined in consultation with the supervisory committee. This language will normally be a language in which there is a substantial body of literature in Archaeology. The exam will be set and marked by an authority determined by the Head of the Department and the Dean of Graduate Studies (see **General Regulations, Evaluation, Evaluation of Graduate Students**, 4.) and will normally be completed before the Comprehensive Examination is undertaken.
7. The Ph.D. Comprehensive Examination shall be administered in accordance with **General Regulations, Comprehensive Examinations**. The examination may be oral, written or both, and shall consist normally of three sessions, each of up to three hours

duration, within a one week period, or three (3) one week take home examinations. Candidates will prepare for these examinations by undertaking supervised readings in three fields prescribed by the three members of the comprehensive exam committee. The examination will deal with specified areas of archaeology. The examination will normally be scheduled in the third week of November each year in the second year of the candidate's program.

8. The candidate must submit a written thesis proposal for presentation to the Department two months following completion of his/her comprehensive examination.
9. As stated in the **General Regulations** for Graduate Studies, the time limit for completion of the Degree is 7 years.
10. Submission of dissertation and the oral defence of dissertation will follow **General Regulations, Theses and Reports, Evaluation of Ph.D. and Psy.D. Theses**.

29.2.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow:

6020 Bioarchaeology
 6040 Human Osteology
 6095 Advanced Studies in Ethnohistory (same as History 6095)
 6151 Palaeoethnobotany
 6181 Palaeoeskimo Cultures of the Eastern Arctic
 6182 Advances in Material Culture Analysis
 6187 Readings in Maritime Provinces Prehistory
 6189 Palaeopathology
 6191 Approaches to Early Modern Material Culture
 6192 Conservation Method and Theory
 6290 Newfoundland and Labrador Prehistory
 6310 Economic Analyses in Archaeology
 6320 Ethnoarchaeology
 6330 Archaeological Field Conservation
 6409 History of Archaeology
 6411 Theory and Method in the Study of Archaeology and Prehistory
 6500 Special Topics in Historical Archaeology (Prerequisite 6191)
 6680-6699 Special Topics in Archaeology and Prehistory
 6700 Interpretative Methods in Archaeology
 6701 Interpretative Methods in Historical Archaeology
 6890 Graduate Seminar

29.3 Biochemistry

Professor and Head of the Department

P. Davis

29.3.1 Program of Study

1. The Degree of Doctor of Philosophy is offered in Biochemistry or Food Science to full-time and part-time students.
2. The admission requirements for the graduate programs in Biochemistry and Food Science are as given under **General Regulations**. Depending on the background and/or area of specialization, a candidate's program may include additional courses taken for credit in Biochemistry, Food Science or related subjects.
3. The program of a candidate for the Ph.D. Degree shall be the responsibility of the supervisory committee, composed of the Supervisor and at least two other faculty members recommended with the concurrence of the Supervisor by the Head.
4. It is the responsibility of the student to arrange regular meetings with his or her graduate supervisory committee. A semi-annual report, prepared by the Supervisor and signed by all members of the supervisory committee, is required to be given to the Head of the Department or delegate.
5. All candidates for the Ph.D. Degree shall be required to attend and participate in Departmental seminars.
6. A candidate for the Ph.D. will be required to present a seminar on his/her research area within 18 months of starting the program and again immediately prior to the submission of thesis.

Additional Regulations for Each Program

Biochemistry (Additional)

7. A candidate for the Ph.D. in Biochemistry shall normally take the Comprehensive Examination within the first seven semesters of his or her program. The examination will have two components: the preparation of a grant proposal on a topic related to the student's research specialization followed by an oral examination of the proposal. Failure of this examination will result in the termination of the candidate's program.

Food Science (Additional)

8. A candidate for the Ph.D. Degree in Food Science shall be required to take the comprehensive examination normally within three semesters of his/her enrolment in the doctoral program and under no circumstances later than six semesters. The examination shall consist of two parts:
 - a. A written examination covering the following areas of food science.
 - Food Chemistry
 - Food Processing
 - Food Microbiology and Biotechnology
 - Biochemical and Food Engineering
 - Food Analysis
 - Nutrition Fundamentals
 - b. The candidate shall be required to defend orally an assigned research topic that may be related to his/her area of concentration. The candidate shall be required to provide a written submission of the research topic to the examination committee at least three weeks before the date of the oral examination. The comprehensive examination committee shall examine the candidate orally on any or all aspect(s) of the research topic and the written examination.

- c. In order to pass the comprehensive examination, the candidate is required to pass both the written and oral segments.

29.3.2 Courses

A series of advanced courses in the areas outlined below will be offered. Normally only one course will be offered per semester.

- 6200 Current Biochemical Research Topics I
- 6210 Current Biochemical Research Topics II
- 6400 Control of Intermediary Metabolism
- 6410 Molecular Endocrinology
- 6420 DNA: The Structure and Function of Genes (Prerequisite: An introductory course in molecular biology, or its equivalent, at the senior undergraduate level, e.g., Biochemistry 4100)
- 6421 RNA: Structure, Function and Synthesis (Prerequisite: An introductory course in molecular biology, or its equivalent, at the senior undergraduate level, e.g., Biochemistry 4100)
- 6422 Regulation of Protein Synthesis (Prerequisite: An introductory course in molecular biology, or its equivalent, at the senior undergraduate level, e.g., Biochemistry 4100)
- 6430 Bioenergetics
- 6440 Membranes
- 6450 Proteins
- 6500 Enzymology
- 6520 Nutritional Biochemistry
- 6530 Food Biochemistry
- 6590 Molecular Biology I (cross-listed as Biology 6590 and Medicine 6590) Prerequisites: Biology 4241, Biochemistry 4100 (or equivalent)
- 6591 Molecular Biology II (cross-listed as Biology 6591 and Medicine 6591) Prerequisites: Biology 4241, Biochemistry 4100 (or equivalent)
- 6592 Bacterial Genetics (cross-listed as Biology 6592) Prerequisite: Biology 4241 or Biochemistry 4100 (or equivalent)
- 6593 Selected Readings in Molecular Biology (cross-listed as Biology 6593) Prerequisites or Co-requisites: Biology 6590, 6591/ Biochemistry 6590, 6591/Medicine 6590, 6591 (or equivalent)
- 6600 Metabolic Toxicology
- 6610 Comparative Biochemistry
- 6620 Biochemical Adaptation
- 6630 Marine Biochemistry
- 6640 Biochemistry of Cancer
- 6650 Science and Technology of Seafoods
- 6660 Industrial Microbiology
- 6670 Biological Waste Treatment
- 6680 Processing and Quality of Foods

29.4 Biology

Associate Professor and Head of the Department

P. Marino

The Degree of Doctor of Philosophy is offered in Biology to full-time and part-time students in Biology and Marine Biology. Students interested in animal behaviour should also consult the section in the Calendar describing the Doctoral programs **Cognitive and Behavioural Ecology**.

29.4.1 Program of Study - Biology

1. A student will be required to take Biology 7000 (Graduate Core Seminar).
2. Admission to a Ph.D. program in Biology shall not normally take place until after the completion of the course requirements and the submission of the thesis for the M.Sc. Degree. However, on the recommendation of the Department, this requirement may be waived by the Dean of Graduate Studies.
3. The program of a candidate shall be the responsibility of a Supervisory Committee composed of the Supervisor and at least two other appropriate members recommended to the Dean by the Head (or delegate) of the Department with the concurrence of the Supervisor.
4. The Supervisory Committee shall interview the student normally within a month of first registration, to discuss the student's program and to explore any areas of weakness in the candidate's biological knowledge, especially where these relate to the intended areas of research. The Supervisory Committee will recommend a student's subdiscipline within Biology to the Department in writing after this meeting.
5. It is the function of a Supervisory Committee to have regular meetings, at least annually, with its graduate student. A meeting report, signed by all members of the Supervisory Committee and student, must be given to the Department. A copy will be sent to the graduate student and to the Dean of Graduate Studies.
6. The candidate will present a tentative outline of the proposed research to the Supervisory Committee, with a copy to the Department by the end of the second semester, and preferably prior to commencement of the research.
7. The student will present a research seminar to the Department, normally by the end of the second semester following admission, to describe the research topic being investigated and the methodologies to be employed. This seminar provides an opportunity for the student to receive constructive input from the broad biological community.
8. When the Supervisory Committee deems it necessary, a working knowledge of a language other than English may be required.
9. Comprehensive Examination
 - a. Timing of Examination
 - i. Timing of the comprehensive examination shall follow General Regulation, 1. under **Comprehensive Examination, Ph.D** **Comprehensive Examination** governing the Degree of Doctor of Philosophy. A candidate registered in a full-time Ph.D. program in the Faculty of Science, Department of Biology shall normally take the comprehensive examination during the first year of the program, and no later than one year after completion of the prescribed courses.
 - ii. The procedure shall be initiated by the candidate's Supervisor who will notify the Department of Biology, in writing, of the candidate's readiness. Failure to meet the above requirement can result in the candidate being required to withdraw from the program.

b. Examination Committee

The Examination Committee shall be appointed by the Dean of Graduate Studies on the recommendation of the Department of Biology according to Regulation **Comprehensive Examinations, Ph.D. Comprehensive Examination**, 2. of the **General Regulations** of the School of Graduate Studies. No more than two members of the Examination Committee may be members of the candidate's Supervisory Committee. The committee shall meet and recommend to the Department in writing an examination seminar topic within the student's previously determined subdiscipline.

c. Examination Procedure

The Department shall provide the student the examination date and the seminar topic in writing not more than six nor less than four weeks prior to the examination. The student shall provide each member of the Examination Committee a written paper on the seminar topic one week prior to the examination. The Examination Committee shall evaluate the candidate's presentation and response to questions put to him/her during the Oral Examination both on the seminar and within the student's subdiscipline of Biology.

d. Subsequent Action

The Examination Committee will meet in camera to arrive at its conclusions. The Chair shall report the results of the Examination to the Head and the Dean of Graduate Studies for transmission to the candidate. The report will include one of the following decisions: a) the student passed with distinction, passed or failed. b) if failed and it is the first examination whether the student may be re-examined.

e. Re-examination

Comprehensive Re-examination if permitted will occur not sooner than one month and not more than six months after the first. The candidate and his or her Supervisory Committee shall be informed of the deficiencies found. The format for the second examination will be determined by the Examination Committee with the approval of the Biology Graduate Studies Committee. The candidate will be informed of the topic and format four to six weeks prior to the examination. The examination will follow the procedure outlined in 8.c and d above. A failure will require the student to withdraw from the program.

10. Theses shall conform to **Theses and Reports** of the **General Regulations** of the School of Graduate Studies and the Departmental Guidelines.

29.4.2 Program of Study - Marine Biology

1. A program of study leading to a Doctor of Philosophy with a specialization in Marine Biology is governed by the above regulations.
2. To be considered for admission, applicants must have a background equivalent to that provided by the M.Sc. specialization in Marine Biology.
3. A student will be required to take Biology 7000 (Graduate Core Seminar) and 6 credit hours in Biology courses from the following group 6710, 7531, 7535, 7540, 7541, 7551, 7560, and 7561.
4. Depending on the student's area of research and background additional courses may be required.

29.4.3 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow:

6000 Research Topics in Microbiology
 6100 Modern Problems in Botany
 6110 Advanced Phycology
 6120 Mycology
 6350 Behavioural Ontogeny (Cross-listed as Psychology 6350)
 6351 Behavioural Ecology and Sociobiology (Cross-listed as Psychology 6351)
 6355 Field Course in Animal Behaviour (Cross-listed as Psychology 6355)
 6400 Parasitic Protozoology
 6410 Helminthology
 6420 Parasitic Arthropods
 6590 Molecular Biology I (Cross-listed as Biochemistry 6590 and Medicine 6590) Prerequisites: Biology 4241, Biochemistry 4100 (or equivalent)
 6591 Molecular Biology II (Cross-listed as Biochemistry 6591 and Medicine 6591) Prerequisites: Biology 4241, Biochemistry 4100 (or equivalent)
 6592 Bacterial Genetics (Cross-listed as Biochemistry 6592) Prerequisite: Biology 4241 or Biochemistry 4100 (or equivalent)
 6593 Selected Readings in Molecular Biology (Cross-listed as Biochemistry 6593) Prerequisites or Co-requisites: Biology 6590, 6591/ Biochemistry 6590, 6591/Medicine 6590, 6591, (or equivalent)
 6700 Biology of the Molluscs
 6710 Marine Benthic Biology
 6900 Entomology
 6910 Applied Entomology
 7000 Graduate Core Seminar
 7101 Topics in Marine Biology
 7110 Cellular Physiology and Cytology
 7140 Physiology of Parasitism
 7201 Topics in Cellular and Molecular Biology and Physiology
 7210 Arctic and Subarctic Biology
 7220 Quantitative Methods in Biology
 7250 Topics in Wildlife Biology
 7270 Ecology of Newfoundland
 7300 Ornithology
 7301 Topics in Ecology and Conservation Biology
 7510 Ichthyology
 7520 Advances in Fish Biology
 7530 The Molecular Basis of Development
 7531 Biological Oceanography
 7535 Research Methods in Marine Science
 7540 Plankton Dynamics
 7541 Physiological Ecology of Phytoplankton

7550 Fishery Biology
 7551 Fisheries Resource Management
 7560 Physiology of Marine Invertebrates
 7561 Physiology of Marine Vertebrates
 7570 Marine Benthic Biology
 7600 Effect of Organic and Inorganic Pollutants on Biological Systems
 7910 Community and Ecosystem Ecology
 7931 Research Methods in Genetic Biotechnology
 7920-7960 Special Topics in Biology (*Note: Biology 7931 may be delivered in an accelerated format outside of the regular semester timeframe*)

29.5 Chemistry

Professor and Head of the Department

P. Pickup

29.5.1 Program of Study

The Degree of Doctor of Philosophy in Chemistry is offered as full-time or part-time study. A Master's Degree in Chemistry or related area from a recognized university is normally required for entry into the Ph.D. program. Students holding a Bachelor's Degree (Honours or equivalent) in Chemistry may be considered for direct admission into the Ph.D. program. Students currently registered in the Memorial University of Newfoundland's Chemistry M.Sc. program for a minimum of three semesters may request transfer into a Ph.D. program. The transfer should be supported by the Supervisor and the Supervisory Committee and subsequent to satisfactory presentation of a written progress report and Ph.D. research proposal.

- Candidates are normally required to write American Chemical Society (ACS) placement test(s) in the first two weeks of the initial semester of registration in order to determine an appropriate course program.
- Candidates will be assigned a Supervisory Committee consisting of the Supervisor and at least two other appropriate faculty members appointed by the Dean on recommendation of the Chemistry Deputy Head (Graduate Studies).
- The program of a candidate must be arranged by the Supervisor in consultation with the Supervisory Committee and the student before the second semester of registration. It is the responsibility of the Supervisory Committee to meet at least annually with the student, to provide guidance at all stages of the candidate's program, and, in consultation with the student, to prepare annual written progress reports for submission to the Dean of Graduate Studies.
- Candidates holding a Master's Degree from a recognized university are normally required to successfully complete a minimum of 6 credit hours of graduate Chemistry courses with a minimum grade of B and to present a Departmental seminar on a topic not directly related to the candidate's research (Chemistry 6002) as well as a seminar describing the candidate's research (Chemistry 6003). Courses taken towards a Master's Degree may not be repeated. Candidates not holding a Master's Degree must successfully complete at least 12 credit hours of graduate Chemistry courses with a minimum grade of B in addition to Chemistry 6002 and 6003.
- Candidates are required to attend Departmental seminars.
- Candidates must pass a comprehensive examination, as described in the **General Regulations**, according to one of the following descriptions:
 - A 3 hour written part covering topics in Organic Chemistry, and, subsequent to the written examination at the discretion of the comprehensive examination committee, an oral exam designed to explore areas of perceived deficiency.
 - A 1.5 hour written part covering topics in Inorganic Chemistry, and, subsequent to the written exam, an oral examination designed to further explore areas of Inorganic Chemistry.
 - A paper on a research topic selected by the student in consultation with his/her supervisor and the examination committee, and subsequently, an oral examination designed to explore general areas of Analytical and/or Physical Chemistry and areas of chemistry related to the research topic.
- Candidates must submit and successfully defend a thesis deemed acceptable by two internal and one external examiner as outlined in the **General Regulations**.

29.5.2 Courses

6002 Doctoral Seminar
 6003 Doctoral Research Seminar
 6110 Analytical Chemistry II
 6150 Advanced Spectroscopic Techniques
 6151 Analytical Separations and Organic Mass Spectrometry
 6152 Electroanalytical Techniques
 6153 Techniques in Sampling, Trace Analysis and Chemometrics
 6154 Business Management and Good Laboratory Practice
 6155 Computers in Instrumental Analysis and Basic Electronics (same as Med 6070)
 6160 Laboratory Projects in Sampling, Electroanalysis and Trace Analysis
 6161 Laboratory Projects in Analytical Separations and Spectroscopic Techniques
 6190-9 Selected Topics in Analytical Chemistry
 6201 Bioinorganic Chemistry
 6202 Main Group Chemistry
 6204 Mechanisms in Catalysis
 6205 Photochemistry of Transition Metal Complexes
 6206 Green Chemistry
 6210 Organometallic Chemistry
 6290-9 Selected Topics in Inorganic Chemistry
 6300 Quantum Chemistry I
 6301 Quantum Chemistry II
 6302 Molecular Spectroscopy
 6304 Computational Chemistry I
 6310 Electronic Structure Theory
 6323 Chemical Thermodynamics I
 6324 Chemical Thermodynamics II

6340 Biophysical Chemistry
 6350 Electrochemical Kinetics
 6360 Solid State Chemistry
 6370 Nanoscale Phenomena
 6380 Adsorption on Surfaces
 6381 Surface and Interface Science
 6382-9 Selected Topics in Physical Chemistry
 6390-8 Selected Topics in Physical Chemistry
 6399 Chemical Kinetics and Dynamics
 6401 Organic Spectroscopic Analysis I
 6402 Organic Spectroscopic Analysis II
 6421 Natural Products Chemistry
 6460 Organic Synthesis
 6470 Physical Organic Chemistry
 6490-9 Selected Topics in Organic Chemistry
 6590-9 Selected Topics in Theoretical and Computational Chemistry
 6600 Applications of Inorganic and Organometallic Chemistry to Toxicology

29.6 Cognitive and Behavioural Ecology

Administrative Committee

Dr. I. Fleming, Department of Ocean Sciences - Co-Chair
 Dr. C. Walsh, Department of Psychology - Co-Chair
 Dr. T. Chapman, Department of Biology
 Dr. W. Montevecchi, Department of Psychology
 Dr. C. Purchase, Department of Biology
 Mr. P. Regular, Graduate Student Representative
 Dr. A. Storey, Department of Psychology
 Dr. I. Warkentin, Grenfell Campus

29.6.1 Program of Study

1. The Cognitive and Behavioural Ecology Graduate Program focuses on interdisciplinary animal behaviour research. Research integrates mechanistic, developmental, evolutionary and ecological perspectives on behaviour through molecular, individual and population levels of analysis. Supervisors include faculty from the Departments of Biology, Ocean Sciences, Psychology, the Faculty of Medicine and the Environmental Science Program at Grenfell Campus, as well as adjunct faculty from the Canadian Wildlife Service, Department of Fisheries and Oceans, the Newfoundland and Labrador Forestry and Wildlife Divisions and Parks Canada. The Departments of Biology and Psychology jointly offer the Master of Science and the Doctor of Philosophy degrees in Cognitive and Behavioural Ecology.
2. The Administrative Committee is responsible for the Program. Committee members are appointed by the Dean of Science, on the recommendation of the Chair of the Committee and of the Heads of Biology and Psychology. The Committee Chair is elected by the committee members and appointed by the Dean of Science. The Committee makes recommendations to the Dean of Graduate Studies concerning admissions and academic requirements. In consultation with supervisors, recommendations are made concerning course programs, financial support, thesis committees, comprehensive and thesis topics, examiners and students' annual progress. Upon program completion, the Committee certifies that all requirements for the appropriate degree have been met. The Department of the Supervisor ensures that adequate facilities are provided for each candidate. Students in Cognitive and Behavioural Ecology are considered for teaching assistantships in the Psychology or Biology Departments.

29.6.2 Regulations

1. There are no required courses for the doctoral program. However, the Doctoral Seminar (CABE 6992) and/or other courses tailored for individual students may be included in the student's program by the Dean of Graduate Studies on the recommendation of the Chair of the Committee.
2. The comprehensive examination should be taken during the first year of the program. An Examination Committee will be struck in accordance with **General Regulations**. At least one member of the Department of Biology and of the Department of Psychology (other than the Supervisor) must be on the Examination Committee. The candidate's Supervisor will be on the Examination Committee and will be the only examiner from the candidate's Thesis Supervisory Committee. The Head of the Department of the Supervisor or his/her delegate is invited to serve on the Comprehensive Examination Committee. The Examination Committee is chaired by the Chair of the Cognitive and Behavioural Ecology Committee. The examination will include a comprehensive, integrative review paper on a research topic in Animal Behaviour. The review topic is assigned by the Examination Committee, which also determines the submission date for the paper, and the date of the examination. Normally, the student will write the paper in four months, and the oral examination will occur within six weeks of the paper's submission. This paper will form the basis of a public seminar. The Examination Committee will question the candidate about the paper, the topic and its broader relationship with Cognitive and Behavioural Ecology.

29.6.3 Courses

Biology 7220 Quantitative Methods in Biology
 Cognitive and Behavioural Ecology 6240 Special Topics
 Cognitive and Behavioural Ecology 6350 Behavioural Ontogeny
 Cognitive and Behavioural Ecology 6351 Behavioural Ecology and Sociobiology
 Cognitive and Behavioural Ecology 6992 Doctoral Seminar
 Cognitive and Behavioural Ecology 7000 Field and Lab Methods in Animal Behaviour and Behavioural Ecology
 Psychology 6000 Advanced Statistics in Psychology

Table of Credit Restrictions - Doctor of Philosophy in Cognitive and Behavioural Ecology

(Credit may be obtained for only one course from each of the pairs of courses listed in this table.)

Present Course	Former Course
CABE 6240	Biopsychology 6240
CABE 6350	Biopsychology 6350
CABE 6351	Biopsychology 6351
CABE 7000	Biopsychology 7000

29.7 Computer Science**Associate Professor and Head of the Department**

E. Brown

The degrees of Master of Science and Doctor of Philosophy are offered in Computer Science.

29.7.1 Program of Study

1. Admission into the Ph.D. program in Computer Science is normally restricted to candidates holding a Master's Degree (or equivalent) in Computer Science or a closely related area. Others may be considered for admission. See **Qualifications for Admission** of the **General Regulations**. International applicants are strongly encouraged to submit results of the (general) Graduate Record Examination (GRE) Test.
2. Each candidate for the Ph.D. shall complete a program of graduate courses prescribed by the supervisory committee. The normal minimum will be 9 credit hours.
3. The candidate shall take the Comprehensive Examination within the time limits specified in **Comprehensive Examinations** of the **General Regulations**. Students should consult the Departmental guidelines for a detailed description of the content of the Comprehensive Examination.
4. The Ph.D. Degree program will conclude with an oral defence of the thesis as described in **Theses and Reports** of the **General Regulations**.

29.7.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow:

Programming Languages

6711 Syntax and Semantics of Programming Languages
 6712 Compiling Techniques
 6713 Software Engineering
 6714 Functional Programming
 6715 Logic Programming
 6716 Concurrent Programming
 6718-6719 Special Topics in Programming Languages

Computer Systems

6720 Distributed and Parallel Computing
 6721 Operating Systems Design
 6722 Advanced Computer Architectures
 6723 Microprocessor Systems
 6724 VLSI Design (same as Engineering 9863)
 6725 Computational Aspects of VLSI (same as Engineering 9864)
 6726 Modelling and Analysis of Computing Systems
 6727 Introduction to High Performance Computer Systems
 6728-6729 Special Topics in Computer Systems - Computer Networks

Numerical Computations

6731 Topics in Numerical Methods
 6732 Matrix Computations
 6738-6739 Special Topics in Numerical Methods

Theoretical Aspects

6741 Advanced Automata Theory
 6742 Theory of Databases
 6743 Complexity of Computational Problems
 6745 Special Topics - Advanced Computational Geometry
 6748-6749 Special Topics in Theoretical Computer Science

Applications

6751 Database Technology and Information Retrieval
 6752 Applications of Computer Graphics
 6753 Artificial Intelligence
 6754 Post-Genomic Computational Biology
 6755 Knowledge-Based Systems
 6756 Digital Image Processing
 6758-6769 Special Topics in Computer Applications
 6770-6790 Special Topics in Computer Science

29.8 Earth Sciences**Associate Professor and Head of the Department**

R. Mason

The degrees of Master of Science and Doctor of Philosophy are offered in Earth Sciences (Geology) and Earth Sciences (Geophysics) by full-time and part-time study.

29.8.1 Program of Study

1. Admission into a Ph.D. program in Earth Sciences (Geology) and Earth Sciences (Geophysics) is normally restricted to candidates holding a Master's Degree or its equivalent. Candidates holding B.Sc. (Honours) degrees who show evidence of exceptional ability may be considered for a direct entry into a Ph.D. program. In exceptional circumstances, a candidate with a B.Sc. (Honours) Degree who has spent not less than 12 months in an M.Sc. Degree program may be recommended for transfer into a Ph.D. program, provided that the candidate can demonstrate, to the satisfaction of the Department of Earth Sciences, his/her ability to pursue research at the doctoral level.
2. A candidate for the Ph.D. Degree is normally required to complete 6 credit hours in addition to the credit hours required for the M.Sc. Degree. The courses must be selected from the overview and general courses below or with the approval of the supervisory committee and Head of Department, other graduate level courses including those offered by other departments. Depending on background and/or area of specialization, a candidate also may be required to complete additional courses in earth sciences or related subjects. All course requirements should be completed within 12 months from the date of the first registration in the Ph.D. program.
3. The Ph.D. Comprehensive Examination shall normally be taken in the first semester of registration in the Ph.D. program.
Note: *Detailed descriptions of the Ph.D. Comprehensive Examination are available upon request from the General Office of the Department of Earth Sciences.*
4. The Ph.D. Thesis Proposal Examination shall normally be taken in the second semester of registration in the Ph.D. program.
Note: *Detailed descriptions of the Ph.D. Thesis Proposal Examination are available upon request from the General Office of the Department of Earth Sciences.*
5. The Ph.D. Degree program will conclude with a thesis examination and an oral defense of thesis as prescribed in the **General Regulations, Theses and Reports**.
6. The Supervisor and the Head of the Department may recommend to the Dean of Graduate Studies that the program of a candidate who is not making satisfactory progress be terminated, in accordance with **General Regulation, Termination of a Graduate Program**.
7. A candidate is required to give an oral presentation to the Department on the results of his/her research. The presentation must be given during the second or third year of the program.

29.8.2 Courses

A selection of courses will be offered to meet the requirements of candidates as far as the resources of the Department will allow.

Overview Courses

7110 Physics of the Solid Earth
7120 Crustal Geophysics
7300 Changes in Global Paleoenvironment
7400 Tectonic Regimes
7410 Engineering and Environmental Geology
7500 Chemical Fluxes in the Earth
7810 Paleoecology (same as former 6810. Credit may be obtained for only one of 7810 or 6810)

General Courses

6070 Quantitative Techniques in Mineralogy and Metamorphic Petrology
6141 Rotation of the Earth
6142 Theory of Global Geodynamics
6152 Paleomagnetism
6171 Advanced Exploration Seismology
6172 Borehole Seismic
6175 Gravity and Magnetic Methods
6177 Mathematical Formulations of Seismic Wave Phenomena
6210 Genesis of Mineral Deposits
6320 Marine Geology
6400 Flow and Transport in Fractured Rock
6410 Advanced Engineering and Environmental Geology
6420 Deformation Mechanisms
6500 Stable Isotope Geochemistry
6510 Trace Element Geochemistry
6520 Methods in Advanced Research in Geochemistry
6540 Radiogenic Isotope Geochemistry
6550 Biogeochemistry
6600 Petroleum Geology
6740 Modern and Ancient Sedimentary Environments
6750 Sequence Stratigraphy
6820 Palynology and Paleobotany
6900-6999 Special Topics in Earth Sciences

29.9 Education

Associate Professor and Dean

K. Anderson

Associate Professor and Associate Dean

T. Seifert

The degrees of Master of Education and Doctor of Philosophy are offered in Education.

The Degree of Doctor of Philosophy in Education is offered to qualified candidates, normally by full-time study. The **General Regulations** of the School of Graduate Studies of Memorial University of Newfoundland outlined in the current Calendar, and the Degree Regulations of the Faculty of Education outlined below will apply.

29.9.1 Admission to the Ph.D. Program

General qualifications for admission to the Ph.D. Programs at Memorial University of Newfoundland are set out in the University Calendar under School of Graduate Studies, General Regulation **Qualifications for Admission, Ph.D. Program**.

In addition, the following admission requirements apply:

1. an 'A' standing in a Master's Degree in Education or in an equivalent Master's Degree from an accredited university;
2. evidence of scholarly work, such as a master's thesis, directed research project, or qualifying research paper;
3. normally, completion of two years of professional experience in an educational setting.

29.9.2 Supervisory Committee

Each candidate will have a supervisory committee comprised of a minimum of three members, at least two of whom shall be members of the Faculty of Education. The thesis Supervisor shall be a faculty member in the Faculty of Education, Memorial University of Newfoundland.

29.9.3 Program of Study

1. Courses

- a. Students are required to successfully complete two courses on the doctoral program.

Education 7001 - Doctoral Seminar in Education: Area of Specialization

Education 7002 - Advanced Educational Research

- b. Based on a consideration of educational background and research interest, students may be required to complete (or have completed at the masters level) as many as two (2) additional courses in research related to their program focus and specialty.
- c. Normally, no more than four courses may be undertaken on a candidate's program.
- d. Education 7003-30 - Special Topics (offered as required)

2. Comprehensive Examination

The candidate shall undertake a written and an oral comprehensive examination, which will follow General Regulation **Comprehensive Examinations, Ph.D. Comprehensive Examination** which sets out the procedures for the comprehensive examination.

- a. A candidate in a Ph.D. program in Education shall normally take the written Comprehensive Examination prior to the seventh semester of the program. The candidate will have completed required courses prior to taking the Comprehensive Examination. In preparation for the Comprehensive Examination, the doctoral candidate, with the guidance of the candidate's Supervisor, will undertake study of the sub-disciplines/areas of concentration identified by the candidate and supervisory committee and approved by the Doctoral Committee. Normally, these will include the candidate's area of concentration and two additional sub-disciplines/areas of concentration.
- b. Such study of sub-disciplines will normally include but not be limited to developing a reading list of important historical and current publications within the sub-disciplines, identifying emerging research emphases within the sub-disciplines, and writing scholarly review papers of these publications.
- c. In preparation for the written comprehensive examination, the doctoral candidate and the supervisory committee will agree on the topics to be examined. The examination will be written over a two day period.
- d. Normally, the oral comprehensive examination will occur within six weeks of the written examination, which if judged to be successful by the Comprehensive Examination Committee, will form the basis of an oral comprehensive examination.
- e. The procedure for scheduling the Comprehensive Examination shall be initiated by the candidate's Supervisor who will notify, in writing, the Dean of Education of the candidate's readiness. The date of both the written examination and the oral examination will be determined by the Dean of Education. The candidate will receive a written notice of the scheduled date for both examinations from the Dean of Education.
- f. The Comprehensive Examination Committee shall be appointed by the Dean of Graduate Studies in accordance with School of Graduate Studies General Regulation **Comprehensive Examination, Ph.D. Comprehensive Examination** on the recommendation of the Dean, Faculty of Education. There will be six members of the Comprehensive Examination Committee as follows:

Dean of Education or delegate (Chair)

Chair of the Doctoral Committee of the Faculty Council of Education

Candidate's Supervisor

Second member of candidate's supervisory committee

Dean of School of Graduate Studies or delegate (non-voting)

Member of the Faculty of Education or educational community selected by the Dean of Education.

In the event that the Chair of the Doctoral Committee is the candidate's Supervisor, the Dean of Education shall appoint an additional member.

3. Ph.D. Thesis Regulations

- a. The candidate must submit a thesis proposal based on his/her own research interest to all members of the Supervisory Committee for critical evaluation. Normally, the proposal must be approved prior to the eighth semester of the program. The Chairperson of the Supervisory Committee will inform the candidate within one month of its acceptance, rejection or acceptance

with recommended changes.

- b. If the proposal is not acceptable, the candidate will normally be permitted a second attempt. The revised proposal must be submitted and deemed acceptable by the Supervisory Committee within a semester. Failure to resubmit within this time period will lead to termination of the candidate's program.
- c. The thesis shall give evidence of the candidate's ability to carry out independent and original research, develop the necessary theoretical and methodological framework and analyses, and present the findings in a scholarly manner.
- d. Each candidate will be required to present a seminar on her/his thesis research to the Faculty.
- e. Ph.D. program will conclude with the examination and oral defence of the completed thesis in accordance with the appropriate sections of the General Regulation **Theses and Reports, Evaluation of Ph.D. Theses** governing the School of Graduate Studies.

29.9.4 Courses

7001 Doctoral Seminar in Education: Area of Specialization

7002 Advanced Educational Research

7003-30 Special Topics

29.10 Engineering and Applied Science

Professor and Dean

G. Naterer

Professor and Associate Dean (Graduate Studies)

L. Lye

The degree of Doctor of Philosophy (Ph.D.) is offered in the Faculty of Engineering and Applied Science and may be obtained either through full-time or part-time studies. The Ph.D. degree can be obtained through programs in Civil Engineering, Computer Engineering, Electrical Engineering, Mechanical Engineering, Ocean and Naval Architectural Engineering, and Oil and Gas Engineering.

29.10.1 Qualifications for Admission

Admission to the Ph.D. program is limited and competitive. All applicants must meet the minimum qualifications described in the **General Regulations** for the School of Graduate Studies. Admission is normally restricted to candidates holding a Master's Degree in Engineering or a related area. Decisions on admission, however, will also take into account such things as the applicant's rank in class, referees' assessments, general performance throughout the applicant's previous academic programs, and the availability of supervisors in the area of the applicant's interest. In cases of demonstrated ability, a student enrolled in the M.Eng. program may be allowed to transfer to the Ph.D. program without the completion of all the M.Eng. Degree requirements. As well, in exceptional cases, direct entry to the Ph.D. program, after completion of a Bachelor's Degree in Engineering or a related area, is possible.

Normally, applicants will be considered in January for admission for the following September. In special cases, applicants may also be considered in April and August. Applications should be made sufficiently far in advance to permit the University to obtain all relevant documents and review the application.

29.10.2 Program of Study and Research

A Ph.D. program shall normally consist of three components:

1. a minimum of 6 credit hours consisting of graduate courses recommended by the student's supervisory committee
2. a comprehensive examination as detailed in **Regulations for Ph.D Comprehensive Examination**.
3. a thesis satisfying the requirements of the **General Regulations** for the School of Graduate Studies.

In cases of direct entry after a Bachelor's Degree or promotion from a Master's program before fulfilment of the Master's course requirements, it is likely that the student will be required to take more credit hours than the normally required minimum. In such cases, the requirements for the course component of the student's program will be reviewed on an individual basis by the student's supervisory committee and the Dean of the Faculty of Engineering and Applied Science.

29.10.3 Regulations for Ph.D. Comprehensive Examination

Timing

The Comprehensive Examination for Ph.D. candidates in the Faculty of Engineering and Applied Science shall be conducted in two parts: I) General Examination and II) Examination of the Research Proposal. A candidate registered full-time in the Ph.D. Program shall normally take Part I of the exam within four semesters of the start of their program and Part II within six semesters. Part-time students will normally take Part I of the exam within four semesters of the start of their program and Part II within seven semesters. Students transferring from a Master of Engineering program will normally complete both parts within seven semesters of the start of their Master of Engineering program.

The Examination Committee shall be appointed by the Dean of Graduate Studies on the recommendation of the Dean of Engineering and Applied Science, normally within three semesters of the start of the student's program.

Examination Procedure

Part I General Examination is an oral examination of the candidate's mastery of selected sub-disciplines of Engineering and Applied Science related to their area of research. The candidate will be apprised of the sub-disciplines in writing no later than three months prior to the examination. The examination is open to the University community; however, only members of the Committee are permitted to ask questions. The Committee may make four recommendations following this examination: I) the candidate may proceed to Part II of the Comprehensive Examination, ii) the candidate may proceed to Part II but will be assigned additional course work to their program of study, iii) the candidate will be assigned additional study materials and redo Part I in 2 to 8 weeks, iv) the candidate fails. Part I may only be redone once and failing Part I means that the Comprehensive Examination is failed without proceeding to Part II.

Part II Examination of the Research Proposal shall consist of I) a research proposal, normally of no more than 10,000 words, that should clearly define the research problem, survey literature, present the research method or experimental design, and may include a summary of results already obtained, and ii) a 20 to 30 minute presentation. The candidate should submit the written proposal at least one month prior to the presentation which is open to the University community and will be followed by questions from the Committee and the audience.

Committee Recommendations

Following Part II, the Examination Committee will meet in camera to decide a final recommendation for the Committee Chair to forward to the Dean of Graduate Studies. The possible recommendations in accordance with **General Regulation Comprehensive Examinations, Ph.D. Comprehensive Examination** are "pass with distinction", "pass", "re-examination" or "fail".

29.10.4 Courses

For a list of graduate courses offered by the Faculty of Engineering and Applied Science refer to the list of "Core Courses" and the list of "Other Courses" offered for the Master of Engineering program.

29.11 English Language and Literature

Associate Professor and Head of the Department

D. Walsh

The degrees of Master of Arts and Doctor of Philosophy are offered in English Language and Literature.

Candidates for the M.A. in English may complete the program as either part-time or full-time students. Candidates for the Ph.D. in English must be in attendance as full-time students for at least three semesters of the program.

29.11.1 Program of Study

1. Admission to the Ph.D. in English is limited and competitive. Applicants should have a Master's Degree in English or its equivalent from a recognized university and should have an outstanding academic record.
2. All candidates will be required to complete 15 credit hours in graduate courses. These courses will be selected by the candidate in consultation with the candidate's Supervisory Committee.

While candidates will normally be free to choose graduate courses of interest to them, it will be a primary responsibility of their Supervisory Committees to ensure that any serious deficiencies in their record of previous courses, graduate and undergraduate, are remedied, particularly in the area of proposed thesis research.

3. Candidates who have not previously taken English 7003 or its equivalent will take English 7003, which will count as one of the required courses for the Ph.D. Students who have taken English 7003 or its equivalent before entering the Ph.D. program must still complete 15 credit hours.
4. Candidates who have not completed English 4900 or English 5900 or an equivalent course will be required to complete English 5900, which will not count as one of the required courses for the Ph.D. The course will be graded "pass" or "fail". As in other graduate courses a grade of 65B or above is considered a pass.
5. Candidates must submit a thesis proposal which includes a statement of topic, a working title, a plan of research and a preliminary bibliography. The thesis proposal should be approved by the Supervisory Committee and submitted to the Departmental Graduate Studies Committee for its approval before the Comprehensive Examination and before the end of the fifth semester. The Departmental Graduate Studies Committee shall return the thesis proposal to the candidate no later than one month after receiving it.
6. Reading knowledge of a second language will be required of all candidates. Reading knowledge is defined as a minimum B grade in a second-year language course taken within the previous five years, a passing grade in an approved second-language course for graduate students, or performance satisfactory to the Department in an arranged reading proficiency test (in which a dictionary may be used).

The language requirement should be completed before the Comprehensive Examination is taken.

The second language will normally be French. In exceptional circumstances, and on the recommendation of the Supervisory Committee and the Departmental Graduate Studies Committee, a language other than French may be substituted.

The Supervisory Committee may also require a demonstrated reading knowledge of an additional language (other than French or the substituted language) if such knowledge is deemed necessary for the student's research interests.

7. The Ph.D. Comprehensive Examination in English is a written examination prepared by the candidate's Comprehensive Examination Committee.

In accordance with General Regulation **Comprehensive Examinations, Ph.D. Comprehensive Examination**, the candidate's Comprehensive Examination Committee will include the Head (or the Head's delegate, usually the Graduate Co-ordinator), the candidate's Supervisor, and three other members of the Department.

The written examination shall consist of three parts: a four-hour examination in the student's area of concentration and two three-hour examinations in two other specified areas. In accordance with General Regulation **Comprehensive Examinations, Ph.D. Comprehensive Examination**, the examination shall take place before the end of the seventh semester.

Candidates will be graded "pass with distinction", "pass", "re-examination", or "fail", in accordance with General Regulation **Comprehensive Examinations, Ph.D. Comprehensive Examination**, 4. Candidates who are marked for "re-examination" will be re-examined in the area or areas in which the Comprehensive Examination Committee has determined that the candidate's performance is deficient. The nature of this re-examination (and whether it will be written or oral) is left to the discretion of the Comprehensive Examination Committee.

29.11.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow.

- Notes: 1. *Since it is impossible to list in detail the many topics that may from time to time be offered, the titles below refer only to the major periods and general subject areas in which specific courses may be available. The content and approach in specific courses will vary according to the research interests of students and faculty involved in the course. Students should consult the Department's annual Graduate Student Guide (or the Graduate Co-ordinator) for detailed descriptions of specific course offerings. Normally, no fewer than 30 credit hours in graduate courses are offered in any given academic year.*
2. *English 5900 cannot be counted as one of the required graduate courses in any program.*
 3. *All students will normally take English 7003 - Trends in Contemporary Literary Theory, usually in their first semester.*
 4. *Students who took graduate courses in English at Memorial University of Newfoundland before 1997 should consult with the Department before selecting further courses.*

5900 Bibliography and Research Methods
6403 Etymology (same as Linguistics 6403)
6420 English Dialectology I

6421 English Dialectology II
 6999 Master's Essay (for non-thesis students)
 7003 Trends in Contemporary Critical Theory
 7004 English Phonology and Morphology
 7005 The Syntactic Structure of English
 7020-25 Special Topics in English
 7032 Studies in Old English I
 7033 Studies in Old English II
 7034 Studies in Middle English I
 7035 Studies in Middle English II
 7036 Studies in Middle English III
 7037 Studies in 16th-Century Literature I
 7038 Studies in 16th-Century Literature II
 7039 Studies in 16th-Century Literature III
 7040 Studies in 16th-Century Literature IV
 7041 Studies in 17th-Century British Literature I
 7042 Studies in 17th-Century British Literature II
 7043 Studies in 17th-Century British Literature III
 7044 Studies in 17th-Century British Literature IV
 7045 Studies in 18th-Century British Literature I
 7046 Studies in 18th-Century British Literature II
 7047 Studies in 18th-Century British Literature III
 7048 Studies in 18th-Century British Literature IV
 7049 Studies in 19th-Century British Literature I
 7050 Studies in 19th-Century British Literature II
 7051 Studies in 19th-Century British Literature III
 7052 Studies in 19th-Century British Literature IV
 7053 Studies in 20th-Century British Literature I
 7054 Studies in 20th-Century British Literature II
 7055 Studies in 20th-Century British Literature III
 7056 Studies in 20th-Century British Literature IV
 7057 Studies in Pre-19th Century American Literature
 7058 Studies in 19th Century American Literature I
 7059 Studies in 19th-Century American Literature II
 7060 Studies in 19th-Century American Literature III
 7061 Studies in 20th-Century American Literature I
 7062 Studies in 20th-Century American Literature II
 7063 Studies in 20th-Century American Literature III
 7064 Studies in 20th-Century American Literature IV
 7065 Studies in Pre-19th Century Canadian Literature
 7066 Studies in 19th-Century Canadian Literature I
 7067 Studies in 19th-Century Canadian Literature II
 7068 Studies in 19th-Century Canadian Literature III
 7069 Studies in 20th-Century Canadian Literature I
 7070 Studies in 20th-Century Canadian Literature II
 7071 Studies in 20th-Century Canadian Literature III
 7072 Studies in 20th-Century Canadian Literature IV
 7073 Studies in Newfoundland Literature I
 7074 Studies in Newfoundland Literature II
 7075 Studies in Newfoundland Literature III
 7076 Studies in Anglo-Irish Literature I
 7077 Studies in Anglo-Irish Literature II
 7078 Studies in Modern Drama
 7079 Studies in Post-Colonial Literature I
 7080 Studies in Post-Colonial Literature II
 7081 Studies in Post-Colonial Literature III
 7082 Studies in Critical Theory I
 7083 Studies in Critical Theory II
 7084 Studies in Critical Theory III
 7085 Special Readings in English I
 7086 Special Readings in English II
 7087 Special Readings in English III

29.12 Environmental Science

Board of Study

Dr. J. Wroblewski, Department of Ocean Sciences - Chair
 Dr. C. Campbell, Division of Science, Grenfell Campus, ex-officio
 Dr. B. Chen, Faculty of Engineering and Applied Science
 Dr. R. Chuenpagdee, Department of Geography
 Dr. P. Marino, Head, Department of Biology
 Dr. W. Montevecchi, Department of Psychology
 Dr. L. Tarasov, Department of Physics and Physical Oceanography
 Dr. S. Ziegler, Department of Earth Sciences

29.12.1 General Information

1. The Environmental Science Program is an interdisciplinary graduate program involving the departments of the Faculty of Science, the Faculty of Arts, the Faculty of Medicine and the Faculty of Engineering and Applied Science. There are three Environmental Science Graduate Degree streams: the Master of Science (M.Sc., Environmental Science), Master of Environmental Science (M.Env.Sci.), and the Doctor of Philosophy (Ph.D., Environmental Science). The program is available on a full or part-time basis.

2. The program is administered by a Board of Studies appointed by the Dean of Science. Supervisors of graduate students in the program include faculty from the Faculty of Science, the Faculty of Arts, the Faculty of Engineering and Applied Science, the Faculty of Medicine, and the Environmental Science Program at the Grenfell Campus, as well as adjunct appointees to the program (as a co-supervisor).

29.12.2 Program of Study

1. The Doctor of Philosophy (Ph.D., Environmental Science) is a research degree which includes a doctoral dissertation and course work. Normally, students entering the Ph.D. program in Environmental Science will have a M.Sc. degree from an institution recognized by the Senate. Students in the Master of Science (Environmental Science) program, after a minimum of 12 months in their program of studies, may request a transfer to the Ph.D. program. Final decision for transfer from the M.Sc. program to the Ph.D. program rests with the Dean of the School of Graduate Studies. There are two courses (6 credit hours) required for the doctoral program. All students take ENVS 6010 and those with a disciplinary M.Sc. degree in Science from a recognized university also take ENVS 6000. Other courses tailored for individual students are included in the student's program by the Dean of Graduate Studies on the recommendation of the Chair of the Board of Studies.

2. The comprehensive examination should be taken on completion of all course work. An Examination Committee will be struck in accordance with the **General Regulations**. At least two members of the Board of Studies must be on the Examination Committee. The candidate's Supervisor will be on the Examination Committee and will be the only examiner from the candidate's Thesis Supervisory Committee. The Head of the Department of the Supervisor or his/her delegate is invited to serve on the Comprehensive Examination Committee. The Examination Committee is chaired by the Chair of the Environmental Science Program. The examination will be both written and oral. The topic is assigned by the Examination Committee, which also determines the submission date for the paper, and the date of the examination. Normally, the student will write the paper within four months, and the oral examination will occur within six weeks of the paper's submission. This paper will form the basis of a public seminar. The Examination Committee will question the candidate about the paper, the topic and its broader relationship with Environmental Science.

3. The doctoral thesis is based on the results of systematic, independent research on an approved scientific topic. To ensure the research is interdisciplinary, the supervisory committee must be made up of members from at least two different departments. The candidate will be required to present a Ph.D. research proposal to the supervisory committee. The completed thesis will be evaluated according to the **General Regulations** of the School of Graduate Studies. It must contribute significantly to knowledge in the field of Environmental Science.

29.12.3 Courses

ENVE/ENVS 6000 Environmental Science and Technology
 ENVE/ENVS 6001 Earth and Ocean Systems
 ENVE/ENVS 6002 Environmental Chemistry and Toxicology
 ENVE/ENVS 6003 Applied Ecology
 ENVS 6004 Environmental Pollution and Mitigation (cross-listed as ENGI 9601)
 ENVS 6007 Environmental Risk Assessment (cross-listed as ENGI 9609)
 ENVS 6008 Air Pollution (cross-listed as ENGI 9624)
 ENVS 6010 Environmental Seminar
 ENVS 6201-6210 Selected Topics in Environmental Science

29.13 Ethnomusicology

Professor and Dean

E. Waterman

Professor and Associate Dean

M. Volk

The Doctor of Philosophy program in Ethnomusicology is administered by the School of Music in consultation with the Department of Folklore, and generally in response to recommendations from an Interdisciplinary Advisory Committee with representation from both academic units, chaired by the Program Co-ordinator.

The Degree of Ph.D. in Ethnomusicology is offered by part-time and full-time study. This program is a research Degree, generally involving extended fieldwork. The resources of the Memorial University of Newfoundland Folklore and Language Archive are available to graduate students in Ethnomusicology.

29.13.1 Qualifications for Admission

Applicants may be admitted to the program if they have at least a B+ average in a M.A. Degree in Ethnomusicology, another field of Music, or other relevant discipline in the Humanities or Social Sciences with evidence of specialization in music. Applicants from a discipline other than Music will be expected to demonstrate the following skills:

- Competent performance in any musical tradition, as judged by a musician knowledgeable about that tradition.
- Knowledge of culturally appropriate language for discussion of performance techniques in that tradition.
- Ability to discuss musical details on the basis of aural and/or written sources, as appropriate to that tradition.

Candidates for admission may, at the discretion of the Interdisciplinary Advisory Committee, be required to write diagnostic examinations measuring skills and knowledge in music literacy, theory, or aural perception. Candidates with deficiencies in any of these areas may be required to take remedial course work prior or in addition to the required program.

Upon completion of M.A. course work, students who have attained an A average may wish to be considered for transfer to the Ph.D. program. Students who seek this option must apply to the Interdisciplinary Advisory Committee to be considered for transfer one month prior to the completion of their M.A. courses or by the end of the 5th semester (see General Regulation **Qualifications for Admission, Master's Program**).

29.13.2 Program of Study

The Ph.D. program may be completed within twelve to fifteen consecutive semesters of full-time study, depending on fieldwork requirements. The Degree is normally taken by completing course work, comprehensive examinations, a language proficiency requirement, and a Ph.D. thesis, defended in accordance with General Regulation **Theses and Reports** of the School of Graduate Studies.

1. Students must complete a minimum of 21 credit hours of course work. If required courses have been completed at the M.A. level,

electives may be substituted (with approval of the Interdisciplinary Advisory Committee). The required courses are:

- a. Music 8001; Folklore 6010, 6030.
 - b. ONE of Music 6002 or Folklore 7100.
 - c. Nine credit hours of electives selected from courses listed below or from relevant courses offered in another discipline (with the approval of the Interdisciplinary Advisory Committee). Ph.D. students may take up to two courses (6 credit hours) in a cognate discipline.
 - d. Reading proficiency in one language other than English, relevant to the research area, demonstrated to the satisfaction of the Interdisciplinary Advisory Committee. The choice of language must be approved by the Interdisciplinary Advisory Committee. The language exam should normally be completed before the comprehensive exams.
2. Comprehensive examinations will be administered in a major area, minor area, and theoretical/interdisciplinary area; a component of the comprehensive examination will test audio-visual skills. Bibliographies and discographies for several focussed topics will be developed by the student in consultation with his/her supervisory committee and will be the basis of examination questions. The written portion of the examination will be scheduled over a one-week period. The Comprehensive Examination Committee will normally schedule a consultation with the student to discuss the written essays within one month following the completion of the written examination. For further information see General Regulation **Comprehensive Examinations, Ph.D. Comprehensive Examination**.
 3. Students must complete a thesis, examined and defended in accordance with General Regulation **Theses and Reports** of the School of Graduate Studies. A thesis proposal, including a working title, statement of purpose and research scope, outline of theoretical and methodological approach, working plan, and preliminary bibliography, together with proposed membership of the supervisory committee, must be submitted to the Interdisciplinary Advisory Committee no later than the fifth semester of study. The thesis shall demonstrate the candidate's ability to carry out original and independent research, develop the necessary theoretical and methodological framework, and present the findings in a scholarly manner.

29.13.3 Courses

Theories and Methods:

Music 6001 Research Methods
 Music 6002 Graduate Seminar
 Music 7001 Research Problems and Methods in Ethnomusicology
 Music 8001 Theoretical Issues in the Study of Music
 Folklore 6010 Survey of Folklore Genres and Processes
 Folklore 6020 Field and Research Methods
 Folklore 6030 Folklore Theories
 Folklore 6040 Feminist Theories: Perspectives and Issues
 Folklore 6080 Vernacular Theories
 Folklore 6090 Ethnology
 Folklore 7100 Advanced Folkloristics II: Research and Ethnography

Form and Performance:

Music 7005 Performance Option
 Folklore 6100 Song and Music
 Folklore 6120 Ballad
 Folklore 6130 Folk Music Canons and Documentary Sound Recordings
 Folklore 6200 Folktale
 Folklore 6210 Legend
 Folklore 6220 Personal Experience Narrative
 Folklore 6250 Language and Play
 Folklore 6260 Ethnography of Communications
 Folklore 6300 Ethnography of Belief
 Folklore 6310 Health Systems
 Folklore 6350 Custom
 Folklore 6360 Traditional Drama
 Folklore 6400 Material Culture
 Folklore 6410 Vernacular Architecture
 Folklore 6420 Art and the Artifact
 Folklore 6430 Food and Culture
 Folklore 6720 Folklore and Literature

Area and Genre Studies:

Music 7010 World Music: Music of Asia and Oceania
 Music 7011 World Music: Music of Africa and the Americas
 Music 7012 Canadian Musical Traditions
 Music 7013 Music and Culture
 Music 7017 Folksong
 Music 7018 Jazz and Blues: The Roots of Popular Music
 Folklore 6120 Ballad
 Folklore 6600 Folklore of Newfoundland
 Folklore 6610 Folklore of Canada
 Folklore 6620 Folklore of the United States
 Folklore 6630 Folklore of the British Isles
 Folklore 6770 The Global and the Local

Social Identities:

Music 7006 Urban Ethnomusicology
 Music 7007 Music in the Study of Gender, Race and Class
 Music 7009 Music and Place
 Folklore 6510 Occupational Folklore
 Folklore 6551 Indigenous Expressive Cultures in Cross-cultural Encounter
 Folklore 6730 Folklore and Gender
 Folklore 6780 Ethnicities

Independent Study:

Music 7026-29 Directed Reading in Ethnomusicology
Folklore 6570-79 Reading Course in Folklore

Special Topics:

Music 6800-09 Special Topics in Music
Music 7800-09 Special Topics in Music
Folklore 6511-29 Special Topics in Folklore
Folklore 6570-79 Reading Course in Folklore

Public and Applied Ethnomusicology and Folklore:

Music 6700 Music Industries Seminar
Music 6750 Music Industries Internship (2 credit hours)
Folklore 6740 Public Sector Folklore
Folklore 6760 Archiving
Folklore 6790 Museums: Perspectives and Practices
Folklore 6800 Applied Folklore

Interdisciplinary Perspectives:

Music 7008 Media Studies
Folklore 6700 Folklore and Culture
Folklore 6710 Oral Tradition and Oral History
Folklore 6750 Popular Culture: Theory and Debate

29.14 Folklore

Associate Professor and Head of the Department

D. Tye

The Degree of Doctor of Philosophy in Folklore is offered by part-time and full-time study and is primarily a research Degree. The program normally requires extensive fieldwork research in Newfoundland and/or the Maritimes.

Integral to the teaching of the Department of Folklore is the work of the Memorial University of Newfoundland Folklore and Language Archive; see section under **Master of Arts, Folklore**.

29.14.1 Program of Study

1. An applicant for admission to the Ph.D. program in Folklore must hold an M.A. Degree in Folklore, or its equivalent as determined by the Head of the Department and the Dean, with an average grade in M.A. courses of not less than 80%.
2. All Ph.D. students in the Folklore program must complete *at least* 18 credit hours in program graduate courses which shall include Folklore 7000 and 7100. Candidates will normally be free to choose graduate courses of interest to them in Folklore or related disciplines, though it will be a primary responsibility of their committees to ensure that any serious deficiencies are made good. At the end of the second semester the program and further status of the candidate will be reviewed.
3. Second Language Requirements:
 - a. All Ph.D. candidates are required to demonstrate an adequate reading knowledge of a second language - normally a common, modern language.
 - b. Reading knowledge is defined as a minimum B grade in a second-year language course taken within the previous five years, or performance satisfactory to the Department in an arranged reading proficiency test.
 - c. The selection of a second language can be based on the student's research requirements.
 - d. The selection of a second language must be made in consultation with the student's faculty advisor or Supervisor. Confirmation that the choice is acceptable must be obtained from the Department.
 - e. The language requirement must normally be fulfilled before a student takes the Ph.D. Comprehensive Examination.
4. Comprehensive Examination for the Ph.D.:
 - a. The Ph.D. Comprehensive Examination shall be administered in accordance with **General Regulations, Comprehensive Examinations**. Candidates will prepare for three examinations by undertaking supervised readings in three fields decided by the Comprehensive Examinations Committee. The basic principle is to integrate knowledge within specific areas of folklore and folklife scholarship. The examination normally will be written with the format to be determined by the Comprehensive Examination Committee in consultation with the student. Assessment will be based on the examination of three papers each of one week duration or three closed book examinations each of eight hours duration. The Committee will recommend to the Dean of Graduate Studies a grade of PAS (pass), FAL (fail), or PWD (pass with distinction).
 - b. Examination normally will take place only upon the completion of the second language requirements and no earlier than the end of the first year after admission to candidacy but no later than one year after the completion of the program courses. The examination normally will be scheduled in the second semester following the candidate's completion of courses.
5. Ph.D. Thesis:
 - a. The candidate will normally submit a thesis proposal based on his/her own interests no later than the end of the semester following the completion of comprehensive examinations. The thesis proposal will include a working title, names of preferred Supervisor and two other Committee members, statement of topic, plan of research, statement of methodological and theoretical approach, a brief review of the literature and a preliminary bibliography. The proposal will be circulated to the Department for critical evaluation on the basis of which the candidate will be informed, within one month, by the Supervisor, of its acceptance, rejection, or acceptance with recommended changes.
 - b. The thesis shall give evidence of the candidate's ability to carry out independent and original research, develop the necessary theoretical and methodological framework and present the findings in a scholarly manner.

29.14.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, normally after consultation with the Head of the Department or the Graduate Studies Administrator, and as far as the resources of the Department will allow. Courses are structured according to the categories of: Theories and Methods, Issues, Form and Performance, Special Topics, Regional, National and International Heritage, Social Identities, Public and Applied Folklore, Interdisciplinary Perspectives and Required (Ph.D.):

Theories and Methods

6010 Survey of Folklore Genres and Processes
 6020 Field and Research Methods
 6030 Folklore Theories
 6040 Feminist Theories: Perspectives and Issues
 6080 Vernacular Theories
 6090 Ethnology

Issues

6050 Issues in Folkloristics
 6060 Issues in Folk Literature
 6070 Issues in Folklife

Form and Performance

6100 Song and Music
 6120 Ballad
 6130 Folk Music Canons and Documentary Sound Recordings
 6200 Folktale
 6210 Legend
 6220 Personal Experience Narrative
 6250 Language and Play
 6260 Ethnography of Communications
 6300 Ethnography of Belief
 6310 Health Systems
 6350 Custom
 6360 Traditional Drama
 6370 Ritual, Festival and Public Display
 6400 Material Culture
 6410 Vernacular Architecture
 6420 Art and the Artifact
 6430 Food and Culture
 6720 Folklore and Literature

Special Topics

6511-29 Special Topics in Folklore
 6550 Special Research in Folklore
 6551 Indigenous Expressive Cultures in Cross-Cultural Encounter
 6552-69 Special Research in Folklore
 6570-79 Reading Course in Folklore

Regional, National and International Heritage

6600 Folklore of Newfoundland
 6610 Folklore of Canada
 6620 Folklore of the United States
 6630 Folklore of the British Isles
 6640 Traditional Culture of Scotland
 6650 Culture and Traditions of Ireland
 6660 Folklore of the Francophone Regions
 6690 International Folklore

Social Identities

6510 Occupational Folklife
 6730 Folklore and Gender
 6770 The Global and the Local
 6780 Ethnicities

Public and Applied Folklore

6740 Public Sector Folklore
 6760 Archiving
 6790 Museums: Perspectives and Practices
 6800 Applied Folklore

Interdisciplinary Perspectives

6700 Folklore and Culture
 6710 Oral Tradition and Oral History
 6750 Popular Culture: Theory and Debate

Required (Ph.D.)

7000 Advanced Folkloristics I
 7100 Advanced Folkloristics II Research and Ethnography

Credit may not be obtained for both 6010 and the former 6110; 6020 and the former 6111; 6030 and the former 6112; 6100 and the former 6430; 6120 and the former 6445; 6300 and the former 6230; 6350 and the former 6230; 6400 and the former 6501; 6720 and the former 6460.

29.15 Food Science

See **Biochemistry**.

29.16 Geography

Professor and Head of the Department

C. Mather

29.16.1 Program of Study

1. To be admitted to the program, an applicant must have completed either a Master of Arts or a Master of Science Degree, or its

equivalent, in Geography or a related discipline. In exceptional circumstances, a candidate who has completed either a B.A. (Honours) or B.Sc. (Honours) Degree, and who has spent not less than 12 months in a M.A. or M.Sc. Degree program may apply for transfer into a Ph.D. program. A successful application for transfer will require that the candidate demonstrate to the satisfaction of the Department an ability to pursue research at the doctoral level.

2. The deadline for submission of applications for admission is January 15. Candidates will normally commence their programs in the Fall semester.
3. Research areas for graduate study at the Doctoral level are cultural, political and historical geography, economic geography, resource management, community and regional development, physical geography and geographic information sciences.
4. An applicant will be admitted to a doctoral program only if a faculty member agrees to act as Supervisor, and at least two other individuals are willing to serve on the supervisory committee.
5. All candidates must successfully complete Geography 6000 and 6001 if these courses, or equivalent courses, have not been included in their Master's program. In addition, all candidates are required to successfully complete a minimum of 3 credit hours in graduate program courses.
6. The supervisory committee may decide that a candidate successfully completes an examination for reading or speaking a language other than English.
7. After the successful completion of all required courses, candidates must take a comprehensive examination which will have both a written and an oral component.
8. Following successful completion of the comprehensive examination the candidate will submit a written research proposal to the supervisory committee. The proposal must then be approved by the Committee prior to the commencement of research by the candidate.
9. Each candidate will be required to present a seminar on their research to the Department.
10. The Ph.D. program will conclude with the examination and oral defence of the completed thesis in accordance with the appropriate sections of the **General Regulations** governing the School of Graduate Studies.

29.16.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates as far as the resources of the Department will allow:

6000 Development of Geographical Thought and Practice I
 6001 Development of Geographical Thought and Practice II
 6002 Directed Readings in Geography
 6100 Research Techniques in A Selected Field of Geography I
 6101 Research Techniques in A Selected Field of Geography II
 6120 Geospatial Modelling and Analysis
 6150 Environmental Remote Sensing and Image Analysis
 6200 Economic Geography I
 6201 Economic Geography II
 6204 Sustainable Community and Regional Development
 6250 Conservation and Sustainability of Natural Resources
 6251 Survey Design, Questionnaire Development and Techniques of Data Collection
 6300 Problems in Fisheries Geography
 6400 Fluvial Geomorphology
 6401 Glacial Geomorphology
 6402 Coastal Geomorphology
 6410 Climatology
 6420 Quaternary Geography
 6430 Biogeography
 6500 Cultural Geography
 6600 Historical Geography
 6700 Political Geography
 6800 Urban Geography
 6821 Advanced Computer Mapping
 6900 Graduate Seminar in Regional Geography
 6990-95 Special Topics in Geography

29.17 Geology

See **Earth Sciences**.

29.18 Geophysics

See **Earth Sciences**.

29.19 History

Professor and Head of the Department

S. Cadigan

The degrees of Doctor of Philosophy and Master of Arts are offered in History by full-time or part-time study.

29.19.1 Program of Study

1. The Ph.D. Degree in History is offered in the following areas:
 - a. Canadian History
 - b. Maritime History
 - c. Newfoundland History
2. An applicant must hold either a Master's Degree in History or a Bachelor's Degree in History with first-class Honours or their equivalents as determined by the Head of the Department and the Dean.

3. All candidates must successfully complete History 7000 and 7001 in the first year of the program. The Supervisory Committee may require the candidate to complete additional graduate courses.
4. All candidates must demonstrate in accordance with regulations established by the School of Graduate Studies a reading knowledge of French before taking the comprehensive examination. On the recommendation of the Supervisory Committee a modern language other than French may be substituted. In addition, the Supervisory Committee may require a demonstrated reading knowledge of a second language other than French or English (or the substitute language).
5. Candidates will undertake supervised reading in fields prescribed by the Department. The Supervisors of these programs of reading, along with the thesis Supervisor, will comprise the student's Supervisory Committee. This reading will prepare the student for the comprehensive oral examination.
6. Candidates must submit a thesis proposal, deemed acceptable by the Supervisory Committee, to the Department before sitting the comprehensive examination.
7. Candidates will normally sit the comprehensive oral examination in the second year of the program.
8. Interested applicants are urged to consult with the Head of the Department on these prerequisites and other requirements before filing an application for admission.

29.19.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates as far as the resources of the Department will allow:

6000 Advanced Studies in Newfoundland History
 6010 Advanced Studies in Canadian History
 6020 Advanced Studies in the History of the United States
 6030 Advanced Studies in French History
 6040 Advanced Studies in British History
 6050 Advanced Studies in German History
 6060 Advanced Studies in North Atlantic History
 6070 Advanced Studies in Social History
 6075 Advanced Studies in Labour and Working Class History
 6080 Advanced Studies in Intellectual History
 6090 Advanced Studies in Women's History
 6095 Advanced Studies in Ethnohistory
 6100 Advanced Studies in Military History
 6105 Advanced Studies in Diplomatic History
 6110 Advanced Studies in Maritime History
 6120 Advanced Studies in Economic and Business History
 6125 Medical Science and Social Responsibility in Health Care: Aspects of Medical History (*Cross-listed as Medicine 6420*)
 6130 Quantification and Measurement in History
 6140-59 Research in Special Topics
 6160-79 Reading Courses (Special Topics)
 6190 Theory and Method
 6200 Masters Seminar I
 6999 Masters Research Paper (12 credit hours)
 7000 Ph.D. Seminar I
 7001 Ph.D. Seminar II

29.20 Interdisciplinary

Professor and Director

S. MacKinnon

The Degree of Doctor of Philosophy (Interdisciplinary) is offered by part-time and full-time study.

The **General Regulations** of the School of Graduate Studies and the regulations outlined below will apply.

29.20.1 Administration

1. The program shall be administered by a Director, together with the School of Graduate Studies Interdisciplinary Ph.D. Committee (ID Ph.D. Committee).
2. The program of study of each student will be guided for the duration of the program by a Supervisory Committee of either three (3) or five (5) faculty members, appointed by the Dean of Graduate Studies on the recommendation of the ID Ph.D. Committee at the time of admission.

In addition, the Director shall be an ex officio member of each Interdisciplinary Ph.D. Supervisory Committee.

Duties of this Committee shall involve supervising the overall program of study, including the recommendation of appropriate courses, the setting and scheduling of comprehensive examinations, the development of a research proposal, and the thesis-writing and final examination.

The Supervisory Committee is also responsible for recommending fellowship support to the ID Ph.D. Committee and to the Dean of Graduate Studies at the time of admission and throughout the student's program.

3. Normally, the "academic home" for the student is in the Department or faculty/school of the primary Supervisor.

29.20.2 Deadlines for Applications

1. The deadline for Fall admission is March 1 for commencement in September, October 1 for commencement in January, and February 1 for commencement in May. Students seeking admission to the program should start preparing their admission file well in advance of the application deadline.

Admissions shall be considered by the ID Ph.D. Committee and recommendations shall be made to the Dean of Graduate Studies.

29.20.3 Admission

1. Prospective students should normally hold a Master's Degree and have an excellent academic record. Applications for admission must include:

- a. Three letters of reference
- b. A detailed research proposal
- c. Letters expressing a commitment to the research project and to supervisory duties from three Memorial University faculty members, one of whom is prepared to assume the role of academic Supervisor or co-supervisor and at least one whose unit of primary responsibility is a Ph.D. granting Department.
- d. Letters of endorsement from the administrative heads of each of the units involved in the proposed program.
- e. A statement from the University Librarian indicating the adequacy of Library resources to satisfy the demands of the research program.

29.20.4 Program of Study

1. a. Students will normally be required to take 12-18 credit hours of courses to be determined by the Supervisory Committee. These must include at least one course from each participating discipline. Directed reading courses may be included to support the development of the thesis work.
- b. Where appropriate, extra language and/or methodology courses may be prescribed. See **Evaluation, Evaluation of Graduate Students**, 4. concerning language(s) requirement.
2. Comprehensives
The scope, format, and number of required comprehensive examinations shall be determined by the Supervisory Committee in consultation with the student and in accordance with the needs of his/her particular program of study. Students will be required to take a comprehensive examination after the completion of all required course work, which can be no later than the end of the seventh semester of study. Comprehensive examinations shall follow procedures in accordance with General Regulation, **Comprehensive Examinations, Ph.D. Comprehensive Examination**, with the exception of 2.
3. Thesis
a. A thesis proposal, including a working title, statement of purpose and research scope, outline of theoretical and methodological approach, working plan and preliminary bibliography must be submitted to the Supervisory Committee no later than the end of the fifth semester of study. If approved by the Committee, the proposal shall be recommended to the ID Ph.D. Committee for final approval.
- b. Students must complete a thesis, examined and defended in accordance with General Regulation, **Theses and Reports** of the School of Graduate Studies. The thesis shall give evidence of the candidate's ability to develop independent and original research.

29.21 Linguistics

Professor and Head of the Department

M. MacKenzie

The degrees of Master of Arts and Doctor of Philosophy are offered in Linguistics.

29.21.1 Program of Study

1. The Degree of Doctor of Philosophy is offered in the following areas:
 - a. Languages in which the Department has demonstrated expertise, especially languages of the Newfoundland and Labrador Area.
 - b. Historical and Comparative Linguistics.
 - c. Language Variation and Language Contact.
2. In order to be admitted to the Ph.D. in Linguistics, a student shall normally hold a Master's Degree in Linguistics. In the case of a student who does not meet the above requirement but who holds a language-oriented Master's Degree, a program of additional linguistics courses, supplementary to those normally considered to be required in the Ph.D. program, may be required.
3. The program of each candidate must be approved by the Dean of Graduate Studies upon the recommendation of the Supervisory Committee in consultation with the Head of the Department.
4. Candidates who fulfill the requirement in Clause 2 and who otherwise possess the qualifications of Ph.D. candidates will embark on a program approved on an individual basis. This will normally include not less than 18 credit hours in graduate courses, at least 6 credit hours of which must be at the 7000-level.
5. Where needed, each program will include appropriate courses to ensure that the student will have completed 9 credit hours from graduate courses in each of two required fields selected from the following:
 - a. Phonetics and Phonology
 - b. Morphology and Syntax
 - c. Comparative and Historical Linguistics
 - d. Dialectology and Sociolinguistics
6. The comprehensive examination (see Regulation **Comprehensive Examinations, Ph.D. Comprehensive Examination** of the **General Regulations**) includes two written and two oral examinations. Students must meet all language requirements prior to undertaking their comprehensive examination.
 - a. The written examinations consist of two separate research papers. These papers will be submitted to the Examination Committee. At least one of the papers must be in one of the core areas of phonetics/phonology, morphology, syntax or semantics. The topic selected for each paper must obtain the prior approval of the Graduate Studies Committee of the Department. In each of these papers, candidates must demonstrate knowledge of the literature on the topic selected, general mastery of the discipline of linguistics and ability to undertake independent research.
 - b. The Examination Committee will examine the candidate orally, on each paper, within one month of submission. Questioning can be as wide-ranging as the Committee deems necessary to ensure that the student displays a thorough and comprehensive knowledge of the area in question.
 - c. The Examination Committee shall consist of the Head of Department (or delegate) who shall Chair the Committee, the Supervisor, the Dean of Graduate Studies (or delegate), and other members necessary to satisfy General Regulation **Comprehensive Examinations, Ph.D. Comprehensive Examination**, 2., who may normally include the members of the Supervisory Committee. If the Head of Department is also a member of the Supervisory Committee, an additional representative of the Department shall be appointed to chair the Examination Committee.

7. Initially, candidates must obtain approval for their Ph.D. thesis topics from the Graduate Studies Committee of the Department, in consultation with the Supervisory Committee. The thesis topic is normally selected before the end of the second full year in the program. Once the topic is approved, a more detailed thesis proposal must be presented to the Department in both written and oral format, and must receive formal Departmental approval prior to the writing of the thesis.
8. Proficiency in a language other than the candidate's first language will be required, as demonstrated by a minimum B grade in a second-year language course, or performance satisfactory to the Department in an arranged reading proficiency test. A structural knowledge of a non-Indo-European language is also required, as demonstrated by a minimum B grade in a field methods/language structure course or other performance satisfactory to the Department. Depending on the program, a reading knowledge of one or more additional languages may be required. Students must meet all language requirements before undertaking their comprehensive examinations.
9. All Ph.D. students are advised to consult the Linguistics department's Graduate Handbook for details on program requirements and for general information relating to the graduate program.

29.21.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of students, as far as the resources of the Department will allow. Full information is to be found in the Department's Graduate Brochure.

- 6050-54 Structure of a North American Aboriginal Language (Credit restriction: Except where an exemption is supplied by the Head of the Department, a student may not obtain credit for more than one course in the 6050-54 series. Students may not obtain credit for any of the previously offered 6010, 6011, 6020, 6021, 6030, 6031, 6040, 6041 in addition to a course in the 6050-54 series.)
- 6055-59 Structure of an Uncommonly-Taught Language (Credit restriction: Except where an exemption is supplied by the Head of the Department, a student may not obtain credit for more than one course in the 6055-59 series.)
- 6100 Issues in Morphosyntax (Credit may not be obtained for both Linguistics 6100 and the former 6001)
- 6110 Selected Topics in Transformational Grammar
- 6115 Topics in the Syntax of A Selected Language (Prerequisite: 6001 or 6110)
- 6150 Principles of Language Acquisition
- 6151 Selected Topics in Language Acquisition (Prerequisite: 6150)
- 6200 Generative Phonology
- 6201 Selected Topics in Phonology (Prerequisite: 6200)
- 6210 Sociolinguistics (Credit restriction: A student may not obtain credit for both 6210 or the former 6211)
- 6212 Selected Topics in Language and Gender
- 6220 Areal and Temporal Variations in Language
- 6300-09 Special Subjects
- 6350 General Romance Linguistics
- 6390 Franco-Canadian
- 6400 Comparative and Historical Linguistics
- 6401 Morphosyntactic Change (Prerequisite: 6400)
- 6403 Etymology (cross-listed as English 6403)
- 6410 Comparative Structure of a Selected Language Family (Prerequisite: 6011 or 6031 or 6403)
- 6420 English Dialectology I
- 6421 English Dialectology II
- 6430 Selected Topics in Linguistic Variation (Prerequisite: 6220 or the former 6211)
- 6500 Field Methods
- 6601 Modern Linguistic Theories
- 6700 Experimental Phonetics
- 6701 Selected Topics in Experimental Phonetics (Prerequisites: 6200, 6700)
- 6800 Selected Topics in Morphology
- 6880 Selected Topics in Semantics
- 7000 Seminar in Research Methods
- 7001 Analytical issues in Linguistics
- 7100 Topics in North American Native Languages (Prerequisites: a course from series 6050-6054 or the former 6011, 6031, 6041)
- 7200 Advanced Topics in Syntax (Prerequisites: 6110, plus either 6001 or 6115)
- 7400 Seminar in Comparative and Historical Linguistics (Prerequisite: 6400 or 6410)
- 7430 Seminar in Linguistic Variation (Prerequisite: 6430)
- 7800 Seminar in Morpho-semantics (Prerequisite: 6800)
- 7900-03 Special Topics in Linguistics

Note: Appropriate equivalent credits may be given for courses taken at the Summer Institute of the Linguistic Society of America, or a similar institute. Students are encouraged to attend these institutes. They should, however, consult the Head of the Department as to what courses may be appropriate for credit.

29.22 M.D.-Ph.D.

1. The M.D.-Ph.D. program is offered by full-time study to highly motivated students with an excellent academic record who wish to obtain an M.D. and a Ph.D., and whose academic excellence, research potential, and the suitability of the proposed research training environment is acceptable to the Program Admissions and Advisory Committee.
2. The purpose of the M.D.-Ph.D. program is to provide medical education, including clinical skills and training in health research.
3. The M.D.-Ph.D. program will be overseen by the Program Admissions and Advisory Committee (P.A.A.C.). The P.A.A.C. will be responsible for the recruitment and oversight of the program of highly qualified trainees.
4. The P.A.A.C. is composed of the M.D.-Ph.D. Program Director(s), a representative from the Faculty of Medicine, one or more faculty members representing the School of Graduate Studies and a senior M.D.-Ph.D student.
5. M.D.-Ph.D students are jointly enrolled in the M.D. program and the Ph.D. program. The student's Ph.D. program is overseen by the administrative head of the appropriate academic unit in which the student is enrolled. The M.D. program is overseen by the Assistant Dean, Undergraduate Medical Education, Faculty of Medicine.

29.22.1 Qualifications for Admission

1. To be admitted into the M.D.-Ph.D. program, applicants must first meet the admission requirements of both the M.D. and Ph.D. programs. Admission to the Ph.D. program shall be by the Dean of Graduate Studies on the recommendation of the head of the appropriate academic unit. Admission to the M.D. program is by the Dean of Medicine on the recommendation of the Assistant Dean, Admissions, Faculty of Medicine.

- Normally, students will enter the M.D.-Ph.D. program from the M.D. program after successful completion of the pre-clerkship phase or from the Ph.D. program after one or two years of the graduate program and acceptance into the M.D. program.

29.22.2 Program of Study and Research

- The program of study for the Ph.D. is described in the University Calendar entry for the student's chosen discipline. For the purposes of timing of the comprehensive examination, only the semesters in the Ph.D. component of the program will be counted.
- The program of study for the M.D. follows the General Regulations governing the M.D. Degree.
- During the Ph.D. component, students are expected to maintain clinical skills by arrangement with the Assistant Dean, Undergraduate Medical Education, Faculty of Medicine, and will be required to demonstrate competency in clinical skills before resuming full-time studies in the clerkship phase of the M.D. component.
- During the M.D. component (including the clerkship phase), students, where required, are expected to participate in seminars and journals clubs in their area of research specialization.
- The Ph.D. will be awarded to students in the M.D.-Ph.D. program on completion of all academic requirements appropriate to the Ph.D. Degree. The M.D. will be awarded to students in the M.D.-Ph.D. program on completion of all academic requirements appropriate to the M.D. Degree.

29.22.3 Evaluation

Failure to maintain academic standing in either the Ph.D. or M.D. components will lead to termination of the M.D.-Ph.D. program which will be annotated on the student's transcript. On failure of the M.D. component, the Dean of Graduate Studies may approve transfer to a Ph.D. program on the recommendation of the administrative head of the appropriate academic unit. On failure of the Ph.D. component, the Dean of Medicine may approve transfer to a M.D. program on the recommendation of the Assistant Dean of Undergraduate Medical Education.

29.22.4 Courses

See course listing under the regulations for the relevant Ph.D. program and also for the M.D. program in the General Regulations governing the M.D. degree.

29.23 Management

Professor and Dean

W. Zerbe

Associate Professor and Associate Dean (Academic Programs)

L. Bauer

Professor and Associate Dean (Research)

J. Parsons

The Degree of Doctor of Philosophy in Management is offered in the Faculty of Business Administration. The designation refers to management in the broad context. The Degree will offer specializations corresponding to functional areas in management. The Degree currently is offered with specializations in: (i) operations and information management, and (ii) organizational behaviour and human resources management.

The Degree of Doctor of Philosophy in Management is offered by full-time study to qualified candidates. The **General Regulations** of the School of Graduate Studies and the Degree Regulations of the Faculty of Business Administration outlined below, will apply.

29.23.1 Admission to the Ph.D. Program

Admission is limited and competitive. General qualifications for admission to the Ph.D. Programs at Memorial University of Newfoundland are set out under **General Regulations, Qualifications for Admission**. Applicants from all disciplines will be considered.

In addition, applicants must have completed the GMAT with a minimum score of 600 (or GRE with a combined score of 1100).

29.23.2 Supervisory Committee

Until a supervisory committee has been formed, the Ph.D. Program Director will be the designated advisor of each Ph.D. student. Each candidate will have a supervisory committee consisting of three or more members, at least two of whom shall be members of the Faculty of Business Administration. The thesis Supervisor shall be a doctorally qualified faculty member in the Faculty of Business Administration, Memorial University of Newfoundland, having a recent (past five years) research track record suitable to provide research supervision at the Ph.D. level. The supervisory committee will be appointed no later than the end of the first year of studies.

Students are encouraged to find a Supervisor within the first year of the program and, together with the Supervisor, find the remaining committee members by the time all required courses are completed.

29.23.3 Components of Study

29.23.3.1 Courses

Students are required to complete successfully a program of courses, normally over the first two years of the program. Students without an adequate background in the functional areas of business may be required to take additional breadth courses. Such determination will be made by the Ph.D. Admission Committee when a student is accepted into the program.

- Required for all Specializations**
Philosophy 6015 Theory of Knowledge
Business 9901 Approaches to Management Research
- One of**
Business 9902 Modelling Methods in Management Research
Business 9903 Quantitative Methods in Management Research*
Business 9904 Qualitative Methods in Management Research**
Business 9901 is to be completed before any of Business 9902, 9903, 9904 is attempted.

3. Graduate Research Integrity Program (non-credit)

*Alternatively, students may elect to take Education 6467 if Business 9903 is not offered in a particular year, on the approval of the Ph.D. Program Director.

**Alternatively, students may elect to take Education 6466 if Business 9904 is not offered in a particular year, on the approval of the Ph.D. Program Director.

Operations and Information Management (OIM) Specialization Courses

In addition to the above-noted courses required for all specializations, the following courses are required for the Operations and Information Management specialization:

Business 9910 Optimization
 Business 9911 Data and Process Models in Information Systems Development
 Business 9912 Probabilistic Models
 Business 9913 Human-Computer Interaction and Decision Support Systems
 Business 9914 Supply Chains: Models and Management
 Business 9915 Electronic Commerce
 Business 991A/B Seminar in Operations and Information Management Research A/B
 Business 9917 Special Topics in Operations Management
 Business 9918 Special Topics in Information Systems

Recommended Sequence for Operations and Information Management (OIM) Specialization Table

Semester	Courses
Year 1, Fall	Philosophy 6015 Theory of Knowledge BUSI 9901 Approaches to Management Research BUSI 9910 Optimization BUSI 9911 Data and Process Models in Information Systems Development
Year 1, Winter	BUSI 9902 (Modelling), 9903 (Quantitative), or 9904 (Qualitative) Methods in Management Research BUSI 9912 Probabilistic Models BUSI 9913 Human-Computer Interaction and Decision Support Systems Graduate Research Integrity Program (non-credit)
Year 1, Spring	Summer Research Project
Year 2, Fall	BUSI 9914 Supply Chain: Models and Management BUSI 9915 Electronic Commerce BUSI 991A Seminar in Operations and Information Management Research (Part A) Graduate Program in Teaching (Recommended (non-credit))
Year 2, Winter	BUSI 991B Seminar in Operations and Information Management Research (Part B) BUSI 9917 Special Topics in Operations Management BUSI 9918 Special Topics in Information Systems

Organizational Behaviour and Human Resources Management Specialization Courses

In addition to the above-noted courses required for all specializations, the following courses are required for the Organizational Behaviour and Human Resources Management specialization.

1. Required courses:

Business 9920 Foundations in Organizational Behaviour
 Business 9921 Foundations in Human Resources Management
 Business 9924 Current Issues in Organizational Behaviour
 Business 9925 Current Issues in Human Resources Management

Note: *Waivers shall not be granted in the Ph.D. program for previously completed course work at either the undergraduate or master's level.*

2. Four of:

Business 9922 Foundations in Industrial Relations
 Business 9923 Foundations in Organizational Theory
 Business 9926 Current Issues in Industrial Relations
 Business 9927 Current Issues in Organizational Theory
 Business 9928-9939 Special Topics in Organizational Behaviour/Human Resources Management
 Any other graduate course subject to the approval of the Supervisor

Recommended Sequence for Organizational Behaviour and Human Resources Management Specialization Table

Semester	Courses
Year 1, Fall	Philosophy 6015 Theory of Knowledge BUSI 9901 Approaches to Management Research BUSI 9920 Foundations of Organizational Behaviour BUSI 9921 Foundations of Human Resources Management
Year 1, Winter	BUSI 9902 (Modelling), 9903 (Quantitative), or 9904 (Qualitative) Methods in Management Research Business 9924 Current Issues in Organizational Behaviour Business 9925 Current Issues in Human Resources Management Graduate Research Integrity Program (non-credit)
Year 1, Spring	Summer Research Project
Year 2, Fall	Two of: BUSI 9922, 9923, 9926, 9927, 9928-9939** or any other graduate course subject to the approval of the Supervisor Graduate Program in Teaching (Recommended (non-credit))
Year 2, Winter	Two of: BUSI 9922, 9923, 9926, 9927, 9928-9939** or any other graduate course subject to the approval of the Supervisor

** Offerings subject to scheduling

29.23.3.2 Summer Research Project

During the first summer in the program, students will complete a research project under the supervision of a qualified faculty member in the area of specialization. Projects must be presented in the course BUSI 991B Seminar in Operations and Information Management Research during the second year of the program or an equivalent course in other specializations.

29.23.3.3 Comprehensive Examination

Students shall undertake a mandatory written comprehensive examination, following General Regulation **Comprehensive Examinations, Ph.D. Comprehensive Examination**, which sets out the procedures for the comprehensive examination.

In addition:

1. A candidate in the Ph.D. Program in Management shall normally take the written Comprehensive Examination by the end of the seventh semester of the program. The candidate must have successfully completed all required courses prior to writing the Comprehensive Examination. The scope of the Comprehensive Examination will be determined by the Examining Committee (as defined in General Regulation **Comprehensive Examinations, Ph.D. Comprehensive Examination**) under the guidance of the Supervisory Committee.
2. A list of topics/areas for the Comprehensive Examination will be provided to the student no later than three months prior to the date of the examination.
3. The written examination will take place in three phases over a one-week period.
4. Based on the results of the written examination, the Examining Committee may schedule a supplementary oral examination on any topics covered on the written examination. The oral examination request must be made to the Dean within two weeks of completion of the written examination. The oral examination, if any, must take place within six weeks of completion of the written examination.
5. The scheduling of the Comprehensive Examination will be initiated by the student's Supervisor who will notify the Dean of the Faculty of Business Administration. The date of the written examination will be determined by the Dean of the School of Graduate Studies. The student will be provided with written notice of the scheduled dates of the written examinations. In the case of oral examinations, requests will be initiated by the Examining Committee or the student (as described above in 4.) through the School of Graduate Studies.

29.23.3.4 Ph.D. Thesis Regulations

1. The candidate must submit a thesis proposal to all members of the Supervisory Committee for evaluation and approval by the end of the eighth semester of the program. Within one month of submitting the proposal, the Candidate will give a public oral presentation of the proposal, attended by the Committee. The presentation will provide the Committee and others in attendance with an opportunity to raise questions about the proposal research. Immediately following the presentation, the Supervisory Committee will meet to assess the proposal. Assessment will result in one of the following three outcomes: (1) accept; (2) accept with changes; or (3) reject. The results of this assessment will be provided to the student following the meeting. Assessments of accept with changes or reject will be accompanied by written comments within one week of the proposal presentation.
2. If the proposal is rejected, the candidate will be permitted a second proposal. This proposal must be submitted and deemed acceptable by the Supervisory Committee within four months of the original proposal presentation. Failure to resubmit within this time period will lead to termination of the candidate's program.
3. The Ph.D. thesis will constitute an independent and original research contribution.
4. The Ph.D. thesis will be evaluated according to the process established in General Regulation **Theses and Reports, Evaluation of Ph.D. Theses** governing the School of Graduate Studies.

29.24 Mathematics and Statistics

Professor and Head of the Department

E. Goodaire

The degrees of **Master of Applied Statistics** (see appropriate calendar entry), **Master of Science** and Doctor of Philosophy are offered in the Department of Mathematics and Statistics. The Masters' degrees are offered by full-time and part-time studies. The Department also participates in the interdisciplinary Ph.D. Program in Theoretical Physics.

29.24.1 Program of Study

The following regulations should be read in conjunction with the **General Regulations** of the School of Graduate Studies.

1. Candidates shall be assigned a supervisory committee consisting of the Supervisor (or Co-Supervisors) and at least two other members of faculty appointed by the Dean on the recommendation of the Head.
2. A candidate shall complete at least 6 credit hours in graduate courses in the area of specialization. Candidates not holding a Masters Degree shall, in addition, complete, or have already completed successfully, the course requirements for a Memorial University of Newfoundland Master's Degree in mathematics or in statistics, as appropriate. Any candidate may be required to take additional courses.
3. The Comprehensive Examination consists of two parts, called the "qualifying review" and the "intermediate review". Successful completion of both the qualifying and intermediate reviews constitutes successful completion of the Comprehensive Examination in the sense of General Regulation **Comprehensive Examinations**.
 - a. The **qualifying review** consists of written examinations and takes place as soon as the Supervisory Committee deems appropriate, but not later than the end of the candidate's third semester in the doctoral program. Its main purpose is to ensure that the candidate has a reasonably broad general knowledge of mathematics or of statistics, as appropriate.
 - b. The **intermediate review** consists of an oral presentation on the candidate's thesis topic followed by an oral examination based on the presentation although questions of a general nature relating to the field of specialization are also permitted. It must take place no later than the end of the candidate's seventh semester in the doctoral program. Its purpose is to ensure that the candidate has specialized knowledge in his/her chosen area sufficient to do original research of a high level.

More details concerning the Department's comprehensive examinations can be obtained from the Department.

29.24.2 Specific Regulations for the Ph.D. in Mathematics

A Master's Degree in mathematics or related area from a recognized university is normally required for entry into the Ph.D. program. Students holding a Bachelor's Degree (Honours or equivalent) in mathematics may be considered for direct admission into the Ph.D. program. Students currently registered in Memorial University of Newfoundland's M.Sc. program in mathematics may request a transfer into a Ph.D. program. Such transfer must be supported by the intended Ph.D. supervisory committee and the Graduate Studies Committee.

29.24.3 Specific Regulations for the Ph.D. in Statistics

A Master's Degree in statistics from a recognized university is normally required for entry into the Ph.D. program. Students currently registered in Memorial University of Newfoundland's MAS or M.Sc. program in statistics may request a transfer into a Ph.D. program. Such transfer must be supported by the intended Ph.D. supervisory committee and the Graduate Studies Committee.

In addition to general Departmental requirements, each candidate for the Ph.D. in statistics will be required to present at least one paper at a graduate seminar on a topic to be approved by his or her Supervisor.

Table of Credit Restrictions for Present Mathematics Courses with Former Mathematics Courses

(Credit may be obtained for only one course from each of the pairs of courses listed in this table.)

Present Course	Former Course	Present Course	Former Course
6323	6030	6212	6080
6321	6032	6310	6130
6322	6035	6330	6200
6340	6040	6331	6210
6341	6041	6332	6350
6342	6042	6312	6500

29.24.4 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow:

Mathematics

6100 Dynamical Systems
 6101 Modern Perturbation Theory
 6102 Mathematical Biology
 6104 Infinite Dimensional Dynamical Systems
 6110-6119 Special Topics in Applied Mathematics
 6120 Theoretical Fluid Dynamics
 6121 Functional Differential Equations
 6130 Introduction to General Relativity
 6160 Partial Differential Equations
 6201 Numerical Methods for Partial Differential Equations
 6202-6209 Special Topics in Numerical Analysis
 6210 Numerical Solution of Differential Equations (for Computational Science students only - required core course)
 6212 Numerical Methods for Initial Value Problems
 6300 Algebraic Topology I (Homology Theory)
 6301 Algebraic Topology II (Homotopy Theory)
 6302 Algebraic Topology III (Theory of Fibre Bundles)
 6304-6309 Special Topics in Topology
 6310 Functional Analysis
 6311 Complex Analysis
 6312 Measure Theory
 6313 Functional Analysis II
 6315-6319 Special Topics in Analysis
 6320 Group Theory
 6321 Ring Theory
 6322 Nonassociative Algebra

6323 Homological Algebra
 6324-6329 Special Topics in Algebra
 6330 Analytic Number Theory
 6331 Algebraic Number Theory
 6332 Point Set Topology
 6340 Graph Theory
 6341 Combinatorial Design Theory
 6342 Advanced Enumeration
 6343-6349 Special Topics in Combinatorics
 6351 Advanced Linear Algebra
 6910 Topology Seminar
 6940 Analysis Seminar
 6950 Algebra Seminar

Statistics

6500 Probability (*credit restricted with former 6586*)
 6503 Stochastic Processes
 6505 Survival Analysis
 6510 Mathematical Statistics
 6520 Linear Models
 6530 Generalized Linear Longitudinal Mixed Models
 6540 Time Series Analysis
 6545 Statistical Computing
 6550 Nonparametric Statistics
 6560 Continuous Multivariate Analysis
 6561 Categorical Data Analysis
 6563 Sampling Theory
 6570-6589 Selected Topics in Statistics and Probability (excluding 6586)
 6930 Statistics Seminar

29.24.5 Specific Regulations for the Ph.D. in Theoretical Physics

The **Ph.D. in Theoretical Physics** is an interdisciplinary program offered jointly with the Department of Physics and Physical Oceanography. The regulations for this program are described under the **Regulations Governing the Degree of Doctor of Philosophy - Theoretical Physics**

29.25 Medicine

Professor and Dean

J. Rourke

Professor and Interim Associate Dean

D. McKay

Associate Professor and Acting Assistant Dean

D. Gustafson

The Faculty of Medicine offers the degree of Doctor of Philosophy in seven program areas: Cancer and Development, Cardiovascular and Renal Sciences, Clinical Epidemiology, Community Health, Human Genetics, Immunology and Infectious Diseases and Neurosciences. Each program area has a Co-ordinator who is responsible for communicating the interests of the program to the Faculty of Medicine Graduate Studies Committee and participate in the admission of graduate students into the graduate program in Medicine. The Faculty of Medicine also offers the opportunity for students registered in the Doctor of Medicine (M.D.) program to obtain a Ph.D. in a combined and integrated M.D.-Ph.D. program.

29.25.1 Qualifications for Admission

The admission requirements for the Ph.D. are as given under the **General Regulations** governing Ph.D. degrees.

29.25.2 Program of Study and Research

1. The program of study for a Ph.D. Degree is the responsibility of the supervisory committee composed of a Supervisor and at least two other faculty members.
2. It is the responsibility of the supervisory committee to meet regularly (at least annually) with the student and to provide guidance at all stages of the candidate's program. An annual report prepared by the Supervisor and signed by the student and all members of the committee is required to be submitted to the Assistant Dean of Research and Graduate Studies (Medicine).
3. Graduate Students are expected to participate in Faculty of Medicine seminars and journal clubs, for some of the program areas these are available as required courses.
4. Course requirements are set by each of the program areas and are described under Program Requirements. Some supervisory committees may require some students to successfully complete specified course work.
5. Graduate Students in the Ph.D. degree are required to successfully complete the comprehensive examination before the end of the seventh semester. The comprehensive examination consists of both written and oral components and is in accordance with the **General Regulations** governing Ph.D. degrees.
6. Graduate students in the Ph.D. degree must complete an original piece of research, a written dissertation which must be successfully defended in an oral examination in accordance with the **General Regulations** governing Ph.D. degrees.

29.25.2.1 Program Areas

1. Cancer and Development
 - a. The graduate program in Cancer and Development offers study in fundamental cell and molecular biological areas including viral oncogenesis, growth factors and oncogenes in developmental models, programmed cell death and drug resistance.
 - b. Program Requirements: Students are required to participate in the Seminar Series (MED 6410-6413).

2. Cardiovascular and Renal Sciences

- a. The graduate program in Cardiovascular and Renal Sciences enables students to pursue research and academic studies in selected topics including hypertension and stroke, neural and endothelial control of vasculature and blood pressure as well as physiological mechanisms promoting heart failure. The faculty participating in the program consists of basic cardiovascular scientists and renal clinicians. Teaching within the program is integrated with the M.D. program.
- b. Program Requirements: Students are required to successfully complete MED 6140 if this course has not been previously taken. Students are required to present their thesis research to the Cardiovascular and Renal Sciences group.

3. Clinical Epidemiology

- a. The program in Clinical Epidemiology is aimed at university graduates intending a career in health services, faculty members seeking advanced training in clinical epidemiology, medical doctors and health care professionals interested in health care delivery research.
- b. Program Requirements: Students are required to successfully complete all of the following courses if they have not been previously completed: MED 6095, MED 6262 or MED 6200, MED 6250, MED 6255 and MED 6260. Students are required to take the Ph.D. Seminar Series (MED 6410-6413).

4. Community Health

- a. The graduate program in Community Health enables students to pursue research and academic studies in selected topics. Students may specialize in one of the following three streams: epidemiology and biostatistics; health services and policy research; or social justice and equity in health.
- b. Program Requirements: Coursework as defined by the Supervisory Committee and this would normally include the Ph.D. Seminar Series (MED 6410-6413).

5. Human Genetics

- a. The graduate program in Human Genetics will enable students to pursue academic studies and research in a number of areas of genetics including cancer genetics, genetic epidemiology, gene mapping, medical genetics, birth defects and population genetics. Faculty members from all three divisions of the Faculty of Medicine (Biomedical Sciences, Community Health and Clinical Sciences) participate in the program.
- b. Program Requirements: Students are required to take the Genetics Seminar Series (MED 6410-6413).

6. Immunology and Infectious Diseases

- a. The Immunology and Infectious Diseases group has an interdisciplinary character and consists of faculty from biomedical science and oncology research. The graduate programs are designed to provide individualized training oriented towards basic research and a solid scientific background in the discipline of immunology and infectious diseases.
- b. Program Requirements: Students are required to successfully complete three core courses if they have not been previously completed: Immunology I (MED 6127), Immunology II (MED 6128) and Advanced Immunological Methods (MED 6130). Students are required to attend, for credit, and participate in the Immunology and Infectious Diseases Seminar Program (MED 6410-6413).

7. Neurosciences

- a. The Neuroscience Program offers graduate studies in an interdisciplinary setting with the core faculty in the Division of BioMedical Sciences but also including faculty from the Department of Psychology in the Faculty of Science. Graduate students may pursue research in a number of specialty areas including the physiological basis of learning and memory, stroke and neuroplasticity, neuroregeneration, signal transduction mechanisms, neuronal circuitry and membrane physiology. The Neuroscience Program is a Chapter of the Society for Neuroscience.
- b. Program Requirements: Normally students in the Ph.D. program are required to complete two graduate level courses in Neuroscience, one of which is to be Systems Neuroscience (MED 6196). Course selection is made on the recommendation and advice of the supervisory committee. Students are expected to attend and participate in the activities of the neuroscience group including the weekly seminar and journal club.

29.25.2.2 Courses

For a list of courses offered by the Faculty of Medicine refer to **Courses** offered for the Master of Science in Medicine.

29.26 Pharmacy

Associate Professor and Dean

L.R. Hensman

The Degree of Doctor of Philosophy in Pharmacy is offered to qualified candidates normally by full-time study. The **General Regulations** of the School of Graduate Studies of Memorial University of Newfoundland outlined in the current Calendar, and the Degree Regulations of the School of Pharmacy outlined below will apply. Every candidate in graduate studies shall comply with the **General Regulations**, Degree Regulations and all additional requirements of the School of Pharmacy.

29.26.1 Qualifications For Admission

1. Admission to the Ph.D. program is limited and competitive. Applicants must have completed an M.Sc. Degree in Pharmacy, or its equivalent in a related discipline, from a university of recognized standing.
2. Other students may be considered for admission to a Ph.D. provided that they have been registered in a M.Sc. Pharmacy program for a minimum of 12 months, and have demonstrated to the satisfaction of the Graduate Studies Committee of the School of Pharmacy an ability to pursue research at the doctoral level. Students wishing to transfer from the M.Sc. to the Ph.D. will have completed 6 credit hours. Prior to admittance to the Ph.D. program, a written thesis proposal will be submitted for assessment by the Supervisory Committee plus one additional faculty member. The recommendation of this Committee will be forwarded to the Graduate Studies Committee of the School of Pharmacy.
3. On admission to the program, a Supervisory Committee shall be appointed in accordance with General Regulation **Supervision** governing the School of Graduate Studies.

29.26.2 Program of Study and Research

1. As a minimum, each candidate shall successfully complete 6 credit hours as well as Pharmacy 6999 (Pharmacy Research Seminar). A minimum grade of 65% will be required in each course. Candidates shall complete additional undergraduate courses in Pharmacy

or other related areas where the Supervisory Committee considers there to be a deficiency in the academic record. Candidates may select these courses in consultation with the Supervisory Committee. However, it will be the primary responsibility of the Supervisory Committee to ensure that deficiencies in the academic record are rectified.

2. All candidates must submit a thesis proposal to the Supervisory Committee for approval no later than the second semester of study after admission to the program.
3. All candidates must complete a comprehensive examination on or before the end of the sixth semester of study after admission to the program. The comprehensive examination will consist of two components: a written examination and an oral examination. The oral examination will normally be held no later than two weeks after successful completion of the written examination.
4. A Comprehensive Examination Committee shall be appointed in accordance with General Regulation **Comprehensive Examination**. The Committee will be responsible for preparing the questions for the written and oral examinations and evaluating the candidate's performance in the subject area. The Committee will consist of the Dean of Graduate Studies (or delegate), the Supervisor, and three other members, one of whom may be a member of the Supervisory Committee. All shall be voting members of the Committee except the Dean of Graduate Studies (or delegate).
5. Successful completion of the Ph.D program will require formal examination of the written thesis and an oral defence of the research, as prescribed in the General Regulation **Theses and Reports**. Final approval of the thesis shall be the responsibility of the School of Graduate Studies.

29.26.3 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates as far as the resources of the School will allow. Permission of the instructor and the Graduate Studies Committee of the School of Pharmacy is required for admission to any graduate Pharmacy course.

6000 Medicinal Chemistry
 6001 Advanced Physical Pharmacy
 6002 Dosage Form Design and Novel Drug Delivery Systems
 6003 Pharmacokinetic Modelling
 6004 Principles of General Pharmacology
 6005 Toxicology of Therapeutic Agents and Chemicals
 6100-6104 Special Topics Courses
 6999 Pharmacy Research Seminar

29.27 Physics and Physical Oceanography

Professor and Head of the Department

J. Whitehead

The following Departmental Regulations are supplementary to the **General Regulations** governing the M.Sc. and Ph.D. degrees. A thorough familiarity with the latter Regulations should be regarded as the prerequisite to further reading in this section.

The Department of Physics and Physical Oceanography compiles, and regularly reviews, a brochure which contains reasonably detailed descriptions of currently active research projects, as well as a comprehensive listing of recent research publications, and other material which may be of interest to prospective graduate students.

29.27.1 Program of Study

The Degree of Doctor of Philosophy (Ph.D.) is offered in Atomic and Molecular Physics, in Physical Oceanography, in Condensed Matter Physics and in Theoretical Physics.

1. A program of study for the Ph.D. Degree in Atomic and Molecular Physics, Condensed Matter Physics or Physical Oceanography shall normally include a minimum of 9 graduate credit hours, beyond those required for the M.Sc. Degree. However, depending on the student's background and area of specialization, more or fewer graduate and/or undergraduate courses may be required.
2. A Comprehensive Examination (as prescribed under General Regulation **Comprehensive Examinations**) shall be an oral one, and may include the presentation of a written research proposal.
3. The **Ph.D. Program in Theoretical Physics** is an interdisciplinary program offered jointly with the Department of Mathematics and Statistics. The regulations for this program are described under the **Regulations Governing the Degree of Doctor of Philosophy - Theoretical Physics**

29.27.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow:

6000 Condensed Matter Physics I
 6001 Condensed Matter Physics II
 6002 Superconductivity
 6003 Path Integral Techniques in Condensed Matter Physics
 6010-19 Special Topics in Condensed Matter Physics
 6040 Biophysics
 6060-69 Special Topics in Interdisciplinary Areas
 6200 Nonlinear Dynamics
 6308 Ocean Dynamics I
 6309 Ocean Dynamics II
 6310 Physical Oceanography
 6313 Physical Fluid Dynamics
 6314 Field Oceanography
 6315 Polar Oceanography
 6316 Ocean Measurements and Data Analysis
 6317 Ocean Acoustics
 6318 Numerical Modelling
 6319 Climate Dynamics
 6320 Turbulence
 6321 Coastal Oceanography
 6322 Stratified Fluids

6323 Stability Theory
 6324 Models in Ocean Ecology
 6360-69 (excluding 6363) Special Topics in Physical Oceanography
 6363 Laboratory Experiments in Geophysical Fluid Dynamics
 6400 Statistical Mechanics
 6402 Theory of Phase Transitions
 6403 Stochastic Processes, Time-Dependent and NonEquilibrium Statistical Mechanics
 6502 Electrodynamics
 6720 Theory of Molecules
 6721 Molecular Spectroscopy
 6722 Light Scattering Spectroscopy
 6730 Molecular Theory of Liquids and Compressed Gases
 6740 Physics of Atomic Collisions
 6760-69 Special Topics in Atomic and Molecular Physics
 6800 Group Theory
 6810-19 Special Topics in Theoretical and Mathematical Physics
 6850 Quantum Mechanics I
 6851 Quantum Mechanics II
 6900 Techniques in Experimental Condensed Matter Physics
 6910-19 Special Topics in Experimental and Applied Physics

Table of Credit Restrictions - Physics and Physical Oceanography

(Credit may be obtained for only one course from each of the pairs of courses listed in this table.)

Present Course	Former Course	Present Course	Former Course
6000	6050	6318	6304
6001	6051	6321	6303
6002	6822	6321	6304
6003	6820	6323	6303
6200	6821	6402	6401
6308	6312	6403	6401
6309	6311	6403	6824
6313	6301	6502	6500
6316	6302	6502	6501
6317	6823	6722	6790

Members of the Department carry out research in several areas of experimental and theoretical physics, including atomic and molecular physics, condensed matter physics, physical oceanography, theoretical geophysics and applied nuclear physics. In atomic and molecular physics, there are experimental programs in collision-induced infrared absorption spectroscopy, electron emission spectroscopy of simple molecules, molecular ions and free radicals, laser-induced fluorescence spectroscopy, and Raman spectroscopy, and theoretical work on atomic and molecular collisions. The work in condensed matter physics includes experimental programs in solid state nuclear magnetic resonance on systems of biophysical interest, Raman spectroscopy of lipid bilayers and membranes, studies of phase transitions using Brillouin and Raman spectroscopy, studies of instabilities and pattern formation in simple fluid dynamical systems, and spectroscopic studies of molecular crystals. Theoretical condensed matter physics research involves studies of magnetism, superconductivity, and the statistical mechanics of polymers and lipid bilayers. The Physical Oceanography group carries out field and laboratory research on several projects which take advantage of Newfoundland's unique oceanographic environment, using acoustic and other remote sensing techniques. These include studies of circulation on the Newfoundland and Labrador shelves, Labrador current dynamics, fjord dynamics, submarine canyons and sediment transport dynamics in the nearshore zone and on the shelf. Theoretical oceanographic studies involve the modelling of ocean circulation, gravity wave phenomena and other aspects of ocean dynamics. Research in theoretical geophysics is concentrated on whole-Earth dynamics, with special emphasis on the physics of the liquid core (the Earth's "third ocean") as inferred from its wave spectrum and the associated momentum transfer to the deformable solid parts of the Earth. In nuclear physics, research is done on the atmospheric concentrations of radioactive elements and on dosimetry for medical applications.

Note: For Geophysics, see **Earth Sciences**.

29.28 Psychology

Professor and Head of the Department

I. Neath

The Degree of Master of Science (M.Sc.) is offered in Experimental Psychology. Interested students should also see the **Master of Science in Cognitive and Behavioural Ecology**. The Degree of Doctor of Philosophy is offered in Experimental Psychology. Interested students may wish to consult the section in the Calendar describing the **Doctor of Philosophy in Cognitive and Behavioural Ecology** program.

29.28.1 Admission

1. All applicants are required to submit results from the General section of the Graduate Record Examinations.
2. At least one letter of reference should come from someone who is familiar with the applicant's research capability.

29.28.2 Program of Study

1. An applicant must hold either a Master's Degree or an Honours Bachelor's Degree with first class standing to be considered for admission. The program of study will be specified at the time of admission. Decisions on (a) whether to include courses in the program, and if so, (b) which specific courses are to be included will be based on the student's background and the proposed thesis

topic.

2. Comprehensive Examination

The Ph.D. comprehensive in Experimental Psychology shall be taken during the first year of the student's program. The examination will consist of two parts: (1) an essay, the topic of which is different from the subject of the thesis, and (2) an oral examination which tests the candidate's ability to integrate the essay into the broad area of Psychology. The essay topic will be assigned by the Examining Committee in consultation with the student and Supervisor. The essay should not be a précis of the literature, but a critical appraisal of a subject. This should identify important unresolved issues, and where possible suggest solutions to them.

29.28.3 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow:

6000 Advanced Statistics in Psychology
 6001 Research Design
 6010 Colloquium Series in Psychology (repeatable, non-credit)
 6100-6130 Special Topics in Experimental Psychology
 6200 Learning I
 6201 Learning II
 6203 Behavioural Pharmacology
 6210 Behavioural Analysis of Toxins
 6351 Behavioural Ecology and Sociobiology (Cross-listed as CABA 6351)
 6400 Theory and Methods in Social Psychology
 6401 Social Cognition
 6402 Group Processes
 6403 Program Evaluation and Applied Research
 6404 Project in Applied Social Psychology *NOTE: This course is open only to students in the Master of Applied Social Psychology*
 6500 Developmental Psychology I
 6501 Developmental Psychology II
 6502 Developmental Changes During Old Age
 6700 Perception
 6710 Human Information Processing
 6720 Human Memory
 6800 Behavioural Neuroscience I
 6801 Behavioural Neuroscience II
 6810 Psychometrics
 6910 Personality
 6990 Doctoral Seminar I
 6991 Doctoral Seminar II
 6992 Doctoral Seminar in Cognitive and Behavioural Ecology (Cross-listed as CABA 6992)
 699A/B Core Graduate Seminar in Psychology (3 credit hours).

29.29 Social Work

Professor and Dean

A. Al-Krenawi

29.29.1 Program of Study

The degrees of Master of Social Work and Doctor of Philosophy are offered in Social Work.

Course work commences in the Spring Semester and is completed over five semesters. The program includes two Spring Semester residencies, at which time students must attend on a full-time basis, and Fall and Winter semester courses which can be taken on or away from campus.

1. An applicant for admission to the Ph.D. program in Social Work must hold a Master's Degree in social work, or equivalent professional social work Degree as determined by the Graduate Studies Committee of the School of Social Work. All applicants should also have a minimum of three years post-B.S.W. practice experience.
2. All Ph.D. students in the social work program must complete at least 24 credit hours in regulation graduate courses. These include:
 - a. 6 credit hours in foundation courses (7010 and 7020)
 - b. 6 credit hours in advanced practice courses (7310, 7320); or 3 credit hours in advanced practice courses (7310) and 3 credit hours on social work education (7510)
 - c. 9 credit hours on research (7411, 7421 and 7431)
 - d. 1 internship chosen from the Internships on Advanced Social Work Practice (7910), Social Work Education (7920) or Applied Social Work Research (7930).
3. Comprehensive Examination
 - a. A candidate registered in a Ph.D. program in Social Work shall normally take the Comprehensive Examination no later than the seventh semester in the program. Prior to proceeding to the Comprehensive Examination, candidates must have completed all required course work and the internship.
 - b. The Examination Committee shall be appointed by the Dean of Graduate Studies on the recommendation of the Dean (School of Social Work). It shall consist of:
 - i. the Ph.D. Program Co-ordinator who will serve as representative of the Dean of the School of Social Work and who shall occupy the Chair
 - ii. the candidate's Supervisor
 - iii. the Dean of Graduate Studies or delegate
 - iv. three other members recommended by the Dean of the School of Social Work. One of these normally will be on the candidate's Supervisory Committee.

Including the Supervisor, no more than two members of the Examination Committee may be nominated from the candidate's Supervisory Committee. All members of the Examination Committee, including the Chair, but excluding the Dean of Graduate

Studies or delegate, shall be voting members.

- c. The Ph.D. Comprehensive in Social Work will consist of a written paper which has two main parts. The first part will contextualize the student's substantive area through a comprehensive analysis and discussion of its place in and development from social work theory and the profession's history. This part should demonstrate a comprehensive understanding of competing theoretical frameworks and orientations in social work and should demonstrate appreciation for historical developments generally as well as specifically to the student's substantive area of interest. The second part of the paper will focus specifically on the student's substantive area. In consultation with the Examination Committee, the student will identify an area of empirical research that may be undertaken and will prepare a written statement that includes: an introduction and formulation of at least two related research questions; a literature review that is consistent with these questions, which presents a critical evaluation of the literature, and that synthesizes the literature into the student's own theoretical framework; two competing research designs for answering the research question and a critical compare and contrast that leads to an argument for one design over the other. The focus and content of the written work will be defined by the Examination Committee in consultation with the student, and will be approved by the Ph.D. Program Co-ordinator in the School of Social Work. The written product shall be no less than 50 pages and not more than 75 pages. It will be orally defended. The student shall have up to one semester (13 weeks) to submit the paper.
 - d. The Ph.D. examination procedure shall be initiated by the candidate's Supervisor who will notify, in writing, the Dean (School of Social Work) of the candidate's readiness. The candidate's Examination Committee will then be appointed according to section 3.b. (above).
 - e. Following the oral defence, the Examination Committee shall meet *in camera* to arrive at its conclusions. Evaluation of the candidate will be based on the following criteria:
 - i. demonstration of knowledge of social work theory, research, and issues relevant to the topic of inquiry in both the written and oral presentation.
 - ii. coherency of oral presentation and written paper (i.e. conceptualization, cogent argumentation, sufficient referencing of statements, clear writing style).
 - f. The Chair shall report the results of the examination to the Dean of Graduate Studies in accordance with General Regulation **Comprehensive Examinations, Ph.D. Comprehensive Examination, 4.**
4. Ph.D. Thesis
- a. A Supervisory Committee will be appointed for each student as indicated under the General Regulation **Supervision.**
 - b. The candidate must submit a thesis proposal to the Supervisory Committee based on her/his own interest, and normally the proposal must be approved by the end of the eighth semester of the program. The proposal will be circulated to the Supervisory Committee for critical evaluation. The Chairperson of the Supervisory Committee will inform the candidate within one month of its acceptance, rejection, or acceptance with recommended changes.
 - c. If the proposal is not acceptable, the candidate will normally be permitted a second attempt. The revised proposal must be submitted within a semester. Failure to resubmit within this time period will lead to termination of the candidate's program.
 - d. The thesis shall give evidence of the candidate's ability to carry out independent and original research, develop the necessary theoretical and methodological framework and analyses and present the findings in a scholarly manner.

29.29.2 Courses

The following courses that are offered during the spring semester residency will be offered every other year, as far as the resources of the School will allow:

7010 Philosophical and Historical Base of Social Work Practice (S*)
 7020 Critical Thinking for Social Work Practice (S)
 7310 Tutorial on Field of Practice (F** or W***)
 7320 Tutorial in Advanced Social Work Practice (S)
 7411 Philosophy of Science and Research Design (S)
 7421 Qualitative Data Analysis (S)
 7431 Quantitative Data Analysis (S)
 7510 Social Work Education (S)
 7910 Internship on Advanced Social Work Practice (F)
 7920 Internship on Social Work Education (F)
 7930 Internship on Applied Social Work Research (F)

*S = Spring Semester, **F = Fall Semester, ***W = Winter Semester

29.30 Sociology

Associate Professor and Head of the Department

K. Stanbridge

The Doctor of Philosophy (Ph.D.) is offered in Sociology by full-time and part-time study. Graduate courses are taught as tutorials or small seminars.

29.30.1 Program of Study

1. The Ph.D. degree in Sociology is offered in accordance with **General Regulations** and current department strengths.
2. To be admitted to the program an applicant must have completed either a Master of Arts or Master of Philosophy Degree or hold an equivalent qualification.
3. All Ph.D. candidates must complete a minimum of 6 credit hours in graduate courses in sociology, including Sociology 6150 Social Theory and Sociology 6040 Methods of Sociological Research, if these or equivalent courses have not been taken previously.
 The supervisory committee in consultation with the Head or Graduate Officer will determine which additional courses, if any, may be required to ensure that candidates undertake appropriate course work in their area of research.
4. Proficiency in a second language will be required when the candidate's supervisory committee determines that knowledge of this second language is necessary for the purpose of the proposed doctoral research.
5. A written comprehensive examination, which may be followed by a supplementary oral examination, shall be completed by full-time students no later than the end of the second year of the program.

Normally, part-time students shall take the examination within one year of the completion of prescribed courses. In accordance with

General Regulations, candidates must demonstrate knowledge of their special areas of research within the context of the discipline of Sociology. The examination shall consist of three parts: social theory, research methods, and a special area.

6. No more than two years after having been admitted to the program the candidate must submit a thesis proposal that is considered satisfactory by the Supervisory Committee.

29.30.2 Courses

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow:

6040 Methods of Sociological Research
 6090-94 Special Area in Sociology
 6120 Social Organization
 6130 Social Stratification
 6140 The Community
 6150 Social Theory
 6160 Theory Construction and Explanation in Sociology
 6240 Sociology in Medicine
 6280 Social and Economic Development
 6300 Maritime Sociology
 6310 Political Sociology
 6320 Gender and Society
 6330 Science and Technology
 6340 Comparative North Atlantic Societies
 6350 Environmental Sociology
 6360 Sociology of Work
 6370 Feminist Theory and Methods
 6380 Women, Nature, Science and Technology (cross-listed as Women's Studies 6380)
 6390 Sociology of Culture
 6610 Socialization
 6620 Current Topics in Social Behaviour
 6880 Sociology Graduate Seminar

29.31 Theoretical Physics

Board of Studies

Dr. I. Booth, Department of Mathematics and Statistics - Chair
 Dr. C. Radford, Department of Mathematics and Statistics
 Dr. J. Whitehead, Department of Physics and Physical Oceanography
 Dr. I. Afanassiev, Department of Physics and Physical Oceanography

29.31.1 General Information

1. The Theoretical Physics Program is an interdisciplinary Doctor of Philosophy program offered jointly by the Department of Mathematics and Statistics and the Department of Physics and Physical Oceanography. It is broadly based and includes several subdisciplines with the common denominator that each applies advanced mathematical techniques to the study of physical problems. The subdisciplines include, though are not necessarily limited to, theoretical astrophysics, general relativity, partial differential equations of mathematical physics, quantum mechanics, classical and quantum field theory, theoretical condensed matter physics, many-body theory, advanced classical mechanics and non-linear processes, and theoretical and geophysical fluid mechanics.
2. The program is administered by the Board of Studies which is appointed by the Dean of Science in consultation with those faculty members active in the program. The Board of Studies will consist of two members from the Department of Physics and Physical Oceanography and two members from the Department of Mathematics and Statistics. The Program Chair is elected by the Board of Studies and appointed by the Dean of Science. Responsibilities of the Board include making recommendations to the School of Graduate Studies concerning admissions to the program, determining course requirements, and administering comprehensive exams. It also determines minimum levels of funding, administers the School of Graduate Studies and Graduate Teaching Assistant budgets, and monitors students' annual progress through the submission of annual supervisory committee reports.

29.31.2 Program of Study

The following regulations should be read in conjunction with the **General Regulations**:

1. A program of study for the Ph.D. Degree in Theoretical Physics shall normally include a minimum of 9 graduate credit hours in courses offered by the Department of Mathematics and Statistics and/or the Department of Physics and Physical Oceanography. The courses will be determined by the student's supervisory committee in consultation with the Program Chair and approved by the Board of Studies. In special circumstances more or fewer graduate courses and/or undergraduate courses may be required.
2. Students are required to pass a single Comprehensive Examination as prescribed under **Comprehensive Examinations, Ph.D. Comprehensive Examination**. This shall be an oral one, and may include the presentation of a written research proposal.
3. The most important requirement is the writing of a doctoral thesis which demonstrates the student's ability to independently and originally attack and solve a significant problem in theoretical physics. The thesis must definitively advance the subject which it treats.

30 Regulations Governing the Degree of Doctor of Psychology

Administrative Committee

Dr. K. Hadden, Department of Psychology - Director
 Dr. C. Arlett, Department of Psychology
 Ms. P. Button, Graduate Student Representative
 Ms. B. Cater, Eastern Health
 Dr. O. Heath, University Counselling Centre
 Dr. G. Hurley, University Counselling Centre
 Dr. J. Spiegel, Association of Newfoundland Psychologists

The Doctor of Psychology (Psy.D.) degree in clinical psychology is offered by the Department of Psychology in partnership with the University Counselling Centre. This program is designed to prepare clinical psychologists to provide a variety of psychological services to individuals, families and communities.

30.1 Administration

1. The Director is appointed by the Head of the Psychology Department following a consultative process that includes the faculty most directly associated with the Psy.D. program.
2. The Psy.D. Administrative Committee consists of the Director, representatives from academic units involved in the program, and a representative from the Association of Newfoundland Psychologists. The Psychology Department Head, on the recommendation of the Director, appoints Committee members.
3. The Psy.D. Administrative Committee is chaired by the Director, and is the main body for developing and monitoring policy, procedures, and program content. The administrative committee makes recommendations concerning admission and termination, financial support, thesis and comprehensive committees, and thesis topics and examiners. The Committee oversees individual student programs of study and monitors their annual progress.

30.2 Admission Criteria

1. Students with Master's level degrees who wish to be considered for the program must have completed the undergraduate degree in Psychology and the undergraduate course requirements described below.
2. Applicants are required to have an undergraduate Honours degree in psychology that includes senior courses in each of the following areas: biological bases of behaviour, cognitive-affective bases of behaviour, social bases of behaviour, individual behaviour, and historical foundations of psychology, as well as an Honour's thesis. Students will only be admitted on a full-time basis and must start their program in the Fall semester.
3. Admission to the program is competitive. Applicants will be ranked according to academic aptitude, personal and interpersonal competence, clinical and professional potential, and availability of a supervisor. The application shall include academic transcripts, results of the Graduate Record Examination (verbal, quantitative and analytical subtests), three letters of recommendation and a statement of interests and objectives. One letter of recommendation must specifically address the suitability of the applicant for clinical work. Applicants who are short-listed will be interviewed, either in person or via telephone. Work experience, research experience, extra-curricular activities, and clinically relevant public service will be taken into consideration.

30.3 Program of Study

30.3.1 Comprehensive Examination

The Psy.D. comprehensive exam, consisting of a written and an oral component, shall be taken during the third year of the program. The exam is intended to demonstrate clinical application of the knowledge acquired through course work and practica. The comprehensive exam will be administered according to the guidelines prescribed in the University Calendar for Ph.D. comprehensive examinations.

30.3.2 Thesis

Students will complete a thesis that is applied in nature and relevant to the practice and science of clinical psychology and the communities it serves. The School of Graduate Studies **General Regulations** concerning evaluation of Ph.D. theses will be followed.

30.3.3 Predoctoral Internship

All students will be required to complete a twelve-month, 1750 clock-hour predoctoral internship.

Table I - Doctor of Psychology (Psy.D.) Degree Program

Year 1 Fall Semester	Psychology 6000 Advanced Statistics Psychology 6610 Principles of Effective Relationships Psychology 6611 Ethics of Professional Practice Psychology 6620 Principles of Adult Assessment and Diagnosis Psychology 7010 Practicum in Ethics and Relationship Skills
Year 1 Winter Semester	Psychology 6001 Research Design Psychology 6612 Adult Psychopathology Psychology 6621 Principles of Child Assessment and Diagnosis Psychology 7020 Practicum in Assessment and Diagnosis
Year 1 Spring Semester	Psychology 7021 Practicum in Clinical Assessment and Diagnosis Thesis Research
Year 2 Fall Semester	Psychology 6602 Research Design in Clinical Psychology Psychology 6613 Child Psychopathology Psychology 6630 Principles of Intervention with Adults Psychology 7030 Practicum in Assessment and Intervention I
Year 2 Winter Semester	Psychology 6631 Principles of Intervention with Children Psychology 6632 Community Interventions Psychology 6640 Consultation Processes Psychology 7031 Practicum in Assessment and Intervention II
Year 2 Spring Semester	Psychology 7032 Practicum in Community Intervention and Interprofessional Practice Thesis Research
Year 3 Fall Semester	Psychology 6633 Clinical Psychopharmacology Psychology 6650 Supervision Psychology 6xxx Non-clinical elective Psychology 7033 Practicum in Advanced Assessment and Intervention I Psychology 7050 Practicum in Supervision I
Year 3 Winter Semester	Clinical Elective Clinical Elective Psychology 6xxx Non-clinical elective (if required) Psychology 7034 Practicum in Advanced Assessment and Intervention II Psychology 7051 Practicum in Supervision II
Year 3 Spring Semester	Psychology 7035 Practicum in Rural Intervention and Interprofessional Practice Comprehensive Exam Thesis Research
Year 4	Predoctoral Internship

30.4 Courses

6000 Advanced Statistics
 6001 Research Design
 6602 Research Design in Clinical Psychology
 6610 Principles of Effective Relationships
 6611 Ethics of Professional Practice
 6612 Adult Psychopathology
 6613 Child Psychopathology
 6614 Selected Topics in Psychopathology
 6620 Principles of Adult Assessment and Diagnosis
 6621 Principles of Child Assessment and Diagnosis
 6622 Selected Topics in Assessment and Diagnosis
 6630 Principles of Intervention with Adults
 6631 Principles of Intervention with Children
 6632 Community Interventions
 6633 Clinical Psychopharmacology
 6634 Selected Topics in Intervention
 6640 Consultation Processes
 6650 Supervision
 6660-6669 Special Topics in Clinical Psychology
 7010 Practicum in Ethics and Relationship Skills
 7020 Practicum in Assessment and Diagnosis
 7021 Practicum in Clinical Assessment and Diagnosis
 7030 Practicum in Assessment and Intervention I
 7031 Practicum in Assessment and Intervention II
 7032 Practicum in Community Intervention and Interprofessional Practice
 7033 Practicum in Advanced Assessment and Intervention I
 7034 Practicum in Advanced Assessment and Intervention II
 7035 Practicum in Rural Intervention and Interprofessional Practice
 7050 Practicum in Supervision I
 7051 Practicum in Supervision II