



School of Pharmacy

300 Prince Philip Drive, Health Sciences Centre
St. John's, NL Canada A1B 3V6
Tel: 709-777-6958 Fax: 709 777-7044 www.mun.ca/pharmacy

GRADUATE STUDIES

Information/Policies/Guidelines

Implemented September 2008

Updated: September 2015

**Approved by the Academic Council of
the School of Pharmacy on September 28, 2015**

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Introduction

Memorial University's School of Pharmacy provides cutting-edge research in an up-close and personal environment. The School of Pharmacy provides graduate students with the opportunity to conduct original research related to Drug Discovery and Delivery, Health Outcomes, and the Scholarship of Teaching and Learning. There are several research laboratories, including separate rooms for organic synthesis/natural products chemistry, a cell culture facility, pharmacology labs and state of the art computer networks. All offices and research laboratories in the Health Sciences Centre are connected as a part of the MUNet, a high-speed network linking the campus with the world.

Graduate supervisors in Memorial's School of Pharmacy are engaged in research in the following areas:

Drug Discovery and Delivery:

- 1) Neuropharmacology / Mechanisms of Toxicity and Protection in Neurons
- 2) Cardiovascular Pharmacology-Pharmacokinetics / Mechanisms of Cardiovascular dysfunction in Autoimmune Diseases
- 3) Computational Chemistry and Structural Biochemistry / Computer-aided Drug Design and High-Throughput Screening, Drug-Protein and Protein-Protein Complexations

Health Outcomes:

- 1) Pharmacoepidemiology / Pharmaceutical policy evaluation
- 2) Pharmacy Practice / Expanded Scope of Practice
- 3) Chronic Disease Outcomes (Adult and Childhood Obesity, HIV/AIDS, Respiratory Disease, Diabetes)
- 4) Utilization of Pharmacy Services and Other Health Services
- 5) Mental Health and Addictions, Community Based Participatory Research

The Scholarship of Teaching and Learning:

- 1) Interprofessional Practice and Education
- 2) Student Learning
- 3) Curriculum Development and Assessment

Further information regarding graduate programs at the School of Pharmacy can be found at the following link:

<http://www.mun.ca/become/graduate/programs/pharmacy.php>

Contact information:

Associate Dean of Graduate Studies and Research

[School of Pharmacy](#)

Memorial University of Newfoundland

St. John's, NL, Canada A1B 3V6

Phone: (709) 777-7211

Fax: (709) 777-7044

Email: pharminfo@mun.ca

1. Admission Requirements

The School of Pharmacy offers MSc and PhD programs as full-time or part-time study. Admission to all graduate programs in Pharmacy is competitive and is based on academic excellence and the availability of supervisors and financial resources. The minimum qualification for admission to MSc program is a four-year undergraduate degree with a minimum B⁺ cumulative average (or equivalent) in pharmacy or in a physical, chemical or biological science from a recognized university.

Admission to the PhD program normally requires an MSc or equivalent in a relevant discipline from a recognized university. Students registered in the MSc program may be recommended for transfer to the PhD program by the Supervisory Committee following the fifth semester of study. The recommendation is based on academic standing and ability to pursue research at the doctoral level.

All applicants are required to demonstrate proficiency in written and spoken English, as described in the web-site of the School of Graduate Studies, Memorial University (<http://www.mun.ca/sgs>).

On-line application forms and further information are available at the web-site of the School of Graduate Studies.

Applicants are encouraged to contact the School of Pharmacy (pharminfo@mun.ca) for a pre-screening process before contacting the School of Graduate Studies and completing the on-line application form.

The application deadline is February 28th for September admission (Fall Semester) and July 31st for January admission (Winter Semester).

For further information on admission requirements refer to the following websites:

<http://www.mun.ca/regoff/calendar/sectionNo=GRAD-4515>

<http://www.mun.ca/regoff/calendar/sectionNo=GRAD-0015#GRAD-0016>

2. Degree Requirements

Candidates for both M.Sc. Pharm. and PhD degrees are required to complete a minimum of two graduate courses (equivalent to six credit hours) in pharmacy, medicine, biochemistry, chemistry, or other relevant programs.

Depending on background and area of interest, students may be required to complete additional courses as selected by their supervisors; attend the graduate studies seminars when offered and present a yearly seminar on their research, and write a thesis embodying original research.

All graduate students are expected to participate in inter-laboratory research progress presentations, journal clubs and seminars presented by visiting speakers. MSc students are required to present a final seminar before submission of their thesis. PhD candidates must pass a comprehensive examination consisting of written and oral components. The final exam for PhD candidates consists of an oral presentation of their research accomplishment, which is open to the public.

Graduate Courses

Permission of the instructor and the Graduate Studies Committee of the School of Pharmacy are required for admission to any of the graduate courses in pharmacy.

PHAR 6000	Medicinal Chemistry
PHAR 6001	Advanced Physical Pharmacy (parked)
PHAR 6002	Dosage Form Design and Novel Drug Delivery Systems (parked)
PHAR 6003	Pharmacokinetic Modelling
PHAR 6004	Principles of General Pharmacology
PHAR 6005	Toxicology of Therapeutic Agents and Chemicals (parked)
PHAR 6100	Special Topics I *
PHAR 6101	Advances in Pharmaceutical and Biochemical Analysis (parked)
PHAR 6102	Chemistry of Heterocyclic Pharmaceuticals and Medicinals*
PHAR 6103	Polymeric Drug Delivery Systems* (parked)
PHAR 6104	Pharmacokinetics and Biopharmaceutics*
PHAR 6105	Pharmacoepidemiology
PHAR 6108	Drug Design I

* The course content, instruction method, and marking system is based on the recommendation(s) of the relevant supervisory committees, and the research requirements for each individual student.

The above courses will be offered on a schedule, which will meet the students' program requirements.

Other Requirements

All graduate students are required to take Personal Health Information Act (PHIA) training (for details see: <http://www.mun.ca/sgs/current/PHIATraining.php>). For those students whose research includes laboratory work, participation in the "Workplace Hazardous Materials Information System (WHMIS)" program (http://www.mun.ca/health_safety/procedures/S-015_WHMIS.pdf) that is offered by MUN's Safety and Environmental Services is mandatory.

3. Financial Assistance

Depending upon the program of study, each full-time student enrolled in a graduate program in pharmacy may receive financial support (two years for MSc and up to four years for PhD, including the first two years of MSc). Students may be eligible for a Graduate Fellowship from the School of Graduate Studies and/or a Teaching Assistantship (TA). A teaching assistantship will involve marking, demonstrating and/or related responsibilities in undergraduate pharmacy or related courses. TA assignments are determined by the background and qualifications of each student and the needs of the School of Pharmacy. In addition, supervisors are strongly encouraged to provide additional financial support to full-time graduate students, primarily from research grants. Students are also encouraged to apply for graduate fellowships and scholarships. For more information on Graduate Fellowships and Graduate Teaching Assistantships, please refer to the following website: (https://www.mun.ca/sgs/support_guidelines.pdf).

4. Guidelines for Graduate Programs in Pharmacy

The MSc and PhD degrees in the School of Pharmacy require the completion of both course work and research, including a written thesis. In general, an MSc student is expected to spend a minimum of two years (six semesters) completing these requirements. A PhD student is expected to spend a minimum of four years (12 semesters) to complete the above requirements, in addition to successfully passing a comprehensive examination and oral defence.

The Graduate Supervisor

All graduate students are assigned a graduate supervisor based on recommendation of the Graduate Studies and Research Committee of the School of Pharmacy and approval of the Dean of the School of Pharmacy and the Dean of the School of Graduate Studies. A graduate supervisor is responsible:

1. to recommend a Supervisory Committee to the Dean of the School of Pharmacy for submission to the Dean of the School of Graduate Studies prior to admission;
2. to set up a provisional academic program in consultation with the Supervisory Committee and the student;
3. to assign a thesis topic in consultation with the student;
4. to become familiar with regulations of the School of Graduate Studies and the School of Pharmacy; be updated of any changes that may affect their students, and make sure that students are informed of these regulations;
5. to ensure that the student has access to academic, financial, and other necessary resources;

6. to initiate regular meetings with the student to ensure a steady progress in his/her academic program; to organize meetings of the student's supervisory committee, at least once a year; to assess the student's progress, and to submit to the School of Graduate Studies an annual detailed Supervisory report for each student under their supervision;
7. to ensure that students are provided with constructive suggestions regarding their thesis work and alert them to any perceived difficulties their work is likely to encounter in a timely manner;
8. to make arrangement for advising and supervising of students when planning to be away from their office for an extended period. Such arrangements should be acceptable to the students and the Dean of the School of Pharmacy;
9. to recommend members of the Thesis Examination Committee to the Dean of the School of Pharmacy for submission to the Dean of Graduate Studies;
10. to make recommendations for the PhD comprehensive examination to the Associate Dean of Graduate Studies and Research at the School of Pharmacy in consultation with the Supervisory Committee.

In addition to the above, Supervisors should be familiar with the responsibilities delineated and approved by the Academic Council of the School of Graduate Studies (see <http://www.mun.ca/sgs/responsibilities.pdf>).

Supervisory Committee

All MSc and PhD students should be assigned a Supervisory Committee consisting of the supervisor, and at least two faculty members (internal or external) approved by the Dean of the School of Pharmacy and the Dean of Graduate Studies prior to admission to the School of Graduate Studies. Although it is not a requirement that a MSc student has a committee consisting of three faculty members, this is strongly encouraged. The role of the Supervisory Committee is to monitor the graduate student's progress and to provide guidance in all aspects of the student's program. Particularly, the Supervisory Committee:

1. will ensure that before registration in the second semester a detailed program for the graduate student is in place;
2. will meet with the student at least once a year to review his/her progress and will prepare an annual written progress report for submission to the Dean of the School of Pharmacy who will forward it to the Dean of the School of Graduate studies;
3. can recommend transfer to the PhD program subsequent to the 4th semester of study on the basis of merit and successful presentation of a PhD research proposal;

4. can recommend termination of the program for lack of progress;
5. will review the final version of thesis before submission to examiners.

The structure of a supervisory committee will be evaluated on a case-by-case basis by the Associate Dean of Graduate Studies and Research and the GS & R committee. For example, a Faculty member with a PharmD degree that is intending to mentor a PhD student would be expected to have another faculty member with a PhD serve as a co-supervisor for the first PhD student that is supervised. Also, an individual with a PhD would be expected to successfully graduate a MSc student before acting as the primary supervisor for a PhD student.

5. Program Requirements

MSc Program

Generally, students are accepted into Graduate Program at the School of Pharmacy in the MSc program.

The MSc program requires a minimum of 6 credit hours of course work (minimum B grades required); additional credit courses (minimum B grades required) and/or non-credit (audit) courses as recommended by the supervisory committee; annual presentation of graduate seminars (one seminar per year) and a final research seminar; and submission of Master's thesis. The final research seminar should be presented before submission of the Master's thesis for examination by the supervisory committee. This seminar will be judged by a panel of faculty members, peer graduate students and audiences. The outcome of the final research seminar will be either "Pass" or "Fail." If the outcome is "Fail", based on the approval of the Graduate Studies and Research Committee, the candidate will be asked to present another research seminar within six months of the first seminar.

Transfer from MSc to PhD Program

Transfer to PhD program is possible after a minimum of 12 months in MSc program. This is normally done between the 4th and 5th semesters of the MSc program. The change to PhD status is retroactive to the time of admission into graduate studies. The guidelines for transfer from MSc to PhD program are as following:

1. The request for transfer should normally be submitted to the Associate Dean of Graduate Studies and Research by the corresponding supervisor between the 4th and 5th semester.
2. The Associate Dean of Graduate Studies and Research and the corresponding supervisor will meet to explain to the student the requirements for completing the PhD program.

3. The student will submit a written report on his/her research progress and give an oral presentation of this material to the Supervisory Committee. Based on the report and oral presentation, the Supervisory Committee will determine the student's eligibility to transfer to the PhD and recommend him/her to transfer from MSc to PhD program.
4. A Supervisory Committee report along with a program of study form must be submitted to the Committee on Graduate Studies and Research of the School of Pharmacy indicating the change in status. The Associate Dean of Graduate Studies and Research must support the transfer request.
5. Final decision for transfer from MSc to PhD will be made by the Dean of the School of Graduate Studies. (See the details at: <http://www.mun.ca/regoff/calendar/sectionNo=GRAD-0437>)

Master's Thesis

Guidelines for submission of a thesis can be found at:

http://www.mun.ca/sgs/go/guid_policies/guidelines_intro.php#3.1

Submission

Students who wish to graduate from the MSc program must submit their thesis for examination at least four months before the university convocation at which the awarding of the degree is expected. Candidates must submit:

- A completed "Application for Graduate Degrees and Diplomas" form to the Office of the Registrar;
- Three copies of the completed thesis along with completed and signed "Thesis Deposit Form", (Appendix 5);
- "Non Exclusive Licence to Reproduce" (Appendix 6);

"Request to Include Copyright Material" (Appendix 4), if required, must be submitted to the supervisor who, subsequent to the completion of the "Supervisory Committee Approval Form" (Appendix 8), submit the thesis to the Dean of the School of Pharmacy. (Use the following link for Supervisory Approval Form: http://mun.ca/sgs/supervisory_approval_fill.pdf)

- Each copy of the thesis must be enclosed in an envelope, bearing the student's name, academic unit, thesis title, date, and degree sought and must be accompanied by a signed "Appointment of Examiners" form (Appendix 10 in the Guidelines for theses and reports of the School of Graduate Studies) for submission to the School of Graduate Studies. (See the following link for details: http://www.mun.ca/sgs/go/guid_policies/theses.php)

Examiners

Two examiners, normally one internal (non-supervisors) and one external are appointed by the Dean of the School of Graduate Studies on the recommendation of the Dean of the School of Pharmacy that is based on consultation with the supervisor. The Examiners shall normally have completed a graduate degree at the doctoral level, including a thesis in an appropriate cognate area and must not have been involved in the research or in the preparation of the thesis. (See the following link: <http://www.mun.ca/sgs/Appoint.Masters.pdf>)

Examination Procedure

A Master's thesis received in proper order by the School of Graduate Studies is normally sent to the appropriate examiners within five working days. During the examination process, which may take several weeks, there should be no contact between the supervisor or student and the examiners. (See the following link for details: http://www.mun.ca/sgs/masters_examinations.pdf)

Examination Results

Examination of the thesis will result in one of the following recommendations by each examiner. The thesis is:

1. acceptable without modification;
2. acceptable after minor modifications and will not require re-examination;
3. unacceptable as submitted and requires major modification and must be re-examined;
4. is totally unacceptable and is failed.

The Dean of Graduate Studies makes the final decision on the outcome of the examination on the basis of examiners' recommendations and informs the candidate and the Dean of the School of Pharmacy by letter within 5-6 weeks after the initial submission of the thesis to the School of Graduate Studies. Required revisions/corrections must be made by the student in consultation with the supervisory committee. After approval by the supervisory committee, the revised thesis should be submitted to the School of Graduate Studies by the School of Pharmacy's Associate Dean of Graduate Studies and Research.

If either examiner recommends that the thesis is unacceptable, and this recommendation is accepted by the Dean of the School of Graduate Studies, then the student may apply to the Dean for permission to resubmit the thesis for re-examination in one of the following ways:

1. to submit a modified thesis to the original examiners;
2. to submit a modified thesis to two new examiners;
3. to submit the original thesis to the Examination Board to be appointed by the Dean of Graduate Studies.

If a thesis is re-examined, the candidate will not be awarded a pass unless all examiners find the thesis acceptable. Under no circumstances may a thesis be re-examined more than once.

Time Limit for Corrections and Revisions

Minor modifications required: The final version of the corrected/revised thesis shall be submitted to the School of Graduate Studies within six months of the date on which the examiners' reports are sent to the School of Pharmacy. Failure to submit the thesis within this period is indicative of student's intention to withdraw from the program. After this time, the student must apply to be re-admitted to the program.

Major modifications required: The thesis requiring re-examination shall be submitted to the School of Graduate Studies within 12 months of the date on which the examiners' reports are sent to the School of Pharmacy. Failure to submit the revised thesis within this period results in termination of the student's program.

Students should note that they must maintain their graduate registration until the academic requirements for the degree, including thesis corrections, have been met.

(See the following link: http://www.mun.ca/sgs/go/guid_policies/guidelines_intro.php#3.1)

PhD program

Students holding a Masters degree from recognized universities can be admitted directly to the PhD program at the School of Pharmacy. As described in the *MSc Program* section, students who are already admitted to the MSc program can be transferred to the PhD program after a minimum of 12 months in the MSc program. This is normally done between the 4th and 5th semesters of the MSc program (<http://www.mun.ca/regoff/calendar/sectionNo=GRAD-0437>).

The PhD program requires a minimum of 6 credit hours of course work (B grades required); additional credit courses (B grades required) and/or non-credit (audit) courses as recommended by the supervisory committee; presenting research seminars; comprehensive examination; submission of thesis and oral defence.

PhD Comprehensive Examination

General Procedures

Guidelines for the PhD comprehensive examination are provided under School of Graduate Studies Regulations found in the University Calendar. (See the following link for details: <http://www.mun.ca/regoff/calendar/sectionNo=GRAD-0024>)

The comprehensive examination is normally taken no later than the end of the 7th semester in the PhD program. Unless an extension is granted by the Dean of the School of Graduate Studies, failure to take the examination at this time will result in the termination of the candidate's program.

Structure of the Examination Committee

The Examination Committee consists of the Associate Dean of Graduate Studies and Research at the School of Pharmacy (or delegate), Dean of the School of Graduate Studies (or delegate), the supervisor (in case of co-supervision, only one of the co-supervisors) and at least three other members that are not part of the supervisory committee (at least one of whom is from the School of Pharmacy). The Chair of the committee is the Associate Dean of Graduate Studies and Research at the School of Pharmacy (or delegate) and all members of the Examination Committee, excluding the Dean of Graduate Studies (or delegate), are voting members. The total voting members should be an odd number. The members of the Examination Committee are appointed by the Dean of the School of Graduate Studies on the recommendation of the Dean of the School of Pharmacy.

Notification to the Candidate

The Chair of the Examination Committee shall send a letter to the candidate, at least three months prior to the examination, indicating the members of the Examination Committee; date and place of the written and oral components; and topics to be covered in the examination.

Examination Content and Format

The comprehensive examination consists of written and oral components. The Examination Committee identifies three areas of examination: **General**, **Broad**, and **Specific**. The candidate should be made aware of these areas of examination, by letter, at least three months prior to the written examination. The oral examination is normally one week following the written part.

The following guidelines should be followed by the examiners when developing their questions:

The **Specific Area** relates to candidate's thesis research and the candidate is expected to be knowledgeable at the level of specific research articles within his/her field.

The **Broad Area** covers topics within the broader field of the thesis and the candidate is expected to be knowledgeable at the level of review articles.

The **General Area** covers material within the general field of study at the level of textbooks and/or graduate courses undertaken.

Normally, in the written examination the candidate is required to answer two questions in each of the three areas (Specific, Broad, and General) for a total of six questions. The candidates are normally given a choice within each of the areas, but the Examination Committee may require that particular questions be answered by the candidate.

The written examination is completed over one day, normally beginning at 9:00 AM and finishing not later than 5:00 PM, and is overseen by staff assigned by the Associate Dean of Graduate Studies and Research at the School of Pharmacy. Candidates have the option of writing their answers by hand or may use a computer provided in the examination room.

The Examination Committee will recommend that the examination is either "open" or "closed" book. In the case of an "open" book examination, candidates are allowed to bring information materials to the examination. The candidates are not allowed to use books and/or supplementary materials during the examination when the examination is "closed" book.

After completion of the written examination, the candidate and the Examination Committee are provided with a copy of both the examination and the candidate's answers.

The oral examination normally takes place one week after the written examination and is chaired by the Associate Dean of Graduate Studies and Research at the School of Pharmacy (or delegate). Members of the Examination Committee and a designate from the School of Graduate Studies shall be in attendance.

Generally, 2-3 hours are allowed for the oral examination. This examination consists of a series of questions from the Examination Committee based on the Specific, Broad, and General areas previously identified to the student. The questions may include, but are not limited to, topics from the written examination.

Outcome of the Examination

Following the oral examination, members of the Examination Committee meet *in camera* to determine the outcome of the examination. The outcome is based on both the written and oral components of the examination (the written examination is not graded independently of the oral). As per the Memorial University Calendar, the outcome of the examination will be one of the following:

- a) **Pass with Distinction**; for candidates who demonstrate exceptional knowledge of their chosen field. This category requires unanimous support of the Examination Committee.
- b) **Pass**; for candidates who demonstrate an acceptable knowledge of their chosen field and attain a majority of votes.
- c) **Re-examination**; for those whose understanding of their research area lacks sufficient depth and scope as indicated by the majority of the Examination Committee members.
Only one such examination in this category is possible, and students passing re-examination are not eligible for the award of “pass with distinction.” Re-examination must be conducted not less than one month and not more than six months after the examination. The decision of the voting members of the Committee following re-examination can only be “**Pass**” or “**Fail**” decided by majority vote. Failure will lead to immediate termination of the candidate’s program with no option for further re-examination.
- d) **Fail**; for candidates who are unable to demonstrate an adequate understanding of their research area. This needs a unanimous vote of the Comprehensive Examination Committee. Failure will lead to immediate termination of the candidate’s program.

After the oral examination the Chair of the Examination Committee conveys the recommendation of the Comprehensive Examination Committee to the student.

The Associate Dean of Graduate Studies and Research at the School of Pharmacy notifies the Dean of the School of Graduate Studies, in writing, of the outcome of the recommendation of the Examining Committee. The Dean of the School of Graduate Studies formally notifies the candidate of the outcome of the examination.

Responsibilities of the Associate Dean of Graduate Studies and Research at the School of Pharmacy, Supervisor, and Members of the Comprehensive Examination Committee

1. The supervisor recommends the names of possible members of the Comprehensive Examination Committee to the Associate Dean of Graduate Studies and Research at the School of Pharmacy.
2. The Associate Dean of Graduate Studies and Research selects the members of the Examination Committee, confirms the willingness of the members to serve on the committee, and submits their names to the Dean of the School of Graduate Studies.

3. After confirmation of the members of the Comprehensive Examination Committee by the Dean of the School of Graduate Studies, the Associate Dean of Graduate Studies and Research or delegate convenes the first meeting of the Examination Committee. The purpose of this meeting is to determine the dates of written and oral examinations, the format of the examination (“open” or “closed” book), and the topic areas to be examined (please refer to “Examination Content and Format” for the details). At this meeting, each of the examiners identifies in which of the three areas they will provide questions.
4. Following the first meeting of the Examination Committee, the Chair of the Examining Committee sends a letter to the student indicating the time and place of the examination, the examiners, the format of the exam, and the topics to be examined.
5. A second meeting of the Examination Committee is arranged to review questions and prepare for the written examination. Examiners should come to this meeting with questions prepared, typed and copies made for the full committee. **The members of Examination Committee must ensure that all examination questions remain confidential.**
6. The written component of the comprehensive exam is prepared by the secretary in the General Office after review by both the Chair of the Examination Committee and the supervisor.
7. After completion of the written exam, a copy of the questions and the student’s answers are copied and made available to the student and members of the Examination Committee.
The written exam is read but not graded and is used as a basis to conduct the oral examination approximately one week later.
8. The Examination Committee should meet *in camera* before the oral examination to review the written component of the examination. The purpose of this meeting is to identify any particular concerns, areas of weakness and strength, and the order of questioning for the oral component of the examination.
9. After the oral examination the student is asked to leave and the Examination Committee makes a decision on the outcome of the examination, based on both the written and oral components, following the guidelines of the University Calendar. The Chair of the Examination Committee notifies the student of the recommendation to be made to the Dean of the School of Graduate Studies.
10. The Associate Dean of Graduate Studies and Research at the School of Pharmacy makes a written recommendation to the Dean of the School of Graduate Studies who then notifies the student of the final decision.

Doctoral Thesis

Guidelines for submission, examination procedures, examiners, examination of the written thesis, oral defence, time limit for corrections and revisions of thesis, and graduation procedures can be found at:

http://www.mun.ca/regoff/calendar/2012_2013/sectionNo=GRAD-0026

Submission

Students who wish to graduate from the PhD program must submit their thesis for examination at least four months before the university convocation at which the awarding of the degree is expected. Candidates must submit:

- A completed “Application for Graduate Degrees and Diplomas” form to the Office of Registrar.
- Five (six for co-supervised theses) copies of the completed thesis along with completed and signed “Thesis Deposit Form”.
- “Non Exclusive Licence to Reproduce”, “Request to Include Copyright Material” if required.

A “Dissertation Abstracts International Submission Form” must be submitted to the supervisor who, subsequent to the completion of the “Supervisory Committee Approval Form”, submits the thesis to the Associate Dean of Graduate Studies and Research at the School of Pharmacy.

Each copy of the thesis must be enclosed in an envelope bearing the student’s name, academic unit, thesis title, date, and degree sought and must be accompanied by a signed “Appointment of Examiners: Doctoral Degree” form for submission to the School of Graduate Studies.

Examination Procedures

A PhD thesis received in proper order by the School of Graduate Studies is normally sent to the appropriate examiners within five working days. The examiners are asked to examine the thesis and return their evaluations within three weeks. In addition to an acceptable written dissertation, Doctoral candidates must demonstrate their ability to defend their work in a public oral examination. 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. The Chair of the oral examination conveys the results of the thesis examination in writing to the examination board, the supervisory committee, and the Dean of the School of Pharmacy (or his/her delegate) at the meeting prior to oral defence which should be held approximately eight weeks after initial receipt of the dissertation by the School of Graduate Studies. The candidate receives the written dissertation examination report after conclusion of the oral examination.

Examiners

The doctoral thesis will be assessed by a Thesis Examining Board that consists of four members. The members of the Examining Board will be appointed by the Dean of the School of Graduate Studies on the recommendation of the Dean of the School of Pharmacy who will have consulted with the supervisor. Normally, the four members of the Examining Board will be the candidate's supervisor (who serves as a non-voting member), two examiners from within University (internal examiners) and one from outside the University (external examiner). However, a second external examiner may be substituted for one of the internal examiners with the permission of the Dean of the School of Graduate Studies. Members of the supervisory committee other than the supervisor are ineligible for appointment to the Board. Upon the receipt of the thesis and a completed "Appointment of Examiners: Doctoral Degrees" form from the Dean of the School of Pharmacy or his/her delegate, the thesis will be normally approved and the Examiners will be appointed by the Dean of Graduate Studies. Examiners must not have been involved in the research or in the preparation of the thesis.

Examination of the Written Thesis

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 defence of the work. An examiner may recommend that:

- a. the thesis is acceptable and the candidate be allowed to proceed to the oral defence;
- b. the thesis is unacceptable and requires re-examination; the candidate is not allowed to proceed to the oral defence at this time;
- c. the candidate should be failed.

No candidate will be permitted to re-submit a thesis more than once. If the Dean of Graduate Studies decides that the thesis must be revised before it can be orally defended, the resubmitted thesis will be examined by a Board which may differ in whole or in part from the original. In the case of re-submitted thesis an examiner may recommend only that:

- a. the candidate be allowed to proceed to the oral defence;
- b. the candidate should be failed.

Oral Defence

After receiving the reports from all three voting members of the Board the Dean of Graduate Studies will consider the recommendation and determine whether an oral defence of the thesis should be scheduled. The oral defence will take place if a majority of examiners recommend, in their written evaluations of the thesis, that an oral defence should be scheduled. In case of acceptance of the PhD thesis for oral defence by the Dean of Graduate Studies, the examination will normally be scheduled to take place approximately three weeks after the receipt of the examiners' reports depending upon the

availability of the candidate and the members of the examining board. All members of the Examination Board are required to participate in the PhD oral defence. In the event that a member of the Board is unable to attend an oral defence, the student must be consulted on whether or not to proceed with the defence by other means, i.e., teleconferencing, examiner's delegate, etc. The written examiners' reports are discussed *in camera* at a pre-oral meeting. The examination is public and is chaired by the Dean of Graduate Studies or his/her delegate.

In oral defence the candidate is expected to give a 15-30 minute presentation outlining the major contributions made by the thesis. Following the presentation by the candidate, the Chair will initiate at least two rounds of questions from the members of the Examination Board. The candidates should be prepared to defend the content of the thesis in its entirety. At the conclusion of the public portion of the examination, the members of the Examination Board hold an *in camera* meeting to evaluate the performance of the candidate during the oral defence. The three voting members of the Board recommend to the Dean one of the following:

- a. the candidate has passed (modifications or corrections to the thesis may be required);
- b. the candidate has failed but should be permitted a re-examination;
- c. the candidate has failed and should not be re-examined.

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 with the Dean of Graduate Studies. On the basis of the recommendation, the Dean makes a final determination of the outcome of the examination and informs the candidate by letter.

Further actions on the above recommendations are as following: in case (a) the required revisions and corrections to the thesis as outlined in the examiners' reports must be performed to the satisfaction of the supervisory committee for approval by the Dean of the School of Pharmacy and the Dean of Graduate Studies. Two copies of the thesis accompanied by a completed "Recommendation for the Award of a Graduate Degree" form (Appendix 14) should be submitted to the Dean of Graduate Studies by the Associate Dean of Graduate Studies and Research of the School of Pharmacy. After acceptance of this recommendation by the Dean of Graduate Studies, the candidate's name will be presented to the Academic Council of the School of Graduate Studies for approval, then to the Registrar for transmission to the Senate.

In case (b) the Examination Board may attach a list of any further requirements which are deemed to be appropriate. The oral examination will be arranged by the School of Graduate Studies, normally within twelve months. In this case only one oral re-examination is permitted.

Failure of the oral defence, as in case (c), will result in termination of the candidate's program.

Time Limit for Corrections and Revisions

The final version of a doctoral thesis found acceptable with or without corrections, shall be submitted to the School of Graduate Studies within six months of the date on which the thesis and the examiners' reports are returned to the student. If a corrected thesis is not submitted within six months, the candidate is considered to have withdrawn from the program.

Doctoral thesis required re-examination shall be submitted to the School of Graduate Studies within twelve months of the date on which the thesis and the examiners' reports are returned to the student. Failure to re-submit the revised thesis within twelve months will result in termination of the student's program.

Students should keep in mind that they must maintain their graduate registration until all academic requirements for the degree including thesis corrections have been met.

6. Termination of a Graduate Program

Grounds for termination of a Graduate Program (as per Clause 4.13 of the "General Regulations" of the School of Graduate Studies; <http://www.mun.ca/regoff/calendar/sectionNo=GRAD-0031>) 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 link: <http://www.mun.ca/regoff/calendar/sectionNo=GRAD-0018>);
 - 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. See the following link for details: <http://www.mun.ca/regoff/calendar/sectionNo=REGS-0748>.

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.*

APPENDIX A

PROCESSES AND REGULATIONS OF GRADUATE STUDIES SCHOOL OF PHARMACY, MEMORIAL UNIVERSITY OF NEWFOUNDLAND

The School of Pharmacy, MUN, is currently offering graduate programs at MSc and PhD levels in the following areas:

Drug Discovery and Delivery:

- 4) Neuropharmacology / Mechanisms of Toxicity and Protection in Neurons
- 5) Cardiovascular Pharmacology-Pharmacokinetics / Mechanisms of Cardiovascular dysfunction in Autoimmune Diseases
- 6) Computational Chemistry and Structural Biochemistry / Computer-aided Drug Design and High-Throughput Screening, Drug-Protein and Protein-Protein Complexations

Health Outcomes:

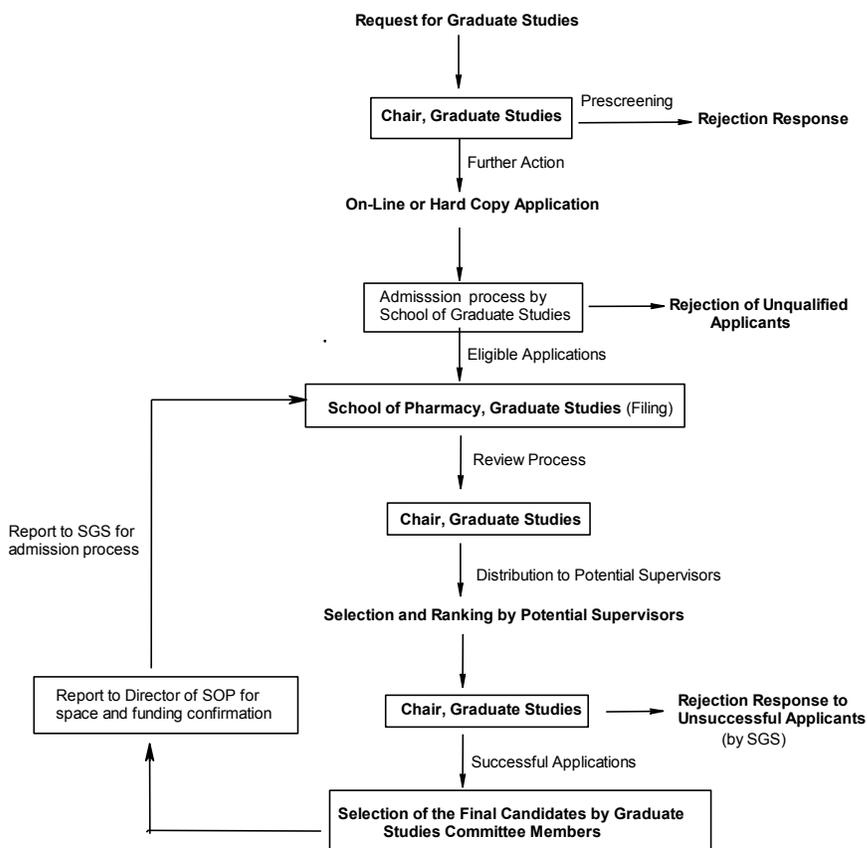
- 6) Pharmacoepidemiology / Pharmaceutical policy evaluation
- 7) Pharmacy Practice / Expanded Scope of Practice
- 8) Chronic Disease Outcomes (Adult and Childhood Obesity, HIV/AIDS, Respiratory Disease, Diabetes)
- 9) Utilization of Pharmacy Services and Other Health Services
- 10) Mental Health and Addictions, Community Based Participatory Research

The Scholarship of Teaching and Learning:

- 4) Interprofessional Practice and Education
- 5) Student Learning
- 6) Curriculum Development and Assessment

Admission to one of these three major research areas follows the general admission processes according to the School of Graduate Studies (www.mun.ca/sgs). The following flow chart describes the detailed procedure followed by the School of Pharmacy.

FLOW-CHART of Graduate Studies Application Process



Selection of final candidates will be done twice/year
(end of March for Fall Semester and end of July for Winter Semester)

- The deadline for applications requesting Fall admission is February 28th and for the Winter admission it is July 31st in each academic year.
- Applications will be reviewed by the members of the Graduate Studies & Research committee and the final candidates will be selected based on the recommendation of the potential supervisor(s) and approval of the Graduate Studies & Research Committee considering availability of a position in the requested area, as well as number of the vacancies.
- The names of the recommended candidates will be submitted to the Dean of the School of Pharmacy for final approval.
- After the selection of a candidate, a **Programme of Graduate Studies** form should be completed and signed by all members of the supervisory committee. This form will identify the supervisor, members of the supervisory committee, and recommended course work. The form is to be submitted to the Secretary of Graduate Studies at the School of Pharmacy. **It is essential to select at least one member of the supervisory committee from a faculty outside the School of Pharmacy.** The Program of Study Form can be found in the following link: <http://www.med.mun.ca/getdoc/6250d299-89e0-4d25-8768-9b91a7b7dbd7/Program-of-Study-Form.aspx>.
- The Program of Study form that is signed by both the supervisor and the candidate will be submitted to the School of Graduate Studies for final approval by the Dean of Graduate Studies. It may also be necessary to sign an IP agreement. Please see the following link for Guidelines (https://www.mun.ca/sgs/IP_Guidelines___FINAL.pdf)
- Final decisions on the selection of the successful candidates will be made and announced by mid-April (for Fall admission) and mid-September (for Winter admission) and further admission processes will be followed by the School of Graduate Studies.

After arrival of the graduate student and processing all the formalities, including registration, the first meeting of the supervisory committee should be held within two weeks of the start of the graduate study program. The purpose of this meeting is introduction of the graduate student to the members of the supervisory committee, description of the responsibilities (students and supervisors), assignment of the relevant course work(s), and brief description of the research program.

After this meeting, a Supervisory Committee Report should be completed and signed by the supervisory committee members. This report should be submitted to the Secretary of Graduate Studies at the School of Pharmacy for filing.

To review the progress of the graduate students during the course of studies, it is suggested that the Supervisory Committee meet every six months (preferably) or at least once a year. The minutes of these meetings, along with the Graduate Student Annual Program and Supervisory Report form (see: http://www.mun.ca/sgs/Supervisory_Report.pdf) including the recommendations of the committee members, should be submitted to the Secretary of Graduate Studies for filing.

APPENDIX B

Graduate Seminar Evaluation Form

Speaker:

Date:

Title:

Please circle the number that best describes your overall assessment for each of the categories listed below. Please also provide your comments on the strength and weakness of the presentation at the bottom of this page as well as your recommendation.

	Lowest	→	Highest		
Content: Clear, credible, and well organized with attention focused on key concepts and interesting data.	1	2	3	4	5
Delivery Style: Presentation delivered in a poised and professional manner, eye contact and interaction with audience.	1	2	3	4	5
Presentation Media: Clear, well organized, readable, visually appealing, and used effectively to direct audience attention.	1	2	3	4	5
General Knowledge: In-depth understanding of subject matter, appropriate information resources used, opinions/conclusions are supported by factual evidence	1	2	3	4	5
Responsiveness: Ability to answer questions and critical analyses of data in a clear manner.	1	2	3	4	5
Overall: Rank this presentation compared to the other research presentations you have attended.	1	2	3	4	5

General Comments:

Recommendation:

Pass

Fail