Policies and Procedures Graduate

Programs in Pharmacology University of

Saskatchewan
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1. Introduction

Welcome to graduate studies in the Department of Pharmacology!

The purpose of this handbook is to provide you with basic information on the services available to you in your graduate program, as well as the duties and requirements that you will need to fulfill to complete your graduate degree in the Department of Pharmacology. The Department offers both M.Sc. and Ph.D. graduate programs and has faculty and students with diverse research interests including neurodegeneration, heart disease, inflammation and diabetes. You are expected to gain a detailed understanding of your area of research. Our graduate program consists of independent research as well as didactic work involving academic courses and reading of relevant literature. The didactic component is intended to provide a knowledge framework upon which your research is based. Nevertheless, your efforts in research training and preparation in your area of specialization are of paramount importance. In addition, every effort is made in this department to prepare you to teach and communicate scientific information.

The departmental Graduate Program Committee develops policy and administers the graduate program. Immediate oversight for each student is provided by a faculty Supervisor, and a faculty Advisory Committee. Direct financial support to graduate students is derived from a variety of sources. All aspects of the program, including conferral of degrees, are ultimately governed by the College of Graduate Studies and Research, which sets or approves the policies and procedures that departments follow. The Policies and Procedures Manual of the College of Graduate Studies and Research can be found at:


2. How do I apply for graduate studies at the University of Saskatchewan?

Before applying for admission to graduate studies, prospective graduate students must first contact individual Pharmacology faculty members with research interests compatible with their own, to determine if that faculty member is willing to supervise the student. Information about the research interests of departmental faculty can be obtained from the Department web site (http://medicine.usask.ca/department/schools-divisions/biomed/pharmacology.php). When you contact your prospective supervisor, include your career goals, your academic credentials, and curriculum vitae. Once a supervisor has been identified and they agree to supervise your graduate program, you should access the website of the College of Graduate Studies and Postdoctoral Studies (CGPS) (http://www.usask.ca/cgps/) where complete information on requirements and procedures for admission are available. Please note that international students are charged additional fees. Students with external scholarship support are encouraged to include this information with their application.

After you are accepted into the CGPS, you will need to register with the University of Saskatchewan and pay your tuition and fees. Complete information is available at the CGPS website: http://grad.usask.ca/admissions/how-to-apply.php#Beforeyouapply. Students in the M.Sc. program in Pharmacology need to register for PCOL 994 and PCOL 990. Students in the Ph.D. program in Pharmacology need to register for PCOL 996 and PCOL 990. You will need to register for additional courses throughout your graduate program according to your Program of Studies (see sections 4B and 6B below). Upon your arrival at the University of Saskatchewan, you will need to meet with the Biomedical Sciences Graduate Secretary who will help you get settled in the Department.

3. Who is involved in my graduate program?

In addition to yourself, your graduate program involves your research supervisor, your advisory committee members, the Department graduate chair, the Department graduate secretary and staff in the CGPS. As a graduate student at the University of Saskatchewan, you are enrolled in the CGPS, but your graduate program is administered at the Department level, which operates within the regulations provided by the CGPS.
A. Your role as a graduate student

You are responsible for the success of your program, although the faculty, research advisory committee, the graduate chair and the graduate secretary will always be available to help with problems. Graduate students are specifically responsible for:

1. demonstrating a commitment to research through diligent and conscientious lab and/or field work
2. maintaining a spirit of collegiality with peers, laboratory co-workers, and faculty
3. adherence to University regulations concerning Academic Integrity [http://www.usask.ca/integrity/](http://www.usask.ca/integrity/)
4. timely registration for courses and payment of fees owing
5. maintaining of appropriate academic performance (minimum 75% GPA in coursework)
6. attending and participating in the departmental seminar series (PCOL 990)
7. arranging advisory committee meetings (minimum once/year) (see FAQ How do I set up a committee meeting?)
8. seeking advice from members of their advisory committee where appropriate
9. timely submission of scholarship applications/renewals and awareness/attendance to the stipend funding periods
10. timely submission of research proposal, annual progress reports, manuscripts, thesis, etc.

B. Your supervisor’s role

The supervisor is responsible for providing supportive advice and discussions about the research, assistance with research design, and for timely review of research proposals, manuscripts and thesis drafts. Supervisors are also required to provide sufficient resources to ensure that the research can proceed as effectively as possible. These resources include research operating funds, and access to research space and equipment as necessary.

C. The roles of advisory committee members

The guiding principle underlying the advisory committee is that the student needs sustained advice from the beginning of their program if they are to move expeditiously and constructively through the program requirements. The advisory committee meets at least once each year to review and assess student progress and to offer advice. However, students are encouraged to arrange more frequent meetings and/or to contact individual members of their committee whenever they need assistance. The advisory committee also plays an important role in assessing student performance in qualifying and comprehensive examinations and thesis defenses.

The advisory committee consists of the following members (minimum of 3 for M.Sc., 5 for Ph.D.):

1. Supervisor - a member of the faculty of the CGPS (adjunct professors included)
2. Advisory committee chair – the Department Graduate Chair or designate
3. Additional Members - a minimum of 1 for M.Sc. and 2 for a Ph.D. Must be members of the graduate faculty of CGPS, adjunct professors, professional affiliates.
4. Cognate Member – a minimum of one for a Ph.D. program. The cognate member cannot be a member of Pharmacology but must be a member of the graduate faculty of CGPS or else granted permission by the Dean, CGPS.

The supervisor, the student and the graduate chair most often guide the decision-making process for committee member selection. Collectively, committee members should have sufficient experience and knowledge to be able to effectively assist the student with research design, background, methods, and analysis.
D. Pharmacology graduate chair

The graduate chair offers advice and information regarding Pharmacology and CGPS regulations to ensure consistency among advisory committees and among students within the Department. The graduate chair should be viewed as an advocate for the student and should be the first person that the student consults should problems arise that cannot be resolved with the supervisor and/or committee members. On an administrative level, the graduate chair is responsible for chairing and recording the minutes for annual advisory meetings, qualifying and comprehensive exams and defenses. At the university level, the chair acts as liaison between the Department and the CGPS.

E. Graduate secretary

The graduate secretary acts as the graduate student resource person, providing advice and guidance on procedures related to the Department, the graduate program, and CGPS requirements. The graduate secretary is responsible for setting up meetings, exams/defenses, and for maintaining and submitting the appropriate paperwork to CGPS.

F. The Department graduate committee

The graduate committee meets as necessary to make decisions regarding the Department’s graduate program, including decisions on scholarship competitions. In some cases, decisions made by the graduate committee are submitted for approval to Department faculty. Members of the graduate committee include the Department Head, the graduate chairs, the graduate secretary and at least one other Department faculty member.

4. Information for students in the M.Sc. or Ph.D. Programs

A. Within the first 3 months of starting your program

1. You and your supervisor should meet to decide on committee members and identify some of the academic courses you feel that you need. Departmental course requirements for both the M.Sc. and Ph.D. programs are 9 credits minimum, with at least 9 credits at the graduate level. Pharmacology requires that all students register in PCOL 850.6 to ensure all students have a solid foundation in pharmacological principles (May be overridden by advisory committee after discussion). Additional courses can be taken from any academic unit on campus as deemed appropriate to the students’ specific program of studies. Students transferring to the Ph.D program from the M.Sc. program do not require additional course work.

2. Arrange and hold your first introductory committee meeting (see FAQ How do I set up a committee meeting?). At this meeting, you will discuss your proposed research and the committee will provide advice on coursework. A progress report is not required for this meeting but you will need to send an email to your committee members prior to the meeting which indicates the area of your research and your proposed coursework, both credit and non-credit.

3. Coursework will include:
   - A list of academic courses which fulfill the credit requirements for your program
   - Graduate Research (PCOL 994 for M.Sc. or 996 for Ph.D.) and Graduate Seminar (PCOL 990) courses
   - additional requirements such as Graduate Research Ethics and Integrity Training Course (GSR 960), UCACs Education and Training Program (Animal Care/Handling GSR 962)
   - Laboratory Safety, Biosafety, Radiation Safety and Ethics courses as required
   - Students may also elect to complete non-credit courses offered by the CGPS, such as Thinking Critically: Profession Skills for Global Citizens (GSR 984); Introduction to University Teaching (GSR 989). A full list of courses is available at http://www.usask.ca/cgsr/for_students/gsclasses.php. These courses have no credit or fees, but require registration. Registration in these courses is limited to current graduate students in a degree program and graduate students are encouraged to participate in these courses. The courses will appear on students’ official transcripts.
B. **Within the first 6 months of starting your program**
   1. Write your research proposal (see FAQ, *what should I include in a research proposal?*).
   2. You will need to have a committee meeting to have your Program of Studies approved by your advisory committee (see FAQ *How do I set up a committee meeting?*). The Program of Studies lists courses required for your individualized research program. When the committee has approved it, it is submitted for CGPS approval.

C. **Each year of your program:**
   1. Maintain your registration in the program, pay tuition and fees.
   2. Call an advisory committee meeting. It is a requirement of your graduate program to have at least one advisory committee meeting each year. It is the responsibility of the student to call the meeting (see FAQ *How do I set up a committee meeting?*). At least 5 working days prior to meeting, provide your committee and the graduate secretary with an annual progress report (see FAQ *What should I include in my annual progress report?*). At this meeting, you will normally be expected to give a short (e.g. 20 min) presentation on your research progress. This presentation should provide a brief overview of your research but should focus on those issues which require input from your committee members. Remember that your committee members have already received and reviewed your progress report.
   3. Prepare and deliver a seminar in PCOL 990. This course provides a good opportunity to practice your seminar skills in front of a friendly, receptive audience. All Pharmacology students are required to give a seminar each year in PCOL 990, except those that have their defense scheduled in the same term that PCOL 990 is offered. Students who are in the process of writing their thesis and have no new data to present are encouraged to give a seminar that provides a more general perspective on their data or area of research. In addition, attendance at all PCOL 990 seminars is mandatory.
   4. Call extra advisory committee meetings as deemed necessary.

D. **In the final year of your program**
   1. Call a permission-to-write meeting. The purpose of the permission-to-write meeting is to survey the structure and content of the thesis as a unified piece of work. The committee needs to be provided with a standard permission-to-write document at least 5 working days before the meeting. For details on what to include in the document, see FAQ: *What should I include in my Permission to Write report?* At the meeting, you will normally be expected to give a short (less than 20 min) presentation on the proposed structure and content of your thesis.
   2. Write your thesis, (see FAQ: *How should I format my thesis?* and the CGPS website [http://www.usask.ca/cgsr/for_students/thesis.php](http://www.usask.ca/cgsr/for_students/thesis.php), and review recent theses from the Department available through CGPS ([http://ecommons.usask.ca/handle/10388/381](http://ecommons.usask.ca/handle/10388/381)).
   3. Once your supervisor has provided feedback on the written thesis and has approved it, the document is submitted to advisory committee members for reading and approval. Please allow the committee at least 2 weeks for M.Sc. and 4 weeks for Ph.D. to review the thesis.
   4. After feedback from committee members has been incorporated into the thesis, and each committee member has individually advised the committee chair that the thesis has met their approval, the thesis needs to be submitted to the graduate secretary who will deliver the thesis to the external examiner. External examiners participate in the examination of theses to provide an independent assessment of the quality of the graduate research. The external examiner, (faculty member at the UofS external to the department for M.Sc.; external to University for Ph.D.), will have been previously selected by the advisory committee as per CGPS guidelines. The student will not have any formal or informal communication with the external examiner until the date of the defense. CGPS requires 3 weeks for M.Sc. and 4 weeks for Ph.D. between submission of the thesis to the external examiner and the thesis defense.
5. Defend the thesis. Students are required to give a public seminar (~30 minutes for M.Sc.; up to 50 minutes for Ph.D.) prior to the defense of the thesis. After the seminar, the examining committee reconvenes with the student for the oral defense of the thesis. The oral defense can be open to the public, as for the seminar, or can be closed, including only the student, advisory committee members and the external examiner. Open defenses are encouraged. The decision to have an open or closed defense lies with the student.

6. After successful defense of the thesis, students should be prepared to edit the final version of the thesis as directed by committee members and the external examiner. The normal recommendation is to allow either 2 or 6 weeks for the student to make the appropriate changes to the thesis.

7. Once the recommendations of the thesis examining committee have been met and the final version is approved by the supervisor, students who have met all other graduate program requirements must apply to graduate online through their PAWS account, on or before the second week in April to receive their degree at Spring Convocation, and on or before the third week in September to receive their degree at Fall Convocation. Students are responsible for ensuring the final copies of the electronic thesis submitted to the CGPS and members of their advisory committee meet all regulations as posted on the CGPS website. Students will arrange for hard copies of the thesis to be bound. The supervisor is normally expected to provide funds to cover the binding costs for 3 copies of the theses (one for each of the department, supervisor and student). The department copy should be submitted to the graduate secretary. The student also should work closely with their advisory committee and with the graduate secretary in order to ensure all necessary documents have been received in Pharmacology and in the CGPS office. Following the thesis defense, students will receive a Convocation Checklist. Students are strongly advised to pay close attention to this useful information.

8. Graduate!

5. **Transfer from an M.Sc. program to a Ph.D. program**

CGPS regulations regarding transfer from a M.Sc. program to a Ph.D. program state the following:

Transfer from a M.Sc. program to a Ph.D. program should take place after the end of the first year and no later than the end of the second year in the program. Recommendation to transfer from a M.Sc. program to a Ph.D. program must be initiated through a formal meeting of the student’s advisory committee that forwards its recommendation through the academic unit to the CGPS. The following conditions must be met:

1. The student shows great promise both in terms of academic accomplishments and in potential for research. The student has completed at least 9 credit units, and has achieved a high-academic standing (>80% GPA) in these 9 credit units.
2. There is evidence of good writing and oral communication ability.
3. There is evidence the student has requisite research skills and knowledge to be able to successfully complete a Ph.D. dissertation.
4. The student has successfully completed the Ph.D. Qualifying Examination (see section 6 below) prior to being recommended for transfer.

Once permission to transfer is given, a new Initial Program of Studies form must be submitted.
6. **Qualifying and Comprehensive Examinations**

Students in the M.Sc. program are not required to take a qualifying or comprehensive examination.

**Qualifying Examination**

Students admitted and registered directly into the Ph.D. program will take the qualifying examination within the first 6 months of their program. This exam is also used for M.Sc. students wishing to transfer to a Ph.D. program as outlined above (section 5). The Qualifying Examination is designed to test the student’s general scientific knowledge, familiarity with the scientific literature in his or her area of interest, and suitability for study at the Ph.D. level. It has both written and oral components. The written component is a formal proposal for the Ph.D. research project. It must be given to members of the Advisory Committee a minimum of one week beforehand, and should contain the following components:

A. Descriptive Title, Name, and Date  
B. Background  
C. Specific Aims  
D. Rationale  
E. Preliminary Results (M.Sc. work if transfer)  
F. Proposed Research Plan and Methodology  
G. Significance  

The oral component includes a 15 – 20 minute oral presentation of the proposed research plan and methodology. This is followed by questions from members of the Advisory Committee. Questioning by the Advisory Committee is designed to determine whether the student has a sufficient command of the area of research interest to insure that there is a high probability of success at the Ph.D. level. If the student fails the qualifying examination on the first try, a second examination can be undertaken within three months. However, a second failure disqualifies the student from transferring to a Ph.D. program.

**Comprehensive Examination**

The CGPS guidelines for Ph.D. comprehensive examinations state that the comprehensive examination should cover topics cognate to the candidate’s field of research and is used to determine whether the student has a mature and substantive grasp of the field as a whole. The Department should establish and make available clear, written and specific regulations regarding the comprehensive examination, within CGPS regulations.

In Pharmacology, all students in a Ph.D. program are required to pass a Comprehensive Examination. The examination will be given by the advisory committee, with additional examiners added at the discretion of the advisory committee, and/or the Departmental Graduate Committee (see below). The examination should be conducted after all course work has been completed and the research has reached its final stages. The examination should be taken at least one year prior to the final completion of the program. The student may choose (with approval of Supervisor) to be examined in either an oral examination format, or a written/oral grant proposal format. The student should meet with their Advisory Committee to select their choice of exam format.

1) **ORAL EXAMINATION FORMAT**

The oral format of the comprehensive examination is designed to test the student's general competence in three major sub-disciplines of Pharmacology not related to area of study chosen from a list provided by the thesis advisory committee. The student is also tested for specific knowledge in the area of research specialization.

The examining panel will be chaired by the Chair of the Advisory Committee. The Examiner in the area of research specialization will be the student's Supervisor. Additional Examiners will be chosen as appropriate for the selected sub-disciplines. Following the oral examination, the examining panel assigns a grade of Fail, Pass or Excellent. In the event of a failure, the student must retake the comprehensive examination in those sub-
disciplines where performance is judged to be inadequate. In this case, the second attempt must take place within two to six months following the first examination, depending on how many sub-disciplines require re-examination. The student will be required to discontinue and exit the Ph.D. program in the event of a second failure.

2) GRANT PROPOSAL FORMAT

The objective of this examination format is to provide Ph.D. candidates with an opportunity to apply their academic and practical scientific training toward the development and defense of a scientific research proposal. The examination will have both an oral and a written component. The written component will be a completed NSERC Discovery Grant application (Common CV, Research Proposal, Research Summary, Budget, etc.). The topic of the Research Proposal should be within the broader area of the student’s training (e.g., an area that the student might pursue as a postdoctoral fellow) but should not be directly related to the thesis research. Prior to grant preparation, the student will identify 3 research ideas they would be interested in pursuing and will circulate the title and major objectives for each project to their advisory committee members. Committee members will decide collectively on one of the topics and the student will then proceed to prepare the grant application. During grant preparation, the graduate chair can serve as a mentor but no intellectual input is allowed from committee members or other faculty members. The oral component of the comprehensive examination will be based on a defense of the grant application, and on knowledge of background information associated with the proposal and with the student’s area of specialization. Other related research areas, and pertinent topics such as scientific methodology, experimental design, hypothesis formulation and testing, and statistical analysis would be included as appropriate. Depending upon the grant topic and the range of expertise of the advisory committee, members of the advisory committee and/or the Departmental Graduate committee may choose to select additional examiners. In addition, the student is required to present a brief (15 minute) summary of the research proposal at the beginning of the examination. The written component, grant application and proposal, must be provided to the committee members 5 working days prior to the comprehensive exam meeting. The Comprehensive Examination may be repeated once with the permission of the Dean of CGPS. A second failure will result in the student being required to withdraw from the program.

7. Information on scholarships and graduate student stipend funding

The following list identifies the most common sources of stipend funding for graduate students in Pharmacology, although they are not the only sources. Eligibility, stipend amounts, and application procedures for these and other sources of stipend funding are available on the CGSR website (http://www.usask.ca/cgsr/funding/index.php).

a. NSERC/CIHR – The CGPS provides a $3,000 annual award for holders of NSERC-PGS and CIHR scholarships.

b. U of S Dean’s scholarships, including International Dean’s scholarships, are open to new students with a GPA of 85% or better. Students are nominated by faculty or the Department.

c. U of S Awards - open to all graduate students. Requirements for U of S Scholarships and Fellowships include a minimum 80% GPA. A call for applications from the Graduate chair is sent out to graduate students in March each year.

   i. U of S Graduate Scholarships (VBMS Devolved Scholarships)
   ii. GTF – Graduate Teaching Fellowships
   iii. GTA – Graduate Teaching Assistantships

d. College Awards – open to graduate students in the College of Medicine. Eligibility varies between awards. These awards are administered through the Vice Dean Research office, and a call for applications is made each year.

e. Research grants of supervising faculty – In some cases, student stipends arise solely from research grants.
8. Teaching requirements

Graduate students, particularly those in the Ph.D. program, are offered the opportunity to participate in teaching or to serve as demonstrators in laboratory sessions. To this end, the College of Medicine offers a number of Graduate Teaching Appointments each year.

Participation as a Graduate Teaching Appointee will bring the student into direct contact with undergraduate students and afford an appreciation of the problems associated with the administration of courses. Thus, Graduate Teaching Appointees should participate in meetings of course committees and should also attend the lectures. Whenever possible, Graduate Teaching Appointees will be permitted to select the courses in which they will instruct; however, individuals are typically assigned to specific courses within their general area of competence.

Students who wish to obtain more extensive teaching experience may wish to apply for a Graduate Teaching Assistantship or a Graduate Teaching Fellowship (see Section VI.) A maximum of 10 hours/week may be spent in teaching. Duties assigned to students holding Graduate Teaching Appointments will be in accordance with College of Graduate Studies and Research guidelines. Teaching assignments will be determined by the Department Head.

9. Time in program, leaves of absence

Official program time limits are five years for the M.Sc. program, and six years for Ph.D. programs. This time is measured from the beginning of the first term of registration for work which is included in the Program excluding any periods of approved leave.

Leaves of absence are available to students for compassionate, medical, or parenting reasons. Reasonable accommodation is normally made. Short-term leaves of less than one month are managed within VBMS. Leaves of absence from CGSR are normally granted in four-month blocks only, to coincide with the registration terms (Sept. 1 to Dec. 31; Jan. 1 to Apr. 30; May 1 to Aug. 31). Maternity, adoption and parenting leave may be granted for 8 or 12 month blocks.

Requests for leaves should be discussed as early as possible with supervisors so that appropriate accommodations can be made prior to the beginning of the leave. Requests should be made in writing by the student for a minimum leave of four months to a maximum leave of twelve months. The Dean of the CGPS will consider any petitions arising from students whose request for leave has been denied by the supervisor or academic unit. The leave period is not included in the time period for completion of the degree, and tuition fees are not assessed during the leave. While a student is on leave, all supervisory processes are suspended. Financial support offered to the student as a full-time, fully-qualified student is not available to students on leave. Every possible accommodation should be made, however, in assisting the student to delay for the period of the leave, rather than having to decline offers of financial assistance. Letters of support in this regard will be sent to external funding agencies. Additional information regarding registration, fees, and funding for students on leave may be obtained from CGPS.
Appendix A: Frequently Asked Questions (FAQ)

A.1 How do I set up a committee meeting?
A.2 What should I include in my research proposal?
A.3 What should I include in my annual progress report?
A.4 What should I include in my Permission-to-Write report?
A.5 How should I format my thesis?
A.6 Going to conferences – who pays?

A1 How do I set up a committee meeting?

You are responsible for deciding when you should have a committee meeting, in consultation with your supervisor. Remember that you are required to have at least one meeting each year to review your progress, although you can hold as many meetings per year as is deemed necessary. All scheduling should be done by the Department graduate secretary. Please refrain from scheduling your own meetings. When you have decided to have a meeting, contact the Departmental graduate secretary and provide her with the approximate dates (usually a 2-week window) and an agenda for the meeting. She will schedule the meeting when all or most of your committee members can attend and will find an available room. Suggested agendas are:

- For the first meeting (at 3 months):
  - Introduction of student
  - Introduction of research topic (be prepared to present an introduction and summary of the proposed research)
  - Proposed coursework
  - Source of research and stipend funding

- For the second meeting (within 6 months):
  - Proposal defense and approval
  - Program of Studies approval

- For annual meetings
  - Research progress
  - Progress in coursework
  - Stipend funding
A2  What should I include in my research proposal?

The following is a suggested format for the research proposal – this can be modified as needed to adapt to different research questions and approaches.

1. Background information. (2 – 5 pages)
   The literature review should outline the relevant literature framework into which your work will fit. This review should essentially set up and provide a rationale for the experimental hypothesis (i.e. what you are setting out to demonstrate).

2. Experimental hypothesis and summary of rationale for the hypothesis.
   A hypothesis is a statement of what you predict will happen (e.g. Riveramasole will improve pregnancy rates in sheep).

3. Objectives – how you will address your hypothesis

4. For each objective
   a. Rationale for experiment, and experimental hypotheses, if appropriate.
   b. Design of experiment, including suitable control groups, sample sizes
   c. Proposed methods, including statistical analysis, power calculations if possible
   d. Anticipated results
   e. Anticipated problems and proposed solutions
   f. Proposed timeline

5. Actual results, if available.

6. Interpretation of results.

A3  What should I include in my annual progress report?

A. Research Progress (4 pages max, excluding references):

1. Abbreviated literature review, providing the rationale for experiments
2. Thesis Objectives, Hypotheses
3. Progress on each objective – include summary of methods, provide results, indicate whether manuscript is being drafted, under review or published
4. An updated timeline.
5. Research presentations – posters or seminars, conferences attended, awards received etc.

B. Summary of non-research activities

1. Courses completed and marks, if available
2. Teaching responsibilities
3. Stipend funding
4. Any other activities which have an impact on your graduate program.
A4  **What should I include in my Permission-to-Write report?**

The Permission-to-Write meeting allows the advisory committee to survey the structure of the thesis as a unified piece of work and allows committee members to provide input on how the student intends to structure the thesis. With this in mind, the Permission-to-Write report should include:

1. A table of contents formatted appropriately for a thesis.
2. A list of thesis objectives and hypotheses.
3. A 1-2 page summary for each proposed chapter, each of which should include
   a. the rationale, specific objectives and hypotheses for that chapter (if not included in (2) above) and
   b. a summary of the most significant findings for each chapter, illustrated with 1 - 3 pertinent figures with complete captions (*i.e.* NOT all the figures for each chapter). There should be an indication of which chapters are published, which are submitted and which have not yet been submitted for publication.
4. A final summary statement indicating whether the overall objectives/hypotheses of the thesis have been addressed.

A5  **How should I format my thesis?**

Theses must follow a consistent editorial format. You should consult the CGSR guidelines (available at [http://www.usask.ca/cgsr/for_students/thesis.php](http://www.usask.ca/cgsr/for_students/thesis.php)), and review recent theses from the Department available through CGSR ([http://ecommons.usask.ca/handle/10388/381](http://ecommons.usask.ca/handle/10388/381)).

Normally the order in which the items are presented in the thesis is as follows:

1. title page,
2. abstract,
3. "permission to use the thesis",
4. table of contents,
5. list of tables,
6. list of figures, and
7. list of abbreviations.
8. The body of the thesis
   a. Introduction that gives in 1-2 paragraphs an overview of the rationale for the project
   b. Literature review, which should outline the relevant literature framework into which your work will fit. This review should in essence set up and provide a rationale for the experimental hypothesis (*i.e.* what you are setting out to demonstrate)
   c. Hypothesis and objectives. Remember, a hypothesis is a statement of what you predict will happen.
   d. The next portions of the thesis present your research, in one of two formats:
      i. If you have published much of your research, you may wish to use these publications as the individual chapters of your thesis. Within the thesis, each publication (or ’data chapter’) therefore has its own introduction, materials and methods, results and figures/tables, and discussion section.
         A few important points:
         1. The references from each of the data chapters should **not** be included at the end of each chapter but be collected together in one common bibliography at the end of the thesis.
         2. Normally, methods common to different chapters should not be repeated in each chapter but included only once, and then cited as appropriate for subsequent chapters.
      ii. If you have not published your work, you may elect to use a more traditional thesis format,
with one common material and methods section, several results subsections.

e. A general discussion chapter is required following the last data chapter (i, above) or results section (ii, above). You will need to present a coherent discussion of all of your work in one common discussion, which needs to be more in-depth and insightful than a simple summary of the discussions of each of the data chapters, for example.

f. Conclusions, future directions

g. Bibliography

h. Appendices

A6 Going to conferences – who pays?

Your attendance and presentation of your research results at local, national and/or international scientific conferences is strongly encouraged. Normally, decisions on whether you will attend a particular conference are made jointly between you and your supervisor. It should be made clear in these discussions whether part or all of your expenses (e.g. registration, travel, accommodation and meals) will be paid through your supervisor’s research grants, including how and when these expenses will be paid and/or reimbursed. In addition, travel awards are available from CGPS or from the College of Medicine. For information on these, contact the graduate secretary.

September 19, 2017