

*VETERINARY BIOMEDICAL SCIENCES
GRADUATE STUDENT HANDBOOK*

<i>1. Introduction.....</i>	<i>0</i>
<i>2. How do I apply for graduate studies at the University of Saskatchewan?.....</i>	<i>0</i>
<i>3. Who is involved in my graduate program?.....</i>	<i>2</i>
A. Your role as a graduate student.....	2
B. Your supervisor’s role.....	2
C. The roles of advisory committee members.....	3
D. VBMS graduate chair.....	3
E. Graduate secretary.....	3
F. The Department graduate committee.....	3
G. Plagiarism.....	4
<i>4. Information for students in the M.Sc. Program.....</i>	<i>4</i>
A. Within the first 3 months of starting your program.....	4
B. Within the first 6 months of starting your program.....	5
C. Each year of your M.Sc. program.....	5
D. In the final year of your M.Sc. program.....	6
<i>5. Transfer from an M.Sc. program to a Ph.D. program.....</i>	<i>7</i>
<i>6. Information for students in the Ph.D. Program.....</i>	<i>8</i>
A. Within the first 3 months of starting your program.....	8
B. Within the first 6 months of starting your program.....	9
C. Qualifying and Comprehensive Examinations.....	9
D. Each year of your Ph.D. program:.....	12
E. In the final year of your Ph.D. program.....	12
<i>6. Information on scholarships and graduate student stipend funding.....</i>	<i>13</i>
<i>7. Teaching requirements.....</i>	<i>14</i>
<i>8. Time in program, leaves of absence.....</i>	<i>14</i>
<i>Appendix A: Frequently Asked Questions (FAQ).....</i>	<i>16</i>

1. Introduction

Welcome to graduate studies in the Department of Veterinary Biomedical Sciences!

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 Veterinary Biomedical Sciences (VBMS). The Department offers both M.Sc. and Ph.D. graduate programs and has faculty and students with diverse research interests, including behavioural neuroscience, cardiovascular physiology, cryobiology, embryo biology, endocrinology, evolutionary biology, gastrointestinal biochemistry, immunotoxicology, nano-medicine, nutrition, pharmacology, pulmonary pathobiology, reproductive biology and medicine, stress physiology, structural biology and toxicology. 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.

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 VBMS 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://www.usask.ca/wcvm/research/research_areas/biomedical.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 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. Only applicants who are supported by scholarships or through their supervisor's research grant will be accepted as graduate students in the program. The level of financial support must be at least enough to meet the estimated cost of attending the University. 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://www.usask.ca/cgps/>. Students in the M.Sc. program in VBMS need to register for VBMS 994 and VBMS 990. Students in the Ph.D. program in VBMS need to register for VBMS 996 and VBMS 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 VBMS 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/>
4. timely registration for courses and payment of fees owing
5. maintaining of appropriate academic performance (minimum 70% GPA in coursework)
6. attending and participating in the departmental seminar series (VBMS 990)
7. seeking advice from members of their advisory committee where appropriate
8. timely submission of scholarship applications and renewals, awareness and attendance to the stipend funding periods
9. 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. For most University/College/Departmental scholarships at the graduate level, supervisors are also responsible for providing at least 50% of the stipend support from their own research grants.

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 twice each year to review and assess student progress and to offer advice. However, students are encouraged 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 defences.

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 VBMS 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. VBMS graduate chair

The VBMS graduate chair offers advice and information regarding VBMS 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 VBMS graduate chair is responsible for chairing and recording the minutes for annual advisory meetings, qualifying and comprehensive exams and defences. At the university level, the chair acts as liaison between the Department and the CGPS.

E. Graduate secretary

The VBMS 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 committee meetings, exams and defences, and for maintaining and submitting the appropriate paperwork to CGPS.

F. The Department graduate committee

The VBMS 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 VBMS graduate committee are submitted for approval to the VBMS faculty. Members of the VBMS graduate committee include the Department Head, the graduate chairs, the graduate secretary and at least one other VBMS faculty member.

G. Plagiarism

The University of Saskatchewan defines plagiarism as "...the use of someone else's words or ideas or data without proper documentation or acknowledgement" (<http://www.usask.ca/cgps/policy-and-procedure/professional-conduct.php>. Section 18.3.2). Plagiarism is an increasingly reported problem and all students should be aware of the rules and regulations governing the detection, reporting, and consequences of this situation. Universities, individual Colleges and Departments, including those at the University of Saskatchewan, are increasingly using software to screen graduate theses for unoriginal text. The College of Graduate and Postdoctoral Studies at the University of Saskatchewan has a policy concerning plagiarism (Procedures and Guidelines 18.3.2) and students have a responsibility to read and understand the policy (<http://www.usask.ca/cgps/policy-and-procedure/professional-conduct.php#3-2>). Unfamiliarity with aforementioned policy and any specific details concerning plagiarism are not a justifiable excuse. Furthermore, it is important that students understand that plagiarism is a serious offence regardless of it being intentional or unintentional. The University Library also has a great resource on citation style guidelines as they relate to academic honesty and plagiarism. Students should consult this at <http://libguides.usask.ca/citation/whycite>. Lastly, students should consult with their Supervisor(s) for advice, instructions, and mentorship on how to avoid plagiarism.

Unintentional plagiarism can result from a student's lack of experience in information gathering and scientific writing. Thus, it is imperative to adopt good practices in notetaking and composition (see <http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize>). One key point of advice is to always take notes from texts, papers, slides, etc in point form (e.g. bullets) and in your own words. These types of notes should capture facts, concepts, theories, or ideas that can then be used to compose a paragraph(s) independently from the source. NEVER copy sentences word for word from sources, even if you think you will change it later. Such a practice significantly increases the risk of plagiarizing the sources. If a word for word account is necessary, then it requires proper citation within quotation marks. Remember, following simple rules such as these can avoid the embarrassment and consequences of a plagiarism allegation.

4. *Information for students in the M.Sc. Program*

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 the M.Sc. program are 12 credits minimum, with at least 9 credits at the graduate level. Courses can be

taken from any academic unit on campus.

2. Your first introductory committee meeting will be in October/November if you started in September, or will be in February if you started in January. (see FAQ *How do I set up a committee meeting?*) At this introductory meeting, you will discuss your proposed research and the committee will provide advice on coursework. Once the meeting date has been arranged, you need to send a brief introductory document to your committee members 5 days 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 (VBMS 994) and Graduate Seminar (VBMS 990) courses, of which continuous registration is required until defence
 - additional requirements such as Graduate Research Ethics and Integrity Training Course (GPS 960), UCACS Education and Training Program (Animal Care/Handling GPS 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 (GPS 984); Introduction to University Teaching (GPS 989). 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 course. 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. The Program of Studies lists courses required for your individualized research program. When committee has approved, it is submitted for CGPS approval through Degree Works, a degree audit service for students and advisors, available in PAWS. The degree audit lists classes completed, classes required, non-course requirements and defence requirements needed for completion of your degree program. Exceptions/changes to course work, transfer credits and audits, which must be approved by the committee and CGPS, are also listed.

C. Each year of your M.Sc. program:

1. It is a requirement of your graduate program to have at least two advisory committee meetings each year. The graduate secretary will schedule meetings for October/November and April each year. At least **5 working days** prior to meeting, provide your committee and the graduate secretary with a progress report (see FAQ *What should I include in my annual progress reports?*). 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.

2. Prepare and deliver a seminar in VBMS 990. This course provides a good opportunity to practice your seminar skills in front of a friendly, receptive audience. All VBMS students are required to give a seminar each year in VBMS 990, except those in their first year or those have their defence scheduled in the same term as VBMS 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. Videoconferencing arrangements will be made for students who are out of town during the term VBMS 990 is offered. In addition, attendance at all VBMS 990 seminars is mandatory.
3. Call extra advisory committee meetings as deemed necessary.
4. Maintain your registration in the program, pay tuition and fees.

D. In the final year of your M.Sc. 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. It is expected that following a successful permission-to-write meeting, the student will be able to complete the writing and defence of their thesis within 3 months. A follow-up contact will be conducted by the graduate secretary after the 3 month point to determine if these expectations have been met. If the thesis writing has not been completed, a student advisory committee meeting will be called for the student to attend and to account for any delays. 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/cgps/for_students/thesis.php, and review recent theses from the Department available through CGPS (<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 at least 2 weeks for the committee 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 M.Sc. theses to provide an independent assessment of the quality of the graduate research. The external examiner, usually a faculty member at the University of Saskatchewan external to the student's department, will have been previously selected by the advisory committee. The student will not have any formal or informal communication with the external examiner until the date of the defence. CGPS requires 3 weeks between submission of the thesis to the external examiner and the thesis defence.
5. Defend the thesis. In VBMS, students are normally required to give a public seminar (approximately 30 minutes) prior to the defence of the thesis. After the seminar, the M.Sc. examining committee reconvenes with the student for the oral defence of the thesis. The oral defence 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 defences are encouraged. The decision to have an open or closed defence lies with the student.
6. After successful defence 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, before March 31st to receive their degree at Spring Convocation, and before August 31st 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 send the final version of their thesis to the Graduate Programs Coordinator, after the ETD submission has been approved by CGPS. The Coordinator will arrange for hard copies of the thesis to be bound. The supervisor is expected to provide funds to cover the binding costs for the student's copy of the thesis and for him/herself, if desired. 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 VBMS and in the CGPS office. Following the thesis defence, 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 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** prior to being recommended for transfer. This examination for the purposes of transfer can only be taken once. A student failing the Qualifying Examination or any part thereof cannot be recommended for transfer.

* In VBMS, high academic standing, in most cases, is interpreted to be at least 80% GPA.

****** In VBMS, the Ph.D. qualifying examination for transfer consists of 2 parts, a written component and an oral examination. The written component consists of a completed manuscript and a Ph.D. research proposal. Both documents need to be submitted to the examining committee at least **5 working days** prior to the oral examination. The oral examination consists of a defence of the research included in the manuscript and the proposed Ph.D. experiments. The Ph.D. Qualifying Examination must be at least as rigorous as that for a M.Sc. thesis defence. The results of the examination must clearly indicate that the student has the potential to obtain sufficient knowledge of his/her general field of study to proceed towards candidacy for the Ph.D. degree. Evidence for sufficient funding for both stipend and research activities also need to be present for the transfer to be approved.

VBMS's M.Sc. and Ph.D. Program Requirements - Quick Summary

Program	Qualifying Examination?	Comprehensive Examination?	Minimum course credits
M.Sc.	No	No	12
Ph.D.	Yes - within 3 – 6 months of start date*	Yes	3
M.Sc. > Ph.D. transfer	Yes – as a condition of transfer*	Yes	12 + 3 (9 must be completed prior to transfer)

* see Sections 5 and 6 for specific qualifying examination requirements

6. *Information for students in the Ph.D. Program*

A. **Within the first 3 months of starting your program**

1. Along with your supervisor, decide on committee members and identify some of the academic courses you feel that you need. Departmental course requirements for the Ph.D. program are 3 credits minimum at the graduate level. For students who have transferred from a M.Sc. program to a Ph.D. program, credit requirements are $12 + 3 = 15$ credits minimum. Courses can be taken from any academic unit on campus.
2. Your first introductory committee meeting will be in October/November if you started in September, or will be in February if you started in January. (see FAQ *How do I set up a committee meeting?*) At this introductory meeting, you will discuss your proposed research and the committee will provide advice on coursework. Once the meeting date has been arranged, you need to send a brief introductory document to your committee members 5 days 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 (VBMS 996) and Graduate Seminar (VBMS 990) courses, of which continuous registration is required until defence
 - Additional requirements such as Graduate Research Ethics and Integrity Training Course (GPS 960), UCACS Education and Training Program (Animal Care/Handling GPS 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 (GPS 984); Introduction to University Teaching (GPS 989). 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 course. 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. Complete your qualifying examination (see Section 6C below for the details regarding the Ph.D. qualifying examination).
3. At the meeting for the qualifying examination, or at a separate committee meeting, you will need 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 committee has approved, it is submitted for CGPS approval through Degree Works, a degree audit service for students and advisors, available in PAWS. The degree audit lists classes completed, classes required, non-course requirements and defence requirements needed for completion of your degree program. Exceptions to course work, transfer credits and audits, which must be approved by the committee and CGPS, are also listed.

C. Qualifying and Comprehensive Examinations

Qualifying Examination

Fully qualified students

Students admitted and registered directly into the Ph.D. program normally will take an oral qualifying examination within the first 6 months of their program. The Ph.D. qualifying examination consists of a written component and an oral examination. The Ph.D. research

proposal comprises the written component and the oral examination is the defence of the proposal. The Ph.D. proposal needs to be submitted to the examining committee at least 5 working days prior to the oral examination. The Ph.D. qualifying examination must be at least as rigorous as that for a M.Sc. thesis defence. The results of the examination must clearly indicate that the student has the potential to obtain sufficient knowledge of his/her general field of study to proceed towards candidacy for the Ph.D. degree. Students holding a M.Sc. may be allowed to repeat the examination once following initial failure. A second failure would usually be reason to terminate the program of study toward the Ph.D. degree.

Conditionally qualified students

Students admitted conditionally into the Ph.D. program normally will take an oral qualifying examination within the first 3 months of their program. The examination will probe the student's knowledge of his/her area of specialization and related areas, cognizant of previous course work and experience, to determine suitability for candidacy for the Ph.D. degree. The oral component may be supplemented with a written component at the discretion of the advisory committee. The results of the examination must clearly indicate that the student has the potential to obtain sufficient knowledge of his/her general field of study to proceed towards candidacy for the Ph.D. degree. Students holding a M.Sc. may be allowed to repeat the examination once following initial failure. A second failure would usually be reason to terminate the program of study toward the Ph.D. degree.

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 VBMS, 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 objective of the VBMS comprehensive examination is to provide Ph.D. candidates with an opportunity to apply their academic and practical scientific training toward the development and defence of a scientific research proposal. The examination will have both an oral and a written component. Students will need to write and defend a full tri-council grant application on a subject that is not directly related to their research topic.

The written component will be a completed NSERC Discovery Grant application or CIHR Operating Grant application. The written component will include similar documents required for submission to Tri-Council agencies (*e.g.* NSERC Forms 100 (Personal Data Form) and Form 101 (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 for a postdoctoral studies) 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 defence 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 advisory committee will inform the student well before the examination date whether 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. In exceptional cases, at the discretion of the advisory committee, the oral examination may be either supplemented or replaced by a written examination.

The university provides a grants repository to view examples of successful tri-council grant applications over the past years:

https://share.usask.ca/go/ovpr/grants_repository/Pages/default.aspx. Of significance for a comprehensive exam will be those of NSERC Discovery grants (or possibly CIHR, if that is what the advisory committee recommends). Within NSERC-Discovery Grants, especially those grants in the categories of Biological Systems or Genes/Cells/Molecules may be most relevant to the student's field.

Helpful tips: Try to polish your application by following the samples and focusing on the relative space allocated to different parts of the proposal, and the extent and lay out of main/specific objectives, questions or hypotheses as well as methodology and other subsections.

In addition to a good proposal, you will also need to present a Common-CV as well as a HQP training and budget justification documents in order to have a full application. Please consult the appropriate section of the NSERC-DG or CIHR for more guidelines.

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.

D. Each year of your Ph.D. program:

1. It is a requirement of your graduate program to have at least two advisory committee meetings each year. The graduate secretary will schedule meetings for October and April each year. At least **5 working days** prior to meeting, provide your committee and the graduate secretary with a progress report (see FAQ *What should I include in my progress report?*). At this meeting, you will normally be expected to give a short (less than 20 min) presentation on your research progress. This presentation should provide a brief overview of your research but should focus on those issues that require input from your committee members. Remember that your committee members have already received and reviewed your progress report.
2. Prepare and deliver a seminar in VBMS 990. This course provides a good opportunity to practice your seminar skills in front of a friendly, receptive audience. All VBMS students are required to give a seminar each year in VBMS 990, except those in their first year or those who have their defence scheduled in the same term as VBMS 990 is offered. Students who are in the process of writing their thesis and have no new data to present are welcome to give a seminar that provides a more general perspective on their data or area of research. Videoconferencing arrangements will be made for students who are out of town during the term VBMS 990 is offered. In addition, attendance at all VBMS 990 seminars is mandatory.
3. Call extra advisory committee meetings as deemed necessary.
4. Maintain your registration in the program, pay tuition and fees.

E. In the final year of your Ph.D. 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. It is expected that following a successful permission-to-write meeting, the student will be able to complete the writing and defence of their thesis within 3 months. A follow-up contact will be conducted by the graduate secretary after the 3 month point to determine if these expectations have been met. If the thesis writing has not been completed, a student advisory committee meeting will be called for the student to attend and to account for any delays. 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/cgps/for_students/thesis.php, and review recent theses from the Department available through CGPS (<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 at least 2 weeks for the committee 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 CGPS, who will then submit the thesis to the external examiner. External examiners participate in the examination of Ph.D. theses to provide an independent assessment of the quality of the thesis research. The external examiner, who cannot be a faculty member or employee of the University of Saskatchewan, will have been recommended by the advisory committee and selected by CGPS. The student will have no contact with the external examiner until the day of defence. CGPS requires at

- least 4 weeks between submission of the thesis to CGPS for external review and the thesis defence.
5. Defend your thesis. In VBMS, students are normally required to give a 30 minute public seminar prior to the defence of the thesis. After the seminar, the Ph.D. examining committee reconvenes with the student for the oral defence of the thesis. The oral defence 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 defences are encouraged. The decision to have an open or closed defence lies with the student.
 6. After successful defence of the thesis, students should be prepared to edit the final version of the thesis as directed by committee members and the external. 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 online to graduate through their PAWS account before March 31st to receive their degree at Spring Convocation, and before August 31st 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 send the final version of their thesis to the graduate secretary, after the ETD submission has been approved by CGPS. The graduate secretary will arrange for hard copies of the thesis to be bound. The supervisor is expected to provide funds to cover the binding costs for the student's copy of the thesis and for him/herself, if desired. 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 VBMS and in the CGPS office. Following the thesis defence, students will receive a *Convocation Checklist*. Students are strongly advised to pay close attention to this useful information.
 8. Graduate!

6. Information on scholarships and graduate student stipend funding

Graduate students in VBMS are required to have stipend support. Minimum levels of support are currently \$18,000/yr. for M.Sc. students and \$20,000/yr. for Ph.D. students, although supervisors are encouraged to provide more funding as resources allow. You need to be aware of the current source of your stipend funding, renewal dates, duration of support, requirements for progress updates for individual scholarships, and application dates for alternate scholarships. You will also need to inform your supervisor and advisory committee of any employment or consulting work which takes place outside your graduate program.

The following list identifies the most common sources of stipend funding for graduate students in VBMS, 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 CGPS website (<http://www.usask.ca/cgps/funding/index.php>).

1. NSERC/CIHR – students who hold either NSERC or CIHR stipend support will additionally receive an annual tuition scholarship from the Department for approximately 50% of the annual tuition. Supervisors are expected to provide the remaining 50% of the tuition scholarship from operating grant funds. The CGPS also provides a \$3,000 annual award for holders of NSERC-PGS and CIHR scholarships.
2. 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.
3. U of S Awards - open to all VBMS graduate students. Requirements for U of S Scholarships and Fellowships include a minimum 80% GPA.
 - a. U of S Graduate Scholarships (VBMS Devolved Scholarships)
 - b. GTF – Graduate Teaching Fellowships
 - c. GRF – Graduate Research Fellowships

College Awards – open to graduate students in the WCV. Eligibility varies between awards.

- a. Interprovincial Research Fellowship
- b. Graduate Student Scholarship/Fellowship Award

These awards are administered through the Associate Dean Research office.

A call for applications from the VBMS Graduate Programs Coordinator is sent out to VBMS graduate students in March/April each year.

4. Research grants of supervising faculty – for most U of S and College awards, the student’s supervisor is required to fund at least 50 % of the annual stipend amount from research grants. Supervisors are encouraged to provide more than 50% of the stipend as funds allow. In some cases, student stipends arise solely from research grants.

7. Teaching requirements

Members of VBMS recognize the value of teaching and communicating scientific information for undergraduate students. Participation in our teaching programs is encouraged for all graduate students and is a requirement for holders of University and Departmental scholarships. Teaching commitments which extend beyond 20 hours per year will be remunerated through departmental funds. Students are encouraged to enroll in GPS 989 - Introduction to University Teaching.

8. 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 of 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 CGPS 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 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?*

A.1 *How do I set up a committee meeting?*

You are required to have at least two meetings each year to review your progress, in October/November and April, although you can hold as many meetings per year as is deemed necessary. All scheduling will be done by the Department graduate secretary. Please refrain from scheduling your own meetings. A poll will be sent out to schedule the meeting in a 2-week window. The meeting will be set when all or most of your committee members can attend and an available room will be booked. Suggested agendas for committee meetings are:

- For the first meeting in October:
 - 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 in April:
 - Proposal defence and approval
 - Program of Studies approval
- For subsequent meetings
 - Research progress
 - Progress in coursework
 - Stipend funding

A.2 *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.

A.3 What should I include in my progress report?

A. Research Progress:

1. Abbreviated literature review (2 - 3 pages max), 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.

A.4 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.

A.5 How should I format my thesis?

Theses must follow a consistent editorial format. You should consult the CGPS guidelines (available at http://www.usask.ca/cgps/for_students/thesis.php), and review recent theses from the Department available through CGPS (<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 (*ie*, 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

A.6 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 Office of the WCVM Associate Dean Research

http://www.usask.ca/wcvm/research/research_funds/cecil_fund.php .

To claim travel expenses from university accounts, a travel request must be submitted and approved through Concur before travel is booked. Travel expense claims are reimbursed by creating an expense report, attaching all receipts, in Concur. For step-by-step Concur information refer to: <http://www.usask.ca/fsd/resources/guidelines/concur-travel-and-expense-user-information.php>.

Once you have completed the expense claim in Concur, please send it to your supervisor for approval.