

## GRADUATE PROGRAM MILESTONES

The purpose of this document is to provide students and Faculty Advisors with the steps for completion of the MSc and PhD degrees, and to indicate how these requirements are integrated into the time frame of an average program. It is meant to guide students to a successful completion, rather than provide a rigid timeline. Students are encouraged to complete steps by the indicated dates or earlier. There may be very good reasons why a student takes longer than average to complete some tasks. However, the student with his/her Faculty Advisor and Advisory Committee are encouraged to examine the reasons to see if they are truly justified. In all instances where forms are required, they can either be found on the Graduate Studies website or from your Graduate Secretary.

### MSc PROGRAM

#### Requirements

1. Advisory Committee registered with Graduate Studies by end of semester 2.
2. Courses - 1.5 credits.
3. Minimum 1 Advisory Committee meeting per year (Note: VP Academic suggests 1 Advisory Committee meeting per semester).
4. Two departmental seminars.
5. Conference presentation (oral or poster).
6. MSc thesis accepted and successfully defended. Examination committee must have thesis 2 weeks prior to defence.

#### Semesters 1-2

- Begin courses and learn laboratory techniques.
- By mid-semester 1, select a research topic with your Faculty Advisor and create a written outline of the research to be accomplished. Select an Advisory Committee (an Advisory Committee must be registered by end of the 2<sup>nd</sup> semester).
- By the end of semester 2, the student normally will have written a comprehensive literature review. regardless, the student should meet with the Advisory Committee during semester 2 and present the hypothesis for the research and the approach.

#### Semesters 3-4

- Present the first of 2 departmental seminars.
- Finish courses and begin research.

#### Semester 5-6

- Beginning of semester 5, present second department seminar. Meet with the Advisory Committee and provide a timetable for completion of research.
- Finish research.
- Discuss thesis content and format with Advisory Committee.
- Meet departmental minimum scientific communication requirement - one conference presentation (oral or poster) at a suitable Regional, National or International scientific conference.
- Write, submit and defend thesis.

- Writing an MSc thesis usually takes 1 semester. Faculty Advisor and Advisory Committee approval varies depending on how well the thesis is written, but usually requires 1-2 months. Minimum time from Advisory Committee sign off and thesis defence is 2 weeks. Therefore, the student should allow for 5-6 months to write and defend the thesis.

## PhD PROGRAM

### Requirements

1. Advisory Committee registered with Graduate Studies by end of semester 2.
2. Qualifying exam completed by end of semester 2.
3. Minimum of 1 Advisory Committee meeting per year (Note: VP Academic suggests 1 Advisory Committee meeting per semester).
4. Three departmental seminars (The first accompanies the Qualifying exam).
5. The departmental Scientific Communications requirement is 2 manuscripts which must have at least been submitted to a scientific journal prior to the student graduating with their PhD degree.
6. PhD thesis accepted and defended. External examiner must have thesis 1 month prior to exam.

### Semesters 1-2

- By mid-semester 1, select an area of research with your Faculty Advisor. Begin to learn necessary laboratory techniques.
- By end of semester 1, establish an agreement with your Faculty Advisor for the underlying question/hypothesis of your PhD research and establish an outline of the proposed experiments. Select an Advisory Committee which must be registered by the end of semester 2.
- At the beginning of semester 2, have an Advisory Committee meeting to present the research proposal and outline of experiments and to schedule the qualifying exam (refer to PhD Qualifying Exam instructions which includes your first seminar) to be held before the end of semester 2.
- Begin research.

### Semesters 3-5

- Conduct research.

### Semesters 5-9

- Conduct research. Appropriate times for departmental seminars would be in semesters 5-6 or 7-8 and Advisory Committee meetings often take place directly after the seminar. At the Advisory Committee meeting (by the beginning of semester 9) the thesis research or a timeline for completion of the thesis research should be presented to the committee for approval.

### Semester 9

- Complete research.
- Complete scientific communication commitment of 2 manuscripts. One must be based on the student's PhD research project and the student must be first or senior author. The second manuscript may be either an original research manuscript or a review manuscript

(the student is not required to be the first author, but the work cannot be performed while an undergraduate student or presented in an MSc thesis).

- Finalize thesis content and format with Advisory Committee.
- Write, submit and defend thesis. Writing a PhD thesis and preparing the figures usually takes 1 semester, although if papers have been written during the course of the research, this time is reduced. Approval by the Advisory Committee usually takes at least a month, and the external examiner is allowed 1 month to evaluate the thesis. Therefore, the student should allow 3-6 months for writing and obtaining approval of the thesis.

## TRANSFERRING FROM MSc TO PhD PROGRAM

### Requirements

1. Advisory Committee registered with Graduate Studies by end of semester 2.
2. Minimum of 1 Advisory Committee meeting per year (Note: VP Academic suggests 1 committee meeting per semester).
3. Course work of 1.0 credit finished, 1<sup>st</sup> departmental seminar completed, application for transfer to PhD by end of semester 4.
4. Additions (if needed) to Advisory Committee beginning semester 5.
5. Qualifying exam by end of semester 5.
6. Four departmental seminars in total (1<sup>st</sup> in semester 2-3 of MSc program before applying to transfer, 2<sup>nd</sup> accompanies the Qualifying exam).
7. Complete scientific communication commitment of 2 manuscripts. One must be based on the student's PhD research project and the student must be first or senior author. The second manuscript may be either an original research manuscript or a review manuscript (the student is not required to be the first author, but the work cannot be performed while an undergraduate student or presented in an MSc thesis).
8. PhD thesis accepted and defended. External examiner must have thesis 1 month prior to exam.

### Semsters 1-2

- As for MSc program.

### Semester 3-4

- Finish 1.0 credit course requirement and conduct research.
- By end of semester 3, must have given 1 departmental seminar.
- During semester 3, student should discuss transfer with his/her Faculty Advisor and obtain the Advisory Committee's consent to apply to transfer to PhD.
- Before end of semester 4, student needs to formally apply for transfer to a PhD program (letter and form). This requires a letter of support from the Advisory Committee indicating excellent research capability and progress, and that the thesis project can be expanded to one appropriate for a PhD. The course and seminar requirement must be complete.

### Semester 5

- Select an additional member for the Advisory Committee and present a description of the expanded project to the Advisory Committee (as described above for the PhD program). Schedule the Qualifying exam.
- Take the Qualifying exam by the end of semester 5 (the 2<sup>nd</sup> departmental seminar accompanies this exam).

### Semester 6-11

- Conduct research. Departmental seminars would be appropriate by the end of semesters 8 and 11 and Advisory Committee meetings often take place following the seminar. At an Advisory Committee meeting (before the end of semester 11), the thesis research or a timeline for completion of the research should be presented to the Advisory Committee for approval.
- Complete scientific communication commitment of 2 manuscripts. One must be based on the student's PhD research project and the student must be first or senior author. The second manuscript may be either an original research manuscript or a review manuscript (the student is not required to be the first author, but the work cannot be performed while an undergraduate student or presented in an MSc thesis).

### Semester 12

- Complete research.
- Finalize thesis content and format with Advisory Committee.
- Write, submit and defend thesis. As noted above, the student should allow for 3-6 months for this process.