



GUIDELINES FOR ADVISORY COMMITTEE (GAC)

The Chair of our Graduate Program is responsible for maintaining the academic standards within the department. The Chair must monitor the recruitment and training of all graduate students. They can delegate specific responsibilities to other faculty members and, since graduate education warrants considerable effort, a Graduate Curriculum and Recruitment Committee (GCRC) is appointed by the Chair.

Terms of Reference for the GAC

1. To Review All Graduate Applications

Students should normally have a course background similar to the present Biochemistry Honours program with a B+ or better standing. Students from other programs can be admitted; however, if a student is inadequately prepared in Biochemistry, Chemistry or Biology, additional course(s) will be prescribed on the acceptance letter.

2. To Approve Supervisory Committees

The supervisory committee will be suggested by the student's supervisor but must be approved by the GAC. The supervisory committee will consist of at least three members. **Two, including the supervisor, must be from within the department.** A third member, whose scholarly interests include the area of the student's main interest, may be from outside the department. These committees guide students on their research project and also counsel the student on appropriate course work to enable the student to:

- carry out their project;
- prepare for transfer to the PhD program, if appropriate; and
- pass the candidacy exam. The committee must meet as outlined in our "**Guidelines for Supervisory Committee Meetings**".

3. To Approve Transfer of MSc Students to the PhD Program

The Chair will review students concerning possible transfer based on the recommendations of the student's thesis supervisory committee. The Department promotes the effective integration of graduate students into the research programs of its faculty members. Since these are on-going programs with long-term objectives, it is for the benefit of the students and the research programs to integrate MSc students intending to proceed to PhD degrees into these long-term objectives as early as practical. To this end a process has been established to assess MSc students' academic and research ability and potential to carry out PhD studies. Students who have demonstrated this ability may proceed directly to the PhD program without writing up their Master's thesis provided the following conditions have been met:

1. The student has had their first supervisory committee meeting within 4 to 6 months of initial registration in the Master's program. At this meeting the committee will expect that the student has taken significant steps to master the literature relevant to his/her fields. Some preliminary progress at the bench is also expected.
2. A second meeting held within 9 to 12 months of the student's first registration will serve to address any shortcomings identified during the first meeting. At this point it is anticipated that the student will have made significant progress in their research. The student must have a solid grasp of the literature relevant to his or her field at this time to be *eligible* to transfer to the PhD program.
3. The candidate must present a request to be reclassified to the PhD program to the supervisor and the Supervisory Committee prior to the second (or third) supervisory committee meeting. Approval to transfer will be determined at the conclusion of the supervisory committee meeting at which permission to transfer was requested.
4. All students seeking reclassification to the PhD program from the MSc program must receive approval to transfer before going beyond 22 months following registration in the MSc program. Students enrolled in the Master's program beyond 22 months must complete the MSc degree requirements including all course work and the thesis defence prior to admission to the PhD program.

SUPERVISORY COMMITTEE MEETINGS

University regulations require all graduate students meet formally with their supervisory committee to discuss their progress. Committee meetings provide a tool for both communicating and documenting students' accomplishments and their supervisory committees' expectations.

- *Students newly admitted to our MSc program must meet with their supervisory committee **at least three times** during their first eighteen months in our program.*
- Students should also call a supervisory committee meeting any time they have academic problems or difficulties with their research.

Supervisors are responsible for assembling members of your supervisory committee. This committee will consist of your supervisor and at least one other full-time faculty or associate member from the Biochemistry and Biomedical Sciences Department. The research interests of all committee members will encompass your thesis topic.

Original committee forms **MUST** be submitted to the School of Graduate Studies for every meeting held throughout the duration of your program. It is the responsibility of the supervisor and student to ensure these meetings take place and are officially recorded by completing the appropriate form.

The form should be filled out and discussed at the end of your meeting outlining the strengths and weaknesses of your performance as well as record a detailed set of recommendations for the ensuing months. This form will be revisited at your next committee meeting to ensure you act on their recommendations.

Students will be assigned one of five grades by each of their committee members: "excellent", "good", "satisfactory", "marginal" or "unsatisfactory". If marginal or unsatisfactory is given by any one member, another committee meeting must be held within 3 months to re-assess your progress.

If marginal is given by all committee members, the supervisor will confer with our Department Assistant Chair of Graduate Education to decide what further course of action to take. The rare instance in which a student receives two “unsatisfactory” grades will usually lead to expulsion from the program by the School of Graduate Studies.

GUIDELINES FOR SUPERVISORY COMMITTEE MEETINGS

****First Meeting (4-6 months after registration in program)***

The first supervisory committee meeting must be held within 4-6 months of registration in the graduate program. The goal of this initial meeting is to determine whether the student has a well-defined project and whether the student is making the necessary effort to become well-versed in the background literature to their field. We expect all students to attempt to master this material within their first year of graduate school. At this first meeting, the student should also have made some basic progress towards their research goals although it may be of a preliminary nature.

****Second Meeting (9-12 months)***

The second committee meeting takes place between 9 and 12 months after arrival in the program and it is expected that the student will have made further progress in digesting the literature that is relevant to their field and to have made headway in their research.

****Third Meeting (18-20 months)***

The third committee meeting takes place by 18 to 20 months after starting the program. The purpose of this meeting is to decide what the student needs to do to complete a M.Sc. thesis. Alternatively, if the student wishes to do so and has the support of their supervisor, he/she may obtain permission to proceed to the transfer examination for entry into the Ph.D. program.

Committee Report (To be submitted one week prior to your meeting)

Students must submit a 10 page report (double spaced, not including figures) to their committee that briefly introduces their project, the work they have done previously (i.e. prior to the previous committee meeting) and since the last meeting. It is imperative that work completed since the previous meeting be identified so that the committee can assess the progress that has been made at the bench.

In addition to having sound scientific judgment, nothing is more central to the career of a scientist than being able to clearly explain scientific concepts in writing. We therefore expect our students to master the art of writing scientifically and these reports are part of this process: they will serve as important dress rehearsals for writing papers and theses later on. Any criticisms made of meeting reports will be revisited at subsequent meetings and it is expected that they will have been acted on.

We expect all students to master the literature that is relevant to their project during the first year of graduate studies: this includes those papers that make up the foundation of their project as well as those that deal with relevant technical issues. One way of assessing progress in this area is the reference list at the end of each report: these should be thorough citations and must be made using one of the formats accepted by journals (see example <https://journals.asm.org/writing-your-paper#references>).

The standards for presentation of data in these reports are identical to those in the journals: lanes in gels must be labeled, strains on plates must be identified, micrographs must be clearly labeled, graphs must include error bars as appropriate and so on.

The last page of each report should set out what the student expects to achieve in the block of time (usually 6 or 12 months) leading up to their next meeting. This does not need to be a detailed description of every technique to be employed, rather the goal is to explain the scientific questions to be addressed and briefly outline the approach that will be taken.

COMMITTEE MEETING

At the beginning of the meeting the student will give a 15-20 minute presentation. The presentation should provide the rationale of the project, a description of the experimental approaches being used an overview of progress, ongoing work, and future directions. The Committee will then discuss the project in detail with the student. Students receive a grade and specific recommendations in writing following each committee meeting. Students whose performance is not considered to be up to par will be graded “unsatisfactory” for that meeting. Depending on the circumstances, two grades of unsatisfactory can be grounds for dismissal from the program.

What happens at committee meetings?

Typically, students will come prepared to give a 15-20 minute presentation based on what they have described in their meeting report. Students should feel free to bring up any issues on which they would like guidance. The most common format is that committee members will interrupt the student as they proceed through their work and ask questions about anything that is relevant to the topic. This can include challenges on the interpretation of data, first principles, and scientific questions that are relevant to the topic or to planned experiments. Committee members may ask the student to briefly explain any of the references they cite in their report.

Students are asked to bring those lab notebooks containing relevant experimental observations to each meeting. One important aspect of the scientific method is the reproducibility of each important observation: typically, the most publishable version of an experiment will be shown in the meeting report, however, students must be able to provide evidence that each observation has been made more than once.

What happens if I only have negative data?

Anyone who has worked as a scientist knows that even with determined effort, there will be periods when the only progress one can make is to learn that the avenue being investigated is a dead end. A student, who has made a good effort, carried out technically competent, well-controlled experiments but not cracked the puzzle they are working on, will not be penalized. A good committee will know when a student needs encouragement in this regard and indeed, many students find that a committee meeting can be a good way to assess whether they should move on to some more profitable line of investigation.