

Genome Science and Technology Graduate Program Requirements

Guidelines for Students and Mentors/Supervisors

1. Admissions

Acceptance into the Program is dependent on:

- (a) meeting the GSAT Program requirements of a B.Sc. or equivalent, majoring in a biological discipline (biology, genetics, microbiology, molecular biology, medicine) or quantitative science (computer science, mathematics, physics, engineering, statistics), and significant experience in a second one of these fields,
- (b) meeting the general entrance requirements of the Graduate and Post doctoral Studies (G+PS) at UBC,
- (c) obtaining a letter of acceptance from the GSAT Program, which confirms full funding through a program or supervisor
- (d) receiving a letter from the G+PS at UBC confirming acceptance into the University.

Students are required to have an adequate facility in verbal and written English. For applicants required by the G+PS to complete an English test, the requirement of the GSAT Program is a score of 100 (internet-based), or IELTS of 7.0, taken within 24 months of application submission.

Students, who already have a M.Sc., in a discipline not related to Genomics or a related physical science, will be admitted as M.Sc. candidates and must fulfill the program course requirements. Transfer from the M.Sc. to the Ph.D. program is possible if the student shows demonstrable progress in laboratory rotations and obtains an average of 80% or higher in graduate courses.

Students will receive a minimum stipend of \$22,000/annum per year for a maximum of 5 years from the program and/or GSAT faculty member, but must apply for applicable scholarships. In the event of achieving external scholarship funding less than that sum, the program will contribute to a minimum of \$22,000/year. Continued enrollment in the program is dependent on good academic standing.

Application Documents for on-line applications ONLY (no paper applications accepted):

- Official transcripts from all post-secondary institutions attended.
- Official TOEFL score or equivalent (for students whose first language is not English).
- Three strongly supportive letters of reference (either uploaded to on-line site or sent directly from the Referee in a sealed envelope with the Reference's signature across the seal to the GSAT program address).
- CV

Additional materials or fees may be required once the student is accepted into the GSAT Program and is applying to be accepted into G+PS.

2. Committees

(a) **Candidate's Acceptance Committee**

The initial Acceptance Committee will consist of an assigned committee of GSAT faculty. The role of this committee is i) to provide guidance regarding course work, research rotations and other career and/or personnel issues, and ii) to assess student progress. It is important to note that the student's initial committee will not necessarily be the final committee for their M.Sc. or Ph.D. thesis. The thesis supervisor will be identified after the beginning of the third research rotation. At this time, additional committee members must be chosen and should best reflect the needs of the thesis topic.

Initial Meeting:

The first meeting will take place in the first week of classes and the students will be introduced to the GSAT program and expectations of a graduate student. At this meeting the student's background, course selection, and any goals will be briefly reviewed, to ensure that their course choices are suitable, and the student will be encouraged to bring up any questions they have about the program or how to best reach their goals.

Meeting to declare Final Supervisor and Academic career path:

All students must declare their final thesis supervisor no later than two weeks after their third rotation ends. Students should choose their third research rotation carefully, as this research may or may not be continued as thesis research. If the student is considering a transfer from the M.Sc. degree to a Ph.D., a committee meeting must proceed to discuss a student's suitability to transfer to the Ph.D. stream. Students wishing to transfer to the Ph.D. stream must do this at the beginning of an academic term and before 24 months have elapsed in their M.Sc. degree. Candidates are expected to provide each committee member with a summary report of their progress one week prior to the meeting. All paperwork, regarding a transfer, must be signed off and completed **no later than two weeks before the start of the academic term they wish to transfer by i.e. September, January, or May.** A signed report of the committee meeting and transfer document must be received by the program coordinator.

(b) **Candidate's Thesis Committee**

- i) M.Sc. Thesis: The Thesis Supervisory Committee will consist of the supervisor and two members, at least one of whom must be a GSAT faculty member..
- ii) Ph.D. Thesis: The Thesis Supervisory Committee will consist of the supervisor and three other members, at least one of whom must be a GSAT faculty member.

Initial Meeting with Established Thesis Supervisor & Committee:

The first Thesis Supervisory Committee meeting will be held to approve the thesis proposal, following the decision regarding the student's academic path (this may be the same meeting as the meeting to declare academic path – see above, if the student is continuing as an M.Sc. student.

If the student is transferring to the Ph.D. stream, a date should be set for the Ph.D. qualifying examination, which shall take place ideally with 24 months of the start of their graduate program, but no later than 36 months.

Subsequent Meetings:

At least one committee meeting must be held annually to review the progress of the student. Candidates are expected to provide each committee member with a summary of their progress. Additional committee meetings may be called when necessary, due to changes in the program or for any reason which may affect the candidate's progress. A signed report of the Thesis Supervisory Committee meeting, along with the student's progress report, must be received by the program coordinator.

Committee meetings are formal. Students are expected to prepare a brief progress report that outlines the project and their progress since the last meeting, and that includes relevant data. They are also required to submit an updated CV. The report and CV should be distributed to committee members **at least one week in advance**. Failure to distribute this material will mean that the meeting is subject to cancellation at the discretion of the committee members. Students are expected to present a brief (15-20 min) talk that emphasizes experimental design, interpretation of the data and planned experiments. Committee members may suggest alternative approaches, prioritize experiments, set deadlines, or recommend changing direction.

It is the responsibility of the student to schedule all committee meetings, to ensure that they take place in the timeframes required by the program and to ensure that all required documentation is received by the program coordinator.

Records:

The progress report must be completed by the supervisor at the time of the committee meeting, and signed by the student, the supervisor and all committee members present. A copy will be sent to the coordinator of the program to be kept in the student's central file.

Supervision:

The student and the Thesis Supervisory Committee share the responsibility to ensure that the structure of the student's program meets the requirements of the G+PS at UBC, and the GSAT Program. The final responsibility for meeting all the requirements rests with the student. A student has the privilege to change research supervisor and/or members of their committee after consultation with the supervisors and committee members involved. In case of disputes between the student and

supervisor, the student is encouraged to consult with the GSAT graduate student academic advisor and/or program coordinator.

Interested faculty, who wish to supervise a GSAT student for their Ph.D thesis, are required to sign a waiver indicating that they will provide a minimum amount of support to students who are not externally funded.

3. **Course Requirements**

Students who do not have the appropriate background will not be admitted into the GSAT program. Students lacking the necessary background in (for example) biology or computation/engineering, are expected to remedy these deficiencies prior to application for admission into the program. Students admitted to the program may be required by their admissions committee to take specific courses to fill specific gaps in their background.

M.Sc. All students are required to take the mandatory seminar course, GSAT 502 and three electives, at the graduate level. As well, scholarship students must participate in three four-week research rotations in affiliated research laboratories. Other courses may be required if recommended by the student's Thesis Supervisory Committee.

Ph.D. No courses are required. However, students may be required to take courses if recommended by their Thesis Supervisory Committee.

Course requirements will normally be taken in the first year of the program, with the recommendation that mandatory classes be undertaken first. Courses may be taken in the second year of the students program. As well as the 12 credit courses required, the students must also take two professional development courses.

4. **Qualifying Comprehensive Examination**

(a) M. Sc. – none required.

(b) Ph.D. – All Ph.D. candidates in the GSAT program will be required to pass an oral qualifying examination to advance to candidacy in the Ph.D. program.

Purpose: The qualifying examination is intended to test the student's understanding of the chosen field of study as a whole, and the student's preparation for the thesis research to follow.

NOTE: All students are required to have a Thesis Supervisory Committee meeting at least one month prior to the qualifying examination. The student is strongly advised to meet with each member of the Examination Committee before the examination to obtain guidance regarding preparation for the examination.

Timing: For Ph.D. candidates, the qualifying examination must be held within 36 months of entry into the program.

Failure to pass the qualifying examination will result in the student being asked to leave the program.

5. Thesis Preparation

UBC students should consult the “Instructions for the Preparation of the Graduate Theses” and also “The Final Oral Examination – Guide to Doctoral Candidates”; both accessible via the UBC G+PS website.

Before proceeding with the writing of the thesis, the student must meet with their Thesis Supervisory committee to review the proposed contents of the thesis with respect to scientific adequacy, and receive formal approval from all committee members.

The supervisor **MUST** read the complete thesis draft form, and the appropriate revisions must be made before the rest of the committee reads the thesis. Once the draft form is ready, committee members should have a **minimum of four weeks** to read the thesis and make edits. The examination copy of the thesis should not be prepared before revisions suggested by the rest of the committee have been incorporated. Members of the Thesis Supervisory committee should return their comments to the student within four weeks of receiving the thesis. The thesis must be approved by the Thesis Supervisory committee before it is forwarded to the examination committee.

6. Thesis Examination Procedure

M.Sc. Defense:

- (a) Student submits thesis to supervisory committee and obtains committee approval for defense. Supervisory committee must receive the final draft of the thesis **four weeks** before the defense date.
- (b) Student consults G+PS for relevant thesis examination requirements.
- (c) Students and their supervisor must secure a Chair for the examination, who is not part of their supervisory committee. The program coordinator has a list of people that are recommended. Chair must be notified at least **one month** before exam date.
- (d) Student notifies the program coordinator of the examination committee, date, time, location and thesis title. Room bookings can be arranged by the home department or by the program coordinator at the Genome Sciences Centre, or

BCCRC. Approximately two weeks notification is required in order to make arrangements. Defense is open to the university community.

(e) An **exit seminar** is required to be completed in advance of the thesis defense – the program coordinator needs at least two weeks prior notification. Seminar can be done in the home department or at the GSC. Seminar is open to university community and public.

(f) Upon successful completion, student is reminded to apply for graduation.

Ph.D. Defense:

The student should follow the guidelines and procedures required by G+PS, as outlined on their website.