



Department of Biology

Graduate Studies Regulations &
Guidelines Handbook

University of Waterloo

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Welcome

We are pleased to welcome you to the Department of Biology at the University of Waterloo. We hope that you find your time here to be enriching and rewarding.

This handbook will provide an overview and summarize how the graduate program operates and the regulations that you should be aware of. The information supplied here is intended to supplement and summarize the information available in the University Graduate Calendar (gradcalendar.uwaterloo.ca/group/Gen-Info-Regs). All regulations in the Graduate Calendar apply and supersede the information in this booklet. If there are any discrepancies between this handbook and current (up-to-date) Biology or University websites, the websites will be taken as correct.

The Biology Graduate Office (BGO)

The Department of Biology graduate program is administered by the Associate Chair Graduate Studies (Associate Chair), the Departmental Administrative Coordinator Graduate Studies (Graduate Coordinator) and Graduate Office Assistant (see table below). For most enquiries, the Graduate Coordinator and the Graduate Office Assistant should be your first point of contact. Their primary duties include administering the Graduate Teaching Assistantship (GTA) applications and payroll, Graduate Research Studentship (GRS) payroll, scholarship and award processes, paperwork for meetings and all issues related to graduate courses and graduate student records.

If you need information about any aspect of the graduate program in Biology or you are unsure about how a specific regulation might affect you, please contact the Graduate Coordinator, Graduate Office Assistant, or the Associate Chair. We are always available for any questions.

Graduate students are welcome to approach the Associate Chair, the Graduate Coordinator, or the Graduate Office Assistant at any time for clarification of rules or advice. In the rare instance of a disagreement between a student and their supervisor and/or advisory committee, attempts at resolution should first be directed to the Associate Chair.

Title	Name	Office	Phone	Email (@uwaterloo.ca)
Associate Chair, Graduate Studies	Maira Glerum	QNC 3623	Ext. 31352	moira.glerum
Administrative Coordinator, Graduate Studies	April Wettig	ESC 357A	Ext. 46392	awettig
Graduate Office Assistant	Eryn LeClair	ESC 351A	Ext. 48322	gradbio

New Student Information

Communication with Graduate Students

As per the University statement on official student email addresses (uwaterloo.ca/information-systems-technology/about/policies-standards-and-guidelines/email/statement-official-student-email-address), the Department of Biology sends all program-related messages to your University of Waterloo email account (@uwaterloo.ca) only. **Any problems arising from the failure of a student to check their email in this account will be the full responsibility of the student.** Please check your UWaterloo email address regularly.

Required Training

The University of Waterloo is deeply committed to creating a safe environment, wherein all students, faculty and staff can flourish. The Department of Biology requires you to complete the Sexual Violence Awareness, Referral and Support training module available on LEARN (uwaterloo.ca/human-rights-equity-inclusion/education-and-training-0/sexual-violence-prevention-and-response/sexual-violence-awareness-referral-and-support-training). This work is guided by Policy 42 which outlines Waterloo's Prevention and Response to Sexual Violence (uwaterloo.ca/secretariat/policies-procedures-guidelines/policies//policy-42-prevention-and-response-sexual-violence). The Sexual Violence Response Coordinator is ready to support individuals who have experienced sexual violence (<https://uwaterloo.ca/campus-wellness/services/sexual-violence-response-coordinator>).

In addition, you must complete the Conflict Management and Human Rights Office (CMAHRO) TA training on Harassment and Discrimination that is delivered online via LEARN. To access the course, you will need your WatIAM ID and password. If you do not have access to the TA training module, please contact the Graduate Coordinator. Once complete, you will need to print a screen shot showing you have successfully finished the training and passed the quiz (70% or higher) and submit it to the Graduate Coordinator.

Fees

You must pay your tuition to register each term even if you are not taking classes. A fee statement will be posted on the financial section of your Quest account each term. Once you are fees arranged, you are considered fully registered. Students must remain continuously registered during their program. Should your registration lapse, you risk being discontinued from your program.

Course Registration

Please refer to the Graduate Studies Academic Calendar (uwaterloo.ca/graduate-studies-academic-calendar/) for a listing of courses. Refer to the Schedule of Graduate Classes (classes.uwaterloo.ca/grad.html) for a list of courses that are being offered each term. Please be aware that not all courses are offered every year. You should discuss your course selections with your supervisor. If you have a question about a course (i.e. instructor, when it was last offered) please contact the BGO.

Courses at Other Institutions

You cannot enrol for a course at another institution through Quest. Students need to submit an Ontario Visiting Graduate Student (OVGS) Application to the Graduate Coordinator. OVGS forms are available on the Graduate Studies Forms website (uwaterloo.ca/forms/graduate-studies/). To enrol, you must ensure that a similar course is not offered at UWaterloo and that you are in good standing in your program.

The other option is the Canadian University Graduate Transfer Agreement (CUGTA). Once approved, this allows students to enrol in a graduate course at another Canadian University for credit towards your UW degree. It is recommended that this form be submitted 4 months before the course starts to allow for processing.

Special Topics Courses (BIOL 680-MSc and BIOL 681-PhD)

Special topics courses are offered on an individual basis and typically allow students to investigate a subject area through self-directed study. Students can take only one Special Topics course for credit toward their degree. Students need to submit a Special Topics Course Form, available on the Biology

Website (uwaterloo.ca/biology/graduate-studies/program-information/forms) in order to register. The deadline to submit a Special Topics Course Form is the 15th of the first month of the term. Forms submitted after the deadline will not be accepted.

Biology Graduate Studies Bi-Weekly Digest

Every other week the BGO will send out a digest that provides information about upcoming thesis proposals, thesis defences, scholarships, student seminars, and important dates/deadlines. Please be sure to read the digest.

Program Requirements

Courses

Both the M.Sc. and Ph.D. programs are research-based and require a minimum number of courses. Your advisory committee may require courses in addition to the minimum prescribed for your program.

Normally, these courses are selected from the Biology listings, but you may take a course from any department on campus, or from other universities, provided that it is approved by your advisory committee and the proper forms are submitted. At least two of the required courses must come from within the Biology Department listings. However, M.Sc. students in the Water program must take one Biology course in addition to the two required Water courses.

Only students in the Biology M.Sc. programs are able to apply **one** 400-level course (0.5 credit) toward their program requirements, with the approval of their supervisor. Biology Ph.D. students **cannot** use a 400-level course towards their degree requirements. If you plan to take a 400-level course, you will be required to submit a Graduate Studies Drop/Add Form (uwaterloo.ca/forms/graduate-studies/), signed by your supervisor and the course instructor, to the Graduate Coordinator.

All programs require that graduate students take the Graduate Academic Integrity Module. This is an online course that must be completed within the first 8 weeks of your first term and will be listed on your transcript. You will be contacted by the Integrity Office to complete this online module.

Milestones

Milestones are program requirements that will automatically appear on a student's Quest account as 'In Progress' (IP) until each has been 'Completed' (CR). These are in addition to the course requirements listed below.

Thesis Proposal

The completed thesis proposal body should be no longer than 12 pages of text, not including figures and references, double-spaced with 1-inch margins and size 12 font. Students must submit a copy of their proposal to their supervisor and each member of their advisory committee and one copy (preferably electronic) to the BGO at least one week in advance of a scheduled proposal meeting. Thesis proposals are open to the public.

This requirement must be completed by (at the latest):

For M.Sc. students – the second term of the program.

For Ph.D. students (not transfer) - the third term of the program.

For Ph.D. transfer students – the second term after the transfer (if not fulfilled at the transfer meeting)

Seminars

During the course of all Biology Graduate programs, students are required to give a seminar based on their research. Students in the last year of their programs will be contacted by the BGO to begin scheduling the seminars.

Students in the Water program must also complete a Water Research seminar in addition to the Biology seminar.

Ph.D. Comprehensive Examination

Ph.D. students are required to demonstrate a broad general knowledge of their research area by means of a comprehensive oral examination held within 4 terms and completed no later than seven terms from program entry. A substantial portion of the student's coursework (minimum 2 courses) must be completed before the comprehensive exam can be scheduled. The comprehensive exam committee is appointed and is usually comprised of the advisory committee members, along with additional member(s) with complementary expertise if this is deemed appropriate. An impartial chair will be appointed by the Biology Graduate Office.

The subject matter of the examination must be declared to you in writing no less than 8 weeks prior to the exam. The decision (pass/decision deferred/fail) will be based on your responses to questions in the prescribed area(s). However, it is important to keep in mind that your committee members may question you on broader topics in Biology. In order to continue in the Ph.D. program, you must pass this examination. The form to set up the comprehensive exam is available on the Biology website (uwaterloo.ca/biology/graduate-studies/program-information/forms/biology-comprehensive-exam-meeting-request-form) and should be submitted a minimum of 7 weeks before the exam.

Additional details regarding the structure and regulations governing the Ph.D. Comprehensive Examination are provided in Appendix II: Biology PhD Comprehensive Exams.

Thesis Defence

The thesis defence is the culmination of the student's research program. It exposes the work to scholarly criticism by members of the University community and gives the student the opportunity to defend it. Information regarding the examining committee, attendance, and the structure of the defence is available on the Science Graduate website (uwaterloo.ca/science/graduate/thesis-defence-submission-information) as well as in the Thesis Submission and Defence section.

Program Descriptions

Biology Program

Master of Science (BIOLM)

Courses*: 3 one-term courses
Academic Integrity Module

Milestones (as of May 1, 2023):

MSc thesis proposal (refer to Appendix I: Thesis Proposal Guidelines)
Masters graduate seminar
M.Sc. thesis defence

Doctor of Philosophy (BIOLD)

Courses*: 2 one-term courses
Academic Integrity Module

Milestones (as of May 1, 2023):

Ph.D. thesis proposal (refer to Appendix I: Thesis Proposal Guidelines)
Ph.D. graduate seminar
Ph.D. comprehensive exam (refer to APPENDIX II: Biology Ph.D. Comprehensive Exams)
Ph.D. thesis defence

* accepted for graduate credit by the Department with a minimum of half being from Biology

Collaborative Water Program

Please review the joint-venture Collaborative Water program information available here (uwaterloo.ca/water-institute/education/collaborative-water-program). The Graduate Calendar contains the most current requirements.

Master of Science, Water (BIOLWM)

Courses*: 3 one-term courses. *2 of these course credits will be satisfied by WATER 601 and WATER 602*
Academic Integrity Module

Milestones (as of May 1, 2023):

MSc thesis proposal (refer to Appendix I)
Biology Masters graduate seminar
Water Research Seminar 1
M.Sc. thesis defence

Doctor of Philosophy, Water (BIOLWD)

Courses*: 2 one-term courses. *This will be satisfied by WATER 601 and WATER 602*
Academic Integrity Module

Milestones (as of May 1, 2023):

Ph.D. thesis proposal (refer to Appendix I)
Biology Ph.D. graduate seminar
Water Research Seminar 1
Ph.D. comprehensive exam (refer to APPENDIX II: Biology Ph.D. Comprehensive Exam)
Ph.D. thesis defence

* accepted for graduate credit by the Department

If a Ph.D. (Water) student has a M.Sc. (Water) Degree (and has completed WATER 601 and WATER 602 as part of that degree), the requirements are:

- two one-term courses accepted for graduate credit by the Department of Biology one of which will be a graduate-level water course from outside Science and agreed to by your supervisor and the Collaborative Water Program director, and
- the following milestones:

- Ph.D. thesis proposal (refer to Appendix I)
- Biology Ph.D. seminar
- Water Research Seminar 2
- Ph.D. comprehensive exam (refer to Appendix II)
- Collaborative Water Program Academic Contribution
- Ph.D. thesis defence

Doctor of Philosophy, Direct Entry (BIOLD3)

The department requirement for the Ph.D. Direct Entry degree consists of:

- four one-term graduate courses (minimum of 2 Biology courses) accepted for graduate credit by the Department
- the Graduate Academic Integrity Module
- the following milestones (as of May 1, 2023):
 - Ph.D. thesis proposal (refer to Appendix I)
 - Ph.D. seminar
 - Ph.D. comprehensive exam (refer to Appendix II)
 - Ph.D. thesis defence

Transfer from M.Sc. to Ph.D.

The option of transferring directly from the M.Sc. program to the Ph.D. program, without needing to write and defend an M.Sc. thesis, is open to students with:

1. good academic standing, which requires a minimum of 2 completed graded graduate courses; the student cannot be on probation or carry incomplete course grades
2. significant progress in a research project that could be expanded to a Ph.D. project
3. demonstrated scientific writing skills

An application for a transfer to the Ph.D. program must be done before the end of term four, and usually is initiated after the M.Sc. thesis proposal. The decision to allow a transfer is made at a meeting of the advisory committee, with the added presence of the Associate Chair or departmental delegate (chosen by the Biology Graduate Office). At this meeting, the student will give a short presentation of their PhD thesis proposal and then answer questions. The Committee will assess the student's ability to manage a PhD program by indicating "Accept" or "Deny". The discussion should be documented in the comments and must address progress and suitability with respect to all 3 criteria, whether Accepted or Denied. Failure to demonstrate sufficient progress in all 3 criteria will result in the transfer being Denied. In the case that the opinions of the committee and the Chair diverge, the Chair can, with documented concerns, suggest an alternative outcome to the Associate Chair, Graduate Studies. In this case, the decision of the AC Graduate Studies will be final. If approved for a transfer, the student must submit a Program/Plan Change form (uwaterloo.ca/forms/graduate-studies/programplan-change).

Students who transfer from the M.Sc. to the Ph.D. program will not be allowed to transfer back into the M.Sc. program. If the Ph.D. is not successfully completed, then no degree will be awarded.

Doctor of Philosophy, Transfer (BIOLD3)

Courses*: 4 one-term courses (600 level minimum)
Academic Integrity Module

Milestones (as of May 1, 2023):

Ph.D. thesis proposal (refer to Appendix I)
Biology Ph.D. graduate seminar

Ph.D. comprehensive exam (refer to APPENDIX II: Biology Ph.D. Comprehensive Exam)
 Ph.D. thesis defence

Doctor of Philosophy, Water, Transfer (BIOLWD3)

Courses*: 4 one-term courses *Two of these course credits will be satisfied by WATER 601 and WATER 602*
 Academic Integrity Module

Milestones (as of May 1, 2023):

Ph.D. thesis proposal (refer to Appendix I)
 Biology Ph.D. graduate seminar
 Water Research Seminar 1
 Ph.D. comprehensive exam (refer to APPENDIX II: Biology Ph.D. Comprehensive Exam)
 Ph.D. thesis defence

* accepted for graduate credit by the Department with a minimum of half being from Biology

Probationary Status

Probationary students **MUST** achieve a minimum grade in each of the required courses that were noted in the offer letter. Probationary courses are in addition to the degree requirements, unless otherwise stated, and must be completed within the student's first term. Satisfactory completion of the probationary requirements will result in the student being moved to the regular program. Probationary status is available for M.Sc. candidates only. **Students with probationary status are not eligible for a Graduate Teaching Assistantship (GTA) during the probationary term.**

Time Limits

The University of Waterloo allows a specific amount of time for students to complete their degrees (refer to the chart below). While registered full-time and within these limits students are eligible for financial support.

Program	Time/Funding Limits	Minimum Residency*
M.Sc.	6 terms (2 years)	3 terms (1 year)
Ph.D.	12 terms (4 years)	6 terms (2 years)
Ph.D. – direct entry or transfer	18 terms (6 years)	9 terms (3 years)

* enrolled full time and on-campus

Once a student goes beyond their time limits, a Request for Extension of Program Time Limits form (uwaterloo.ca/forms/graduate-studies/request-extension-beyond-program-time-limits), must be submitted to the BGO and are approved by the Associate Chair. Subsequent extensions (4th and beyond) are approved by the Associate Chair, as well as the Associate Dean, Graduate Studies for Science.

Students beyond their time limits are **no longer eligible** for the Science Graduate Award (SGA), and most scholarships and awards are time-limited. In addition, your supervisor is not obligated to pay you a Graduate Research Studentship (GRS) once you have exceeded your program time limit. Students who go beyond their program time limits should discuss any funding possibilities with their supervisor.

Enrolment Status

Enrolment/supervision forms can be found on the Graduate Studies forms website (uwaterloo.ca/forms/graduate-studies/).

The Change of Enrolment Status form is needed in the following situations:

Full-time off-campus

Students who are away from campus for an entire term while undertaking degree-related activities may register as “full-time off-campus”. While off-campus registration does not affect tuition, it may result in reduced incidental fees. Students need to be aware of residency requirements (refer to the time limit table on page 7).

Inactive

When progress toward the degree is interrupted (health, maternity/paternity leave, personal reasons), students may apply to go inactive and the term will not count against the time limit for the program. Normally students may only be inactive for one term (up to three terms for maternity leave). Students will be required to provide documentation. No degree-related activities can take place during the inactive term.

Part-time

Please refer to the University Regulations (uwaterloo.ca/graduate-studies-postdoctoral-affairs/current-students/enrolment-status-change#fulltime) regarding switching to part-time status.

While on part-time status students are no longer eligible for a GTA or financial support from their supervisor or the Department. Terms are counted as one half term (0.5). Students are still able to complete degree-related activities as a part-time student.

Students that are employed as Sessional Instructors at the University of Waterloo may remain full time if they are only teaching one course. Supervisors of students who are Sessional Instructors are not obligated to provide financial support to the students for that term.

If more than one sessional position has been accepted, then the student must drop to part-time for that term. A copy of the sessional appointment letter needs to be attached to the Change of Status form.

Voluntary Withdrawal

Students may wish to withdraw voluntarily in order to devote their time to outside work or deal with other interruptions in their studies. Consequences of voluntary withdrawal should be discussed with their Supervisor, the Graduate Coordinator, and the Associate Chair. Students who withdraw may continue their studies by applying for re-admission. It is strongly recommended that students speak to the Associate Chair and their supervisor before they withdraw and before re-applying to the program.

In contrast, students not making satisfactory progress may be required to withdraw from their program.

Financial Support

Full-time Graduate Students without a major award or scholarship are supported by a Graduate Research Studentships (GRS), Graduate Teaching Assistantships (GTA), and the Science Graduate Award (SGA).

Beginning May 1, 2023 the minimum departmental funding for students not holding a scholarship (NSERC / OGS / QEII / etc.) is \$26,073; per year during their program time limits.

International Doctoral students can also receive the International Doctoral Student Award (IDSA), in addition to their departmental funding. International Masters students may be eligible for the International Master's Award of Excellence (IMAE). For more details, please refer to international student funding (uwaterloo.ca/graduate-studies-postdoctoral-affairs/current-students/international-student-funding) on the Graduate Studies and Postdoctoral Affairs (GSPA) website. Please be aware that students receiving a NSERC Vanier or CIHR Vanier scholarship are no longer eligible for the IDSA.

All personal information (banking information, tax forms, etc.) can be added via Quest. Once you are hired (as a Graduate Teaching Assistant (GTA), marker, or proctor), you will receive an email from Workday (the Human Resource system) regarding the information required.

Good Standing

In order to be eligible for funding, such as bursaries and travel awards, and off-campus courses, a graduate student must be in "good standing" in their program. This means that the student is within program time limits, has completed the Academic Integrity Workshop, has no incomplete courses and has a minimum overall average of 75%.

To be eligible for scholarships, students' average grade must be 80% or better, be within program time limits, and have no incomplete courses.

Continuation of Financial Support

Students who are registered as full-time and meet the academic requirements, are normally supported until the end of their program time limit (refer to the Time Limits section above).

Complete policy guidelines on graduate student support can be found in the Graduate Studies Academic Calendar (uwaterloo.ca/graduate-studies-academic-calendar/general-information-and-regulations/guidelines-graduate-student-support).

Graduate Research Studentships (GRS)

The Graduate Research Studentship (GRS) is funding provided by your supervisor. Students with major scholarships normally do not receive GRS support. Studentships are paid as awards and thus are tax free.

Graduate Teaching Assistantships (GTA)

Biology graduate students normally assist in the running/supervision of undergraduate laboratories or otherwise help in the delivery of the undergraduate instructional program. In return for this, graduate students receive GTA support, which is part of their funding package. To be eligible for a GTA, you must attend the Biology TA workshop, which is held in September and January of each year; students will be contacted by the Biology Workshop Coordinator with additional information.

Students are eligible for a maximum of four GTA units each year. Within program time limits, M.Sc. students are eligible for a maximum of 8 GTA units, Ph.D. students are eligible for a maximum of

16 GTA units, and those students who have transferred to the Ph.D. program (or are direct entry) are eligible for a maximum of 24 GTA units. Note: 1 GTA unit = 5 hours/week = half GTA; 2 GTA units = 10 hours/week = full GTA. Note that students are not permitted to do more than two TA terms in a row, meaning that the 3rd term in an academic year is a 0 GTA term. Graduate students who are within one year beyond their normal program limits (3 terms or less) will still be eligible for a GTA, if positions are available. Before applying for a position, please be sure that you have your supervisor's approval.

In general, applicants for GTAs will be expected to have sufficient expertise in the disciplinary area of the course to which they are assigned. The expertise can be acquired through previous education (including undergraduate) or through experience serving as a GTA. The assignment of a TA applicant to a GTA position is also dependent on satisfactory performance in previous GTA positions. In addition, in order to be eligible for a GTA, the student must also maintain a satisfactory academic standing (see above).

You are encouraged to read Policy 30 – Employment of Graduate Student Teaching Assistants (uwaterloo.ca/secretariat/policies-procedures-guidelines/policies/policy-30-employment-graduate-student-teaching-assistants), which governs all aspects of Graduate Teaching Assistants at the University of Waterloo.

Declining your GTA

Students do have the option of declining their GTA offer, however neither the supervisor nor the Department are required to compensate the student for the subsequent decrease in funding. Students will be required to fill out and sign a 'Decline TA funding' form (available from the BGO). The GTA funding is \$5,508 for 2 units in the 23/24 year. The supervisor's signature is required on the form before it is submitted to the Grad coordinator.

If a student declines or does not respond to a GTA offer for 3 consecutive terms, they will no longer receive GTA offers. This does not change the student's eligibility for a GTA, but requires that the student expressly indicate to the BGO that they wish to be considered for a GTA position.

Science Graduate Award (SGA)

The SGA is given to eligible students who are full-time, within time-limits and in good standing. Students with a major scholarship that includes the Presidents Graduate Scholarship (PGS), with the exception of the Vanier Scholarship, are also eligible for the SGA.

As of May 1, 2021, the SGA is valued at \$3,375/year for International MSc and PhD students; \$3,750/year for domestic MSc students; and \$6,000/year for domestic PhD students.

Sample Funding Breakdown

These apply to students that do not hold a major scholarship (i.e. NSERC, OGS, and QEII).

For Domestic M.Sc. students:

GTA	GRS	GTA	SGA	Total
0 units	\$7,441	\$ 0	\$1,250	\$8,691
2 units	\$1,933	\$5,508	\$1,250	\$8,691
2 units	\$1,933	\$5,508	\$1,250	\$8,691
Yearly totals	\$11,307	\$11,016	\$3,750	\$26,073

For Domestic Ph.D. students:

GTA	GRS	GTA	SGA	Total
0 units	\$6,691	\$ 0	\$2,000	\$8,691
2 units	\$1,183	\$5,508	\$2,000	\$8,691
2 units	\$1,183	\$5,508	\$2,000	\$8,691
Yearly totals	\$9,057	\$11,016	\$6,000	\$26,073

For International M.Sc. and Ph.D. students*:

GTA	GRS	GTA	SGA	Total
0 units	\$7,566	\$ 0	\$1,125	\$8,691
2 units	\$2,058	\$5,508	\$1,125	\$8,691
2 units	\$2,058	\$5,508	\$1,125	\$8,691
Yearly totals	\$11,682	\$11,016	\$3,375	\$26,073

*Note, the above numbers do not take into account any additional funding provided to help cover the tuition differential between international and domestic students.

Scholarships

UW and External Scholarships

Graduate Studies and Postdoctoral Affairs (GSPA) maintains a database of scholarships and awards information for postgraduate and postdoctoral studies. Information can be found on the Graduate Studies Scholarship website (uwaterloo.ca/graduate-studies-postdoctoral-affairs/current-students).

The main competitions are for the Natural Sciences and Engineering Research Council (NSERC), Ontario Graduate Scholarship (OGS), Queen Elizabeth II Graduate Scholarship in Science and Technology (QEII-GSST), and University of Waterloo (UW) scholarships.

Notice of competitions is sent by e-mail. Please see the website above for more details.

Please be aware of the GSPA deadlines for ordering your transcripts can be up to three months in advance of the scholarship deadline.

Endowment Scholarships

The **J. Frank Brookfield Memorial Graduate Scholarship** is awarded to a graduate student registered full time in a master's or doctoral program who is conducting research in zoology. Selection is based on academic achievement over the last two full-time academic years. The Department will identify and select a recipient annually in the Winter term. The award is valued at up to \$3,750.

The **E.B. Dumbroff Award** in Plant Science is awarded to a graduate student for research excellence in any aspect of plant science. All eligible student records are reviewed by members of the graduate committee who select the winner. The value of the award is variable, but no less than \$250.

The **Dr. Noel Hynes Memorial Graduate Scholarship** is awarded to a graduate student working in the area of ecology. Preference is given to students who do not hold another major award. All eligible student records are reviewed by members of the graduate committee who select the winner. The value of the award is up to \$2,000.

The **Brian M. Jessop Graduate Scholarship in Fisheries Science** is awarded to a Department of Biology graduate student based on academic achievement over the last two full-time academic years and interest in the biology and/or management of freshwater and/or diadromous fishes in Canada. Students are nominated by the Department. The value of the award is \$9,000.

The **John E. Thompson Biology Graduate Scholarship** is awarded to a graduate student who also holds an Ontario Graduate Scholarship or other major external scholarship that requires a matching or enhancement component. If a suitable recipient cannot be found, the funds will be paid out as a regular graduate scholarship. Students are nominated by the Department and the award is valued at \$5,000.

The **Ram and Lekha Tumkur Memorial Graduate Scholarship** was established in memory of their children who died in the Air-India flight 182 crash and is awarded annually to an M.Sc. candidate based on academic achievement, financial need, and research potential. Students must apply for the award, information will be distributed by e-mail when the competition is open, the value of the award is \$1,000.

The **Waterloo Pioneers of Microbiology Graduate Award** is awarded annually to a graduate student in the first year of their M.Sc. or Ph.D. program. The recipient must have demonstrated research ability, scholastic aptitude, and an interest in pursuing microbiology or a related field. Students are nominated by the Department; the value of the award is \$1,000.

Graduate Student Research Dissemination Award

The Graduate Student Research Dissemination Award (GSRDA) is to encourage full-time or part-time students to **present** their own research (oral, poster, paper) at an academic conference and engage in academic dialogue within their field of study and research. Awards are available on a first-come, first-serve basis. Although a student may apply only once per fiscal year (May 1 to April 30). Additional information and the form can be found here: uwaterloo.ca/forms/graduate-studies/graduate-student-research-dissemination-award-application-0.

The Department also has a small budget to assist students going to conferences. Please contact the BGO for the form. The Department award is only a subsidy, so the supervisor must provide some funding. Students must submit their claims upon returning from the trip. It is recommended that the claim be submitted no later than 30 days from the end of the conference as any funds provided by the Department will expire 4 months from the end of the conference.

The Advisory Committee

The role of the advisory committee is to aid in mentoring of graduate students and provide feedback. The members of the committee are usually selected by the supervisor, in consultation with the student. The members of your committee should be determined carefully and be individuals prepared to comment critically on your work and with whom you will have a productive, intellectual exchange. The composition of the advisory committee must be approved by the Associate Chair and the Associate Dean, both of whom must also approve any changes in composition of the committee. It is therefore important to keep the BGO informed of any changes in committee membership. This is particularly critical in the case where a student changes supervisors during the course of their program. If your research takes you

away from the campus, your supervisor will be responsible for ensuring that you have adequate supervision.

At both the M.Sc. and Ph.D. levels, students must have a supervisor and an advisory committee. A student may have two supervisors, in which case they are referred to as co-supervisors. If a Biology graduate student is supervised by a faculty member whose primary appointment is not in Biology (i.e. is cross-appointed), then the student must be co-supervised by a Biology faculty member. It is important to keep in mind that committees can only have one adjunct member.

Your advisory committee should be established by the end of your first term but no later than the end of your second term. Students cannot hold a thesis proposal or a committee meeting until their committee has been approved by the Associate Dean of Graduate Studies. If you have an adjunct member on your committee, approval may take longer, so it is critical to ensure timely submission of all paperwork.

The Graduate Coordinator will send out an email out at the beginning of your first term, with a link to the Proposed Advisory Committee form (uwaterloo.ca/biology/graduate-studies/program-information/forms/proposed-advisory-committee) on the Biology Graduate Student website. This form will need to be completed each time there is a change in composition of the advisory committee, but especially in the event that there is a change in supervisor or the addition of a co-supervisor. In these cases, a Change of Supervisor form must also be filled out and submitted to the BGO (uwaterloo.ca/forms/graduate-studies/change-supervisor)

Members of advisory committees should be accessible to students when called upon for regular committee meetings, discussions of a student's academic progress, consultation on issues related to the research project, and/or for general guidance.

M.Sc.

For the M.Sc. degree, the advisory committee consists of at least two members in addition to the supervisor or co-supervisors. A minimum of one committee member must be from the Department of Biology. The other member(s) may be either 1) a member of another department/Faculty at the University, or 2) a scientist from another University, industry or a government laboratory who has been approved by the Department of Biology as an adjunct faculty member.

Ph.D.

The advisory committee for a Ph.D. student is comprised of at least two members in addition to the supervisor or co-supervisors. As for the M.Sc., at least one committee member should be from the Department of Biology; it is suggested that one committee member be from another Department at the University of Waterloo. A maximum of ONE adjunct faculty member, who must hold a Ph.D., may serve on the advisory committee of a Ph.D. student.

Scheduling Committee Meetings

You are required to meet with your committee at least once per year. Meetings are monitored by the BGO and the Associate Chair. At your committee meeting, you are expected to present your research activity. It is the responsibility of your committee to both approve and advise on your program of studies. Although your committee is required to meet with you at least once a year, you or your supervisor may wish to call committee meetings more frequently. As well, you are free to consult your committee members on a more casual basis at any time.

Types of meetings are listed below and the meeting request forms are available on the Biology website (uwaterloo.ca/biology/graduate-studies/program-information/forms)

Deadlines for submitting meeting request forms to the Biology Graduate Office are:

Minimum time required	Form
Min 1 week	Committee meetings Pre-defence meetings
Min 2 weeks	Thesis proposal
Min 4 weeks	MSc defence request*-20 business days before the defence
Min 7 weeks	PhD Comprehensive exam PhD defence request*-35 business days before the defence

* The Faculty of Science Graduate Office has blackout periods each term that may affect when your defence can be held. Refer to the Faculty of Science webpage (uwaterloo.ca/science/graduate/thesis-defence-submission-information).

Please ensure that you keep these deadlines in mind so that the appropriate paperwork will be ready.

Meetings can be fully remote, in-person, or hybrid. We recommend you use MS Teams, Zoom or Webex for remote meetings. You are welcome to arrange a practice session with your committee the day before your meeting to make sure all connections work and to get familiar with any equipment.

For in-person meetings, 30 minutes is added to the start time to allow you to set up. If you will be requiring remote connections (Teams, Zoom, etc.), then 1 hour is added to the start time to allow for set up. Therefore, the earliest you can have a meeting start (with an 8:30 a.m. set up) is 9:00 a.m. (all committee members attending in person) or 9:30 a.m. (one or more committee members attending remotely - hybrid). For hybrid options that require the TV and OWL, the student will be responsible for setup and tear down. Meetings must be held during regular University business hours (8:30am-4:30pm) to allow access to equipment and rooms. *Your supervisor (and co-supervisor if applicable) must be present for all in-person or hybrid meeting.*

The BGO will arrange a room, equipment (if applicable) and the required paperwork once you submit a meeting request form. If a meeting request is received after the deadlines (i.e. less than the minimum times provided in the table above), you will need to reschedule the meeting.

All regular committee meetings will provide a 'picture' of your progress in the program. The supervisor and advisory committee members will adjudicate your performance, with an outcome of satisfactory or unsatisfactory. The committee members will also provide feedback that will allow you to adjust for any complications and help keep you on track. All parties to the meeting, including the student, are required to sign the committee meeting report form.

M.Sc. and Ph.D. Committee Issues

If a decision of unsatisfactory is received at a committee meeting, the committee must clearly explain their expectations. In this case, the student will be given a minimum of one term in which to satisfy the concerns of the committee. The committee will then reconvene and review the progress of the student. If the student receives two unsatisfactory evaluations, they will be required to withdraw from the program.

Feedback on Thesis Material

Students should expect timely feedback on thesis material from supervisors and committee members. It is expected that comments on written material for thesis and publications will be provided

within three weeks. However, there may be exceptions to this due to extenuating circumstances (illness, travel, fieldwork, etc.). These circumstances should be discussed in advance between the student and the committee member or supervisor and a more appropriate timeline agreed upon. If there are concerns regarding timely feedback, students should notify the Associate Chair at the earliest opportunity.

Suggested revisions and comments on the thesis as a result of a thesis defence must be provided at the defence to ensure that the student is able to complete their revisions in a timely manner.

Pre-Defence Meeting

A pre-defence meeting is required for all students. This meeting is to ensure that everyone agrees that the student has progressed sufficiently to proceed with completion of their degree. This meeting gives the student an opportunity to present their data, highlight major findings, ask questions of their committee, and receive suggestions on key points. This meeting should take place when the student has substantially completed their research and is ready to write. It is recommended that M.Sc. students schedule this meeting prior to their last term and that Ph.D. students organize this meeting at least two terms prior to the term they wish to defend in.

If the committee finds a student does not appear to be ready to write (i.e. receives a “no” on the form), it has no implications in terms of their standing in the program, nor does it imply failure in anyway.

Thesis Writing

General instructions on the writing of a thesis can be found on the Graduate Studies website (uwaterloo.ca/graduate-studies-postdoctoral-affairs/current-students/thesis). Please note that Ph.D. students are required to list the names of the members of the Examining Committee in the thesis, following the Table of Contents. The Defence Chair will confirm that members are accurately listed.

Copyright

If research papers based on your work are published before submission of the thesis, then you may need to obtain permission from the publisher to include this material in your thesis. It may be more efficient to request permission at the time of publication.

If the thesis is designed as a collection of publishable papers, it must still have overall Abstract, Introduction, and Conclusion sections in order to meet Graduate Studies regulations. A master reference list, rather than separate lists for individual chapters, is strongly recommended.

Thesis Submission and Defence

Both M.Sc. and Ph.D. students are required to defend the thesis in an oral examination attended by their Thesis Examination Committee. This committee must be appointed before the defence and is usually the same as, or similar to, the student’s advisory committee. A faculty member from the University will serve as Chair of the thesis defence, which is arranged by the Faculty of Science Graduate Office.

For full details, please review the Thesis Defence Checklists available on the Biology graduate website:

uwaterloo.ca/biology/graduate-studies/program-information/forms/biology-defence-checklist-masters-degree

uwaterloo.ca/biology/graduate-studies/program-information/forms/biology-defence-checklist-doctoral-degree

Information can also be found on the Science webpage under Graduate students (uwaterloo.ca/science/graduate-students/thesis-defence-submission-information).

Defence requests must be submitted to the Biology Graduate Office:

- M.Sc.: Minimum of 4 weeks (20 business days) before the defence
- Ph.D.: Minimum of 7 weeks (35 business days) before the defence

Blackout Dates and Holidays

There are blackout dates for defences in the Spring, Fall and Winter terms. During these periods, defences cannot be scheduled. The blackout period is arranged by the Faculty and GSPA, based on the normal end-of-term reduced availability of faculty members to chair examinations. Please contact the BGO to see when the blackout dates are and if they will affect the date you wish to defend and/or submit your thesis. These dates are listed on the Science Graduate students webpage (uwaterloo.ca/science/graduate/thesis-defence-submission-information) and also provided in the Biology Graduate Studies Bi-Weekly Digest. If you are defending close to a blackout period, please confirm with the Biology Graduate Office when your defence request and thesis will be due.

Thesis Examination Committee

The M.Sc. thesis examination committee will be comprised of the supervisor (or co-supervisors), an additional faculty member from the University of Waterloo, and at least one additional examiner whose expertise can support the evaluation of the Master's thesis. In cases where the composition of the Advisory Committee meets these requirements, no new examiners are needed to proceed to defence. External adjunct appointments require the approval of the Associate Dean, Graduate Studies. No more than one adjunct faculty member (including Professors Emeriti) may serve on the examining committee. It is the student's responsibility to ensure that all members of the examining committee are available to attend the defence.

The Ph.D. thesis examination committee will be comprised of the supervisor (or co-supervisors), a minimum of three committee members, an Internal/External member and an External Examiner. A maximum of one adjunct faculty member may serve on the Ph.D. examining committee (including supervisor/co-supervisor).

Internal/External Examiner (Ph.D. defences)

The Internal/External must be a University of Waterloo faculty member from a department other than Biology. Faculty that are cross-appointed to Biology meet this requirement. The internal/external appointment to the committee must be made prior to the Supervisor submitting an External Examiner for approval. A member of the advisory committee from another department/faculty can serve as the internal/external for the defence.

External Examiner (Ph.D. defences)

The External Examiner is expected to be a tenured professor, a leader in the field related to the thesis topic and be at arm's length from the supervisor and student. Your supervisor should make informal enquiries to two or three scientists who would be appropriate. Having established the willingness and availability of the individual, your supervisor will submit an external examiner request form (available from the BGO) along with a current CV (including all publications) of that individual, and a statement of suitability and impartiality of the proposed candidate. The External Examiner must be approved by the Associate Chair and the Associate Dean of Graduate Studies.

Your supervisor is responsible for initiating the process that leads to the selection of an External Examiner a minimum of 4 months before your proposed defence. **The student is not to have any contact with the External Examiner before the defence.**

Examination Committee Attendance (In-Person Meetings)

There are 3 possible modes for a defence: in person, hybrid or remote. For an in-person defence, all examiners, the candidate and the supervisor are in person. Supervisors/co-supervisors, the student and the Chair **MUST** attend the thesis defence *in person* for a hybrid option. The hybrid option for a PhD defence can also have the student and examining committee in person, with the external examiner joining the meeting remotely. A fully remote defence proceeds with everyone attending via videoconferencing, using the current University-approved platform (i.e. Microsoft Teams).

If there is a sudden absence (i.e. emergency) of a committee member for a Ph.D. defence, the defence can proceed provided the supervisor, two other members of the committee, and the external examiner are present. Exceptions must be approved by the Associate Dean. If more than two committee members for a Ph.D. defence, including the External Examiner, are absent, the defence must be rescheduled.

Submission of Thesis for Defence

Students submit their thesis to the Faculty of Science Dissertation Coordinator via the Thesis Submission Form. The Dissertation Coordinator will distribute the thesis to your examining committee. Links to the form will be provided by the Graduate Office Assistant in the email notice sent out to the student and committee.

M.Sc. students must submit a PDF copy of their thesis by NOON a minimum of 3 weeks (15 business days, not including holidays) before the scheduled defence.

Ph.D. students must submit a PDF copy of their thesis by NOON at least 6 weeks (30 business days, not including holidays) before the defence date to the Faculty of Science Graduate Office.

Academic regulations state that the thesis will be distributed to your examination committee by the Faculty of Science Graduate Office. Students are not to provide copies of their thesis to individual committee members. Please schedule your defence in such a way that you have enough time to write your thesis properly and submit it within the timelines required.

The Defence

The defence will consist of a short presentation by the student, no longer than 30 minutes, followed by two rounds of questions from the examiners. Following the formal exam, members of the audience may ask questions. Thereafter, the chair will request that everyone except the examining committee members leave the room (physical or electronic). The examination committee will then deliberate and reach one of three possible decisions (Accepted, Accepted Conditionally, Decision Deferred). The chair of the committee will notify the student of the decision.

After the Defence

After the defence, you will receive an email from the Faculty of Science Graduate Office. They will confirm the decision you received and provide you with instructions.

Once any required corrections have been completed and approved, students also need to submit their thesis electronically to UWSpace. Please refer to the Library's guidelines on uploading your thesis to UWSpace (uwaterloo.ca/library/uwspace/submit-your-electronic-thesis-or-dissertation-etd). There are very specific formatting requirements, so please confer with the Library and leave enough time to resolve

any structural issues. Once your thesis is accepted by UWSpace, the Department will generate the Program Completion form.

If not already completed, students should apply to graduate on Quest approximately one month prior to the completion of their degree. Please note that if you do not finish in the term you applied to graduate, you will need to resubmit your form on Quest. It will not be transferred to the next term.

Request to Restrict Thesis Circulation

Publication of a thesis on UWSpace may be delayed for four months to two years. The time is discussed at the defence and indicated under “Restriction Terms” when the thesis is uploaded to UWSpace. Please see the Guidelines for Thesis Examination without Public Disclosure (uwaterloo.ca/graduate-studies-postdoctoral-affairs/current-students/thesisrestrictions-embargoes) and discuss this option with your supervisor. An extension to this can be requested using the Request to restrict circulation of thesis form (GSPA forms website) and must be received no later than 2 months before the thesis is to be released.

Academic Regulations and Student Discipline

A summary of University of Waterloo disciplinary policies can be found in the Graduate Calendar (uwaterloo.ca/graduate-studies-academic-calendar/general-information-and-regulations). Any action that prejudices the integrity of the University's scholarly activities can be considered to be an academic offence. In particular, the following offences are punishable by penalties ranging from reprimand to expulsion:

- cheating on examinations, assignments, etc.
- plagiarism (copying published or unpublished work of others without proper citation) in essays, theses, or other work
- submitting false credentials or certificates, including medical certificates
- submitting work for one course that has been submitted for credit elsewhere, without permission
- behaviour in a laboratory that endangers oneself or others
- behaviour which interferes with the studies of other students
- falsification or fabrication of data for research
- extended absences from work without approval
- failure to maintain contact with or to respond to communication requests from your Supervisor, the Graduate Officer, or the Biology Graduate Office.

Please also refer to the Student Discipline Policy 71 (uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-71)

APPENDIX I: Thesis Proposal Guidelines

I. Thesis Proposal Requirement

As a graduate student in the Department of Biology, you are required to write and defend a thesis proposal. This requirement has been formalized as a milestone credit. **The thesis proposal is most helpful when it is completed in the first term, especially for M.Sc. students, but it must be completed by the end of the second term of your graduate program at the latest. For Ph.D. students this requirement must be completed no later than the end of the third term of your graduate program.**

For students that transfer into the Ph.D. this requirement must be completed no later than the end of the sixth term of your graduate program.

II. Evaluation of the Thesis Proposal

The purpose of the thesis proposal is to clearly identify the scientific question(s) that will be the focus of your graduate research, explain why the question(s) are important, and describe how you will go about answering them. Your Graduate Supervisory Committee will evaluate the written proposal, which they should receive at least two weeks before the thesis proposal meeting. The examination normally consists of a short (20 minute) oral presentation followed by questions from the committee. Spectators are permitted to attend the examination and are entitled to ask reasonable questions after the committee has finished its questioning. The committee will take both your written and oral presentation, as well as your responses to all questions into account in reaching its decision. The decision may be (i) pass, or (ii) deferred. A deferred decision requires a written explanation by the committee and a fixed date for a revised proposal and subsequent examination. Decisions cannot be deferred a second time, a failure at the second meeting will require withdrawal from the program.

At the examination you should show the committee that you have suitable knowledge of your field, including the scientific context of the work, understanding of the necessary methods, and a credible plan for bringing the project to completion within the time limits for your program. The depth and sophistication of both knowledge and study design is naturally expected to differ between M.Sc. and Ph.D. proposals. Both should include clearly identified questions, or hypotheses, and an explanation of how the questions will be addressed. The committee will also expect to see a defined time-line, showing the major milestones and planned completion dates for your project. Any progress in your research should also be included in your proposal.

III. Thesis Proposal Format

A model for the thesis proposal includes the following sections:

1. Introduction and review of prior knowledge. This would typically take the form of a concise literature review to show that you know the background for your work and to show the reader the context and importance of your questions. You want the review to be up-to-date and representative of the field; it should not be limited to the writings of those associated with just one or two research groups.

2. Objectives of proposed research. Include long- and short-term objectives and testable hypotheses.

3. Proposed experiments.

4. Milestones/Time line. Provide a term-by-term list of objectives for your planned graduate program, including coursework, important goals for your experiments, data analysis and writing and defense of the thesis.

5. Research progress to date. A separate section to describe your own contributions to date may be appropriate. In other cases, it may be necessary only to indicate how you have managed to progress relative to the time line for your project.

The completed thesis proposal should be no longer than 12 pages of text, not including figures and references, double-spaced with 1-inch margins and size 12 font. Figures may be presented on additional pages only if they are informative and are mentioned in the text. References should be presented in full (no abbreviations other than initials and journal titles) in a format similar to a journal in your field of study. Deliver a copy to each committee member and an electronic copy to the Biology Graduate Coordinator, at least two weeks in advance of your scheduled meeting.

IV. Research Ideas

The supervisor and supervisory committee should be important resources as you develop your research questions and the rest of the proposal. Your questions, and even the major methods, may already be largely formulated for you by your supervisor, or you may be expected to develop them mainly on your own. Generally, more responsibility for formulation of the main questions and the approach to their solution is expected from Ph.D. candidates. In any case, you have the right to expect helpful discussion and guidance from your supervisor and the committee as you develop your proposal.

There are important similarities between a good thesis proposal and a good NSERC proposal.

Revised:
May 2019;
May 2020;
May 2021

APPENDIX II: Biology Ph.D. Comprehensive Exams

All candidates for the PhD degree in the Department of Biology are required to pass a comprehensive examination designed to reveal a broad knowledge and understanding of the student's field. At least eight (8) weeks before the date of the examination, the supervisory committee will identify 4-6 specific fields (topics) on which detailed questions will be asked; these fields will reflect the student's chosen area of research. The committee may elect to make some of the topics more general and some of the topics highly specific to the actual research area. The student will be notified, in writing, of these topics; it is recommended that appropriate textbook chapters and/or review papers be specified.

The primary objective of the examination is to evaluate the candidate's understanding and knowledge of areas related to their research field; therefore, the student will be expected to show detailed and comprehensive knowledge of the selected topics. A secondary objective of the examination is to identify areas of weakness that may be filled by appropriate course work or additional reading. The competence with which the student answers questions on the selected topics will be the main basis for evaluating the performance in the examination. The committee may ask general questions in fields that were not previously identified to the student; the candidate's responses to these questions will contribute to the overall evaluation but will not necessarily determine the ultimate pass/fail decision.

The examination must be completed no later than the end of the seventh term in the PhD program; it should not take place in the first two terms of enrolment. A delay of an examination beyond the initial seven-term period requires permission of the Associate Dean (Graduate Studies).

If the PhD thesis proposal is successful, the date and topics for the comprehensive exam should be discussed at this meeting to ensure timely completion of this milestone. The date for the comprehensive exam should be noted on the **PhD Advisory Committee Report**. The topics, if available, can also be communicated to the student at this time. A **Comprehensive Exam Meeting Request Form** will be included in the folder for the PhD proposal examination and can be completed at this meeting. If this form is not completed at the time of the PhD proposal examination, the graduate student is responsible for filling out the webform (uwaterloo.ca/biology/graduate-studies/program-information/forms) with the date, time, and topics for the exam. A chairperson for the exam will be assigned by the Biology Graduate Office.

The format of the exam is variable, but usually the chairperson will invite each member of the examining committee to question the candidate for 15-20 minutes; a second or third round of such questions is common but usually of shorter duration. Immediately after the examination, the candidate will leave the room. The decision regarding the success or failure of the candidate should be taken only after discussion of the candidate's performance by all examiners. The purpose of the discussion is to evaluate the overall performance, and to identify areas of weakness in which re-examination and/or remedial work is required. The decision regarding the category (Pass, Conditional Pass, Decision Deferred, Fail) into which the exam falls shall normally reflect the majority opinion of the committee.

In the case of a conditional pass, the supplementary program of study should be discussed and decided upon. Options include written assignments, coursework, presentation of a seminar, or whatever the committee feels would be useful and appropriate. These conditions must be completed within one calendar year of the conditional pass. Students who fail to meet these conditions will be required to withdraw from the program. Completion of the supplementary program of study must also be communicated to the Biology Graduate Office within this time-frame.

In the case of a deferred decision, an approximate date for a second examination should be scheduled, and the form and scope of that examination should be decided upon. The second exam may be written rather than oral. Justification for the second examination will vary but might include

unacceptable performance on one or more topics with excellent performance on others, or enervating nervousness/anxiety. A generally unsatisfactory performance should not be grounds for re-examination, because the decision cannot be deferred a second time. A second examination must be completed within one calendar year of the unsuccessful attempt and students who fail to meet these conditions will be required to withdraw. In the case of Failure, in the first or second attempt, the student will be required to withdraw from the program.

Normally, members of the supervisory committee will comprise the PhD comprehensive examination committee but, at the discretion of the committee, other faculty members from Biology or other departments may be invited to participate. The Associate Chair (Graduate Studies) or delegate may attend a comprehensive examination as non-voting participant at the request of the committee or the student. The comprehensive examination committee must be approved by the Faculty of Science Graduate Office.

The chairperson of the examination shall record the decision, including the nature of remedial work, or the form and time of another examination if appropriate, on the examination report. They should also inform the student as to the outcome of the examination.

Issued May 2017
Revised May 2019
May 2021

APPENDIX III: Health and Environmental Safety

As a Graduate Student, you are considered an employee of the University. All employees (or workers) are required by the *Employee Standards Act* to be adequately and properly trained in Workplace Safety. Under the *Occupational Health and Safety Act (OSHA)* of Ontario the University has a general duty to take reasonable precautions for the protection of workers and to have in place a system to ensure that offenses under *OSHA* and associated legislation do not occur. Supervisors and workers have roles in ensuring they are aware of, disseminate, and practice, the appropriate measures to protect themselves and others. **Policy 34**, concerning Health, Safety and Environment (uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-34) is a key element of the University's Health, Safety and Environment Management System (HSEMS) to ensure compliance with *OSHA*. As part of this system, the University has developed a number of safety training modules that must be successfully completed by all employees of the University. There are five online courses that are required by all Department of Biology grad students:

Employee Safety Orientation (SO1001)
 Workplace Violence Awareness (SO1081)
 WHMIS 2015 (SO2017)
 Laboratory Safety (SO1010)
 Biosafety (SO1069)

Information and access to these course modules, along with a wealth of information, can be found on the Safety Office website (uwaterloo.ca/safety-office/).

Your Supervisor may request additional safety training, depending on your field of study and expected experimental work. The exact safety training requirements to complete should be discussed with your Supervisor. This training must be completed **before** beginning any laboratory work or Graduate Teaching Assistant (GTA) duties. Your Supervisor will require a copy of your Safety Training record for the lab's files. These are typically examined during Safety Inspections that are conducted by the Department's Health and Safety Committee, the University's Joint Health and Safety Committee, the University Safety Office, or Ministry of Labour personnel.

Safety is an extremely important aspect of working in the lab or field, and of your teaching while working as a GTA. It is up to you to absorb and apply the provided information and work safely. Don't depend on others; take responsibility for being aware of potential hazards. If you observe a potentially dangerous situation, or encounter a defect in a piece of equipment, don't ignore it - notify your colleagues (others in the lab, Supervisor) and take steps to rectify the problem. Ensure that you know the location of your lab's SDS (**Safety Data Sheets**) files, and are familiar with the information on safe handling of every chemical you use (before you use it!), the appropriate equipment (e.g. goggles, gloves, fumehoods) that may be needed for safe handling, and locations of various safety items (e.g. spill kits, eye wash, fire extinguishers, fire alarms, first aid kit) in your area.

Posters outlining pertinent safety information are required to be posted in campus laboratories and classrooms as well. Your research lab should maintain an "Emergency Contacts" list posted in a readily visible location (e.g., inside the lab door). Read and familiarize yourself with the provided information so that you are prepared to respond to a safety hazard or emergency situation should one occur.

Working alone in the lab: Consult the University's guideline (uwaterloo.ca/safety-office/programs-and-procedures/working-alone-guideline) and your Supervisor about their policy.

Fieldwork: If travelling off campus on University-related business (field work, conference attendance) there may be forms that must be completed and filed prior to departure. Consult your Supervisor. If needed the field work risk management form is accessible on the Safety Office website (uwaterloo.ca/safety-office/programs-and-procedures/fieldwork).

Accident or injury: All accidents or injuries, no matter how minor, should be reported to your Supervisor. An **injury/incident report form** (uwaterloo.ca/safety-office/emergency-procedures/incident-and-hazard-reporting) **must be completed** and submitted to the Department of Biology's Administrative Officer (Jennifer Lehman, ESC 350B). It will be forwarded to the University's Safety Office.

First Aid: First Aid kits are available in all research labs, prep rooms and teaching labs. In addition, there are departmental first aid stations in the Biology main office (ESC 350) and in the 3rd floor lounge (ESC 356), as well as in the greenhouse (B1 290). Individuals in the Department trained to give first aid include Karen Miinch (B2 354C or B1 373, ext. 32375 and Susan Whyte (ESC 350C, ext.36394).

Serious injury: If there is any doubt about how to handle the injury, call an **ambulance (911** on any hard wired campus phone). Provide your exact location (building name, floor, and room number). UWaterloo Police are automatically notified and the exact location of the call is registered. However, after calling 911, it is recommended to also call **UWaterloo Police at ext. 22222 or 519-888-4911** to confirm your location (available 24 hrs/day, 7 days/wk).

Cell phone calls to 911 will not register with UWaterloo Police. Therefore, follow these procedures: do not hang up until told to do so by the 911 dispatcher; state exactly where you are, (i.e. University of Waterloo, building name, any street address and room number); immediately call UW Police at 519-888-4911 after being told to hang up by the 911 dispatcher.

Less serious injury: If medical attention is required for an injury (e.g. a deep cut requiring stitches), but an ambulance is not necessary, **Health Services** (ext. 84096 or 519-888-4096) is open during the day, Monday to Friday. A listing of several after-hours clinics and local hospitals is also available on the Health Services website (uwaterloo.ca/campus-wellness/after-hours).

Note that all research and teaching laboratories have posters outlining **Emergency Procedures** for **First Aid Emergency** and **Fire/Evacuation**. Familiarize yourself with the provided information and note the **Emergency Entrance location** for your building. In the event of a serious emergency, this is where the ambulance, emergency personnel will arrive.

Chemical spills: All research labs, teaching labs and prep rooms have materials or kits for control of spills. Spill control can be contacted at ext. 519-888-4911 or ext. 22222.

Other resources: In compliance with the University's HSE management system, the Department of Biology has a **Department Health & Safety Committee** comprised of several faculty, staff and grad students, and a **Health & Safety coordinator** (Dr. Todd Holyoak, ESC 357C). The **Safety Office** can be contacted at 519-888-4567, ext. 33587. The **Plant Operations** 24 Hour Maintenance, Repair and Service Line is ext. 43793. For non-urgent issues, email details (building and room number in the subject line) pltops.maintenance@uwaterloo.ca.

APPENDIX IV: USEFUL WEBSITES

Academic Integrity @ UW: www.registrar.uwaterloo.ca/students/academic_integrity.html

Biology Grad Courses-Academic Calendar:
uwaterloo.ca/graduate-studies-academic-calendar/graduate-course/subject/BIOL

Biology Grad Student Association (BGSA): uwaterloo.ca/biology-graduate-student-association

Career Hub: careerhub.uwaterloo.ca

Centre for Teaching Excellence: uwaterloo.ca/centre-for-teaching-excellence/about-cte

Counselling Services: uwaterloo.ca/campus-wellness/counselling-services

ESL Courses: uwaterloo.ca/english-language-institute/

Fees: uwaterloo.ca/finance/student-financial-services

GRADventure: uwaterloo.ca/gradventure/

Graduate Student Association: www.gsa.uwaterloo.ca/

Grad Student Housing: uwaterloo.ca/campus-housing/graduate-housing

Graduate Studies Forms: uwaterloo.ca/forms/graduate-studies/

Graduate Studies Registration Information:
uwaterloo.ca/graduate-studies-postdoctoral-affairs/current-students

Off Campus Housing: www.och.uwaterloo.ca/students/index.html

Student Financial Services website: uwaterloo.ca/finance/student-financial-services

Writing Centre: uwaterloo.ca/writing-and-communication-centre/