GLIER Graduate Student Handbook

2025-2026

Graduate Student Handbook for GLIER

Disclaimer

This document was prepared by the Graduate Committee at the Great Lakes Institute for Environmental Research (GLIER) at the University of Windsor (UWin) and is intended to provide information about the facilities and services available in the Institute and at the University to incoming graduate students. It is correct to the best of our knowledge; however, policies and procedures may change. Please consult with the GLIER Graduate Committee, GLIER's Director, or Faculty of Graduate Studies to verify that information listed is current and accurate. Please notify the GLIER Graduate Committee of any errors of fact, implication or omission. Suggestions for other material that should be included are welcome.

Contents

Introduction:

Great Lakes Institute for Environmental Research (GLIER):

The Great Lakes Institute for Environmental Research (GLIER) addresses complex environmental problems that cross conventional disciplinary boundaries such as the effects of multiple environmental stressors on large lakes and their watersheds.

GLIER is the only graduate program in North America focusing explicitly on stressors – including pollution and invasive species -- in the Great Lakes and other large aquatic systems and their watersheds. Modelled around a collaborative Central Facilities Model, GLIER's capacity for freshwater aquatic research is unparalleled in North America. Our program is focused, well-funded, high-impact, and has a growing international reputation for excellence in our chosen field of research. Per capita, we are consistently the best-funded and most-published department at the University of Windsor and our pool of student applicants is of very high quality.

At GLIER, our ultimate goal is training the environmental stewards of the future, with a strong foundation in basic scientific research, an understanding of research applications in, for instance, establishing policy and guidelines for industry and government, and the training to be able to communicate to all sectors affected by their findings.

Thinking about coming to GLIER?

Why GLIER?

You don't want to be part of a crowd

GLIER is a research institute. Our focus is on small multidisciplinary groups working collaboratively on environmental research. GLIER graduate students are a tight-knit group: they share office space, participate together in small but intensive graduate seminars, and share knowledge and expertise through lab exchanges within the Institute and internships nationally and internationally. Due to our small class sizes and significant faculty-student interactions, the vast majority of students have grades that are A- (83%) or better.

You want to graduate with the skills employers are looking for

GLIER trains researchers that — in addition to the standard scientific expertise — graduate with a network of contacts, training and experience with scientific communications, and familiarity with a suite of cutting-edge tools due to their hands-on operation of our state-of-the-art instrumentation. Some of the features that distinguish GLIER's graduate program are:

- GLIER graduate students are required to participate in conferences and symposiums (local, national and international) to gain experience in public speaking and allow them greater opportunity for networking and development of interpersonal skills in a professional scientific setting.
- Every graduating student from the GLIER program must submit at least one paper to a peer-reviewed journal; most publish far more, at a rate of just over 2 papers/student, many in top-tier science journals. This reflects the high standards to which we hold our students, but also the productivity of our faculty.

- Our graduate students are given networking opportunities and experiences through lab exchanges, internships and collaborations with our adjunct professors and other scientists outside of GLIER (government, industry and academia) exposing them to the application and management side of scientific research, so they can grasp the entire scientific process, not just a single, focused aspect of academic research.
- GLIER offers professional development workshops to augment workplace skills so that our students are readily distinguishable as potential employees, and to allow them to integrate effectively and immediately into the workplace once hired.

GLIER faculty train high-calibre graduate students to address serious environmental problems that affect the Great Lakes, their watersheds and other large lakes of the world. Our students graduate with experience in all aspects of scientific research, professional skills and a network of contacts to give them a competitive edge in a global market.

Many of our graduates go on to Ph.D. and post-doctoral positions. Other graduates have moved on to faculty positions at research-intensive universities both in Canada and the US, or to research scientist positions at provincial and federal agencies. More and more students are also moving on to positions with environmental consulting companies.

You want to make a difference to the environment

You are passionate about the environment, and so are we. We don't want to do research of interest only to other scientists, we want to make a difference in the world. GLIER's focus on research excellence in aquatic environmental sciences is our greatest strength. It has resulted in a high profile for our Institute as our graduates and faculty provide guidance to policy makers, are a presence in high-level networks, panels and committees, and garner high levels of funding and numbers of publications. The high-profile nature of many of our faculty members' service (e.g., speaking in Parliament, heading international projects, being members of international commissions) only serves to broaden the scope and reach of their students' research and career possibilities.

You want a broad understanding of the problems facing the environment

Graduate programs elsewhere tend to focus on single areas of expertise; students in the GLIER Graduate Program, on the other hand, acquire a comprehensive understanding of how to conceptualize issues that affect large lakes and their watersheds through contact with a variety of physical and natural sciences. Due to GLIER's emphasis on collaborative research, students have multiple resources to turn to for advice and assistance; they are encouraged to interact closely not only with their Advisor or co-Advisor, but with other members of their committee and GLIER faculty. GLIER's leadership and excellence in freshwater aquatic research mean that, despite GLIER's small size, our faculty can easily find external experts as speakers for seminars, extra training, and laboratory exchanges or to sit on graduate committees.

You want hands-on experience

We believe that providing unparalleled hands-on access to sophisticated scientific instrumentation expands and accelerates the development of our graduates' information literacy, critical thinking and problem-solving. With GLIER's model of accessible cutting-edge Central Facilities, access to laboratories, equipment, data or sample analysis has never been a challenge for GLIER's graduate students. This is the

kind of value-added experience you will find at GLIER that will distinguish you to potential employers in your post-graduate career.

You want to be at the center of Great Lakes research

Our institute is strategically located in the heart of the Great Lakes, eco-geographically at the northern tip of the Carolinian ecosystem and politically at the busiest border crossing in North America. These factors make GLIER a logical national centre for Great Lakes research, reflected in GLIER's major projects, GEN-Fish, RAEON and INSPIRE. Each of these are multi-partner collaborative research endeavours involving researchers, students and other stakeholders from around the country working towards common goals. GLIER is also home to FishCAST which is a co-curricular training program designed by experts and funded by NSERC to train graduate students in the fisheries and aquatic sciences.

You want to have a global perspective

Employers tell us that the ability to work in a team environment with a global emphasis will be essential skills in the coming years, and GLIER's collaborative, multidisciplinary approach to large scientific questions encourages the development of teamwork, personal, and group leadership skills. At GLIER, our students have opportunities to attend international conferences; work with collaborators, graduate students and visiting professors from all over the globe; and, ultimately, seek employment both within and outside of Canada. We have close ties with a number of international agencies for funding, collaborative research, network agreements, and student exchanges.

Research Facilities

Stable Isotopes Laboratory

The Stable Isotopes Laboratory contains state-of-the-art equipment allowing the facility to provide analysis of multiple chemical tracers including stable isotopes, carbon stable isotopes of fatty acid extracts (but not the fatty acid extraction), carbon stable isotopes of individual organic contaminant chemicals, PCBs, and metals. For more information contact Dr. Aaron Fisk

Computer Facilities

Room 150. If your project requires high-performance computer processing (e.g., data analysis of NextGen sequencing, population genetics, behavioural trials and behaviour modeling) GLIER has a secure facility with ten top-of-the-line workstations connected to the University's network as well as dedicated network attached storage (NAS). For more information contact Dr. Opeyemi Lawal.

Element and Heavy Isotope Analytical Laboratories (EHIAL)

The CALA-accredited Element and Heavy Isotope Analytical Laboratories (EHIAL) consists of a suite of ultra-clean rooms in which sample preparation for metal and isotope chemistry via extractions, separations and digestions are performed (air balanced rooms with H.E.P.A. filters, hot plate and microwave; CEM M.A.R.S. 5). For more information Contact JC Barrette

Environmental Genomics Facility (EGF)

Rooms 128, 224, 226. The Environmental Genomics Facility (EGF) provides researchers access to DNA/RNA extraction, DNA sequencing, real-time PCR, QA/QC of DNA/RNA, and use of the eDNA clean room (128). For more information contact Shelby Mackie

Centre for Advanced Microscopy and Materials Characterization

The Centre for Advance Microscopy and Materials Characterization is located in Rooms 107, 109, 109A. GLIER's Environmental SEM is extremely versatile, and allows users to image the most challenging samples including wet, dirty, oily or outgassing samples. The Environmental SEM excels at High Resolution Imaging (capable of a resolution of five nanometers), excellent backscatter images, elemental analysis with Energy Dispersive Spectroscopy (EDS) and elemental mapping, and cathodoluminescence of trace elements. Complimentary to the SEM, the facility includes a WiTec Atomic Force Microscope (AFM) and Confocal Raman Spectrometer which is a multifunctional integrated system allowing users to do both AFM and Raman spectroscopy on the same sample, on the same instrument, using integrated software. It also has a True Surface Profilometer, and SNOM (Scanning Near-field Optical Microscopy) capabilities, which can achieve an optical resolution of 50-100 nm. This capability is extremely useful for identifying the chemical structure/fingerprint in environmental samples (contaminants). For more information contact Sharon Lackie.

Freshwater Restoration Ecology Centre (FREC)

The Freshwater Restoration Ecology Centre (FREC) is a CFI-funded complex located on the Detroit River in LaSalle with access to a municipal boat launch as well as a private dock. At present, the centre provides a state-of-the-art facility for scientists to study and develop best practices for restoration ecology relevant to the Great Lakes, including (among others) the study of invasive species biology, environmental stressors (pollution, climate change, habitat degradation), water quality metrics, and reintroduction of imperiled fish species. For more information contact Trevor Pitcher.

Organic Analytical and Nutrient Laboratory (OANL)

Room 222, 222A-C, 225B. There are two sections of Organic Analysis and Nutrient Laboratory (OANL). The Nutrient Analysis section allows surface water samples to be analyzed for parameters such as Nitrate-Nitrite-N, Ammonia as N, Soluble Reactive Phosphorus as P, Total and Dissolved Total Phosphorus as P, Alkalinity, Chloride, Sulphate, and Silica. The lab is also capable to analyze Total Carbon and Nitrogen in liquid and solid samples through TOC analyzer. The Organic section of OANL performs a wide range of analyses on environmental samples for chemicals such as PCB congeners (planar and non-coplanar), OC (OrganoChlorine) Pesticides, PAHs, PBDEs, and Halogenated Organic Volatiles.

Both Nutrient and Organic sections of OANL participate in formal proficiency testing (PT) program through an accredited PT provider- Environment and Climate Change Canada (ECCC) semi-annually.

OANL-GL is one of the few university-based environmental analytical laboratories in Canada; accredited by the Canadian Association for Laboratory Accreditation (CALA) Inc. to ISO/IEC 17025:2017 for Total Phosphorus-P and Nitrate-Nitrite-N test methods.

OANL offers hands-on training on lab procedures to students/researchers of the University of Windsor and elsewhere; provides practical opportunity to learn and operate advanced instrumentations in an accredited laboratory set-up. OANL also process and analyze environmental samples submitted by internal and external clients through contracts.

For more information contact Nargis Ismail, Kenneth Drouillard or Catherine Febria.

General Facilities

Board Room

Room 247B. For small meetings and presentations.

Conference Room

Alex Davidson Center for Environmental Excellence, room 250 is used for larger meetings, classes and presentations. Equipped with overhead projector and portable large screen to accommodate remote meetings.

Lounge

Room 228. There is a coffee maker, microwave and refrigerator. This room is also used for small meetings.

Lab Services Rooms

Room 127 has an ice machine and is the room for waste handling. Room 201 has an autoclave, incubator, dishwasher and ice machine.

Mail Room

Room 249B. A photocopier, paper cutter, paper shredder and heavy-duty stapler are available in the Mail Room. A paper shredder box is located outside of Secretary to the Director's office 247A.

Student Lounge

Section 244. There is a refrigerator, microwave, and toaster oven for your use.

Around GLIER

People

General Personnel (Executive, Office and Facilities)

Dr. Mike McKay, Director of GLIER

Room 247D. The Director is in constant consultation with all the GLIER Committees, including the Graduate Committee, and will oversee your progress through GLIER's Director is accessible to the student body (not the norm in many departments) and -- after your Advisor -- this is the person to see to resolve any difficulties you may be having in your graduate career. He can provide advice, intervention, and references to resources to help you through any problems you might be having and, with the help of the Graduate Secretary, will do their best to ensure that you graduate on schedule.

Mary Lou Scratch, Administrative Assistant to the Director

Room 247A. The Assistant to the Director is an excellent first person to contact regarding anything to do with the GLIER building, resources or administrative questions (e.g., mailing packages, answering HR questions).

Nia Khuong, Graduate Secretary

Room 249A. The Graduate Secretary will track your progress and coordinate all the paperwork that evolves the course of your degree. The Secretary is an excellent resource for questions specifically about academics and graduate student opportunities at GLIER.

Custodial Staff

Service Master provides a single custodian (Teresa) during work hours (7am – 2:30pm) to clean the building and take care of basic recycling and trash removal.

Research Personnel

Faculty

To view all current faculty members at GLIER visit: Faculty | Great Lakes Institute for Environmental Research (uwindsor.ca)

Technical Staff

GLIER houses core research central facilities of the University of Windsor and are led by full-time technicians employed by the University of Windsor. They are available to train new users, provide assistance with the running of the equipment, and offer advice on preparation methods or troubleshooting.

J.C. Barrette: Technician
Metal Analysis Lab and **Element and Heavy Isotope Analytical Laboratory**, Office: 135

Shelby Mackie: Technician

Environmental Genomics Facility Office: 310

Dr. Nargis Ismail: Coordinator / Supervisor

Organic Analysis Lab Office: 220

Sharon Lackie: Technician
Centre for Advanced Microcopy and Materials Analysis Office: 213

Aaron Newhook: Technician, Field and Animal Care

Applying to GLIER

Minimum admission requirements

The GLIER Graduate Committee looks for excellent academic records that include strong backgrounds in one or more of the basic disciplines (e.g. biology, chemistry, earth sciences) and previous work in the disciplines related to the intended area of concentration.

M.Sc. program:

- an average of no less than 77% in your final two years of undergraduate full-time study
- hold an appropriate Honours Bachelor's degree (or equivalent).

Ph.D. program:

- you must have a Master's degree with high academic standing (80%).

The committee also gives weight to the letters of recommendation, the applicant's letter of intent, and evidence of research activity (peer-reviewed publications, submissions to scholarly journals, presentations at conferences, attendance at workshops).

If English is not your first language, you must have an acceptable English Language Proficiency Score. Important to note: if English is not your first language, but your last post-secondary degree is from an approved English-language University, you may be exempt. However, please still verify with Grad Studies.

Apply

The deadline dates for consideration for **Entrance Scholarships** are as follows:

- Fall entrance scholarship May 1
- Winter entrance scholarship September 1
- Spring entrance scholarship January 1

For more information, please follow the link to the Entrance Scholarship program.

The deadline to have your application and all fees and supporting documents are as follows:

- Deadline for Fall: June 1
- Deadline for Winter: October 1
- Deadline for Intersession (Summer): February 1

International candidates should attempt to apply at least six months in advance of their planned enrolment date.

Apply online to the University of Windsor from the Faculty of Graduate Studies homepage through the UWinSite site choosing the "**Environmental Science**" graduate program from your list of options. Once your payment has been processed (up to two business days) you will be sent an email with further instructions on how to proceed with the application process. Once you log in, you will be able to upload copies of all the required application documents and list your references, and you will be able to track the progress of your application.

You will need:

- Official transcripts (one copy from each degree; and only if you attended a university other than UWin; submitted directly to the Office of the Registrar).
- Confidential Report forms from referees (2 for the M.Sc. program, 3 for the PhD program; submitted by the referees directly to the UWinsite).
- A letter of intent that clearly outlines your interest in the GLIER Environmental Science program and ***identifies the GLIER supervisor*** with whom you will be conducting research.
- A deposit.
- If English is not your first language, you may also be asked to submit English Language Proficiency Score scores. GLIER does not require submission of a GRE.

Once you have uploaded all required documents it is important to remember to click on the "Submit Application" button as it is only at this time that the UWinsite system will send an invitation to your referees to complete the reference forms on your behalf. The referees will be given 21 days to complete this. It is important time management to submit your application at least ***21 days prior*** to the above deadlines to ensure your listed references arrive on time and therefore completing your application requirements.

Your unofficial transcript will be reviewed to make sure your GPA is at a B+ level in your last two years of schooling and if you are eligible for a Tuition Scholarship (GPA: A-). Note that even if you do receive a Tuition Scholarship (See Financial Assistance: Appendix B), there will still be fees for incidentals, like the optional Drug and Dental plans.

Deferral of admission

There is a deadline if you would like to defer your admission from the original start date you applied for, with approval of the GLIER program, acceptance may be deferred for one term only. The request for deferral deadline is by the late registration deadline of the term prior to the one in which you intended to start your program. For example, if you are deferring to the Fall term you must make a deferral request by the late registration deadline for the Summer term. On the Faculty of Graduate Studies homepage you can find a list of Important Dates

Checklist for applying to GLIER:

Date completed	Item to complete
	Check that you meet the minimum admission requirements
	Find a GLIER Advisor
	Apply at UWin ; activate account; log in to the UWinsite Student Application System.
	☐ official transcripts
	☐ a letter of intent
	☐ a deposit
	☐ English proficiency scores (if English is not your first language)
	☐ 2 letters of reference (for MSc) or 3 letters of reference (for PhD)
	Complete Tuition Scholarship form (if sent by Graduate Studies)
	Activate your UWin ID
	Check out the UWin Faculty of Graduate Studies Website
	Apply for a Study Permit*
	Look through the International Student Centre's website*

**The last two items apply to International Students only.*

Where can I get more information?

Contact the GLIER Graduate Office for any questions about GLIER or our programs or to request a tour. Please note that GLIER offers only graduate programs. To look at an undergraduate program at the University of Windsor, check out the University of Windsor website.

Choosing a Research Topic:

When considering who you would like as an advisor ensure you look into their core research areas and that your own interests are aligned. Your Advisor will provide guidance for your research in your MSc and PhD and will likely have suggestions for a research topic. At the Master's level, this is a great way to start. That is not to say that you shouldn't try to develop your own set of questions within this framework – graduate study is a great exercise in intellectual thought. This is especially relevant for doctoral students, since at this level your professional identity may be shaped (at least at first) by association with your chosen topic. Other great suggestions for choosing a thesis or dissertation research topic can be found in the following website, here.

Publications and Presentations

Scientific communication is critical to career success no matter what sector you hope to work in. You can have the most exciting project and results in the world, but if you can't communicate your findings in a clear and engaging way, you will be one of the few who know about them! GLIER graduate students will have the chance to develop their scientific communication skills and many opportunities to practice them!

Publishing in a Journal

All GLIER students are required to generate at least one journal article (M.Sc. at least one submitted; Ph.D. at least one submitted and one accepted). After looking at your research questions, data and results, your Advisor will probably have a good idea as to which journal you should be targeting for submission. You can go to the journal website to find the "Guidelines for Authors" to discover formatting, submitting and outlining requirements. Read through several articles in that journal that are similar to how you think yours might be, to get an idea of what to include or emphasize in each section. Your Advisor will help you every step of the way—after all, their name is likely going to be on this article, too! Your Committee members are also good people to reach out to for a thorough review of your drafts – especially if they are co-authors of your work. Writing help is available through the University, and Mitacs has several pertinent workshops available.

Presenting Your Data

Public speaking is a very common fear that can be overcome by learning presentation techniques and, of course, through practice! GLIER graduate students are provided ample opportunity for both.

The GLIER Seminar is an excellent place to develop your presentation technique before an intimate and non-judgemental audience who also provide constructive feedback. In addition, Mitacs has a two-part series to help you develop your presentation skills.

GLIER graduate students are encouraged to present their data in poster presentations, University and Departmental seminars and at conferences in Canada and abroad. One fun (and potentially lucrative!) venue in which to try out your presentation skills is the 3 Minute Thesis Competition held in the spring.

Conferences

GLIER graduate students have had the opportunity to speak at conferences all over the world. Talk to your Advisor about which conferences you might present at (and the best ways to cover the fees and travel costs!).

Some of the conferences that are heavily attended by GLIER graduate students are:

- American Fisheries Society (AFS) Annual Meeting: Held in August; call for abstracts starts in July.
- SCAS Held in February; call for abstracts deadline in October.
- Goldschmidt: Held in summer months: call for abstracts deadline in late winter.
- International Association for Great Lakes Research (IAGLR): Held in May or June; call for abstracts deadline in October.

New to GLIER?

Welcome!

We're so glad you're here! At GLIER, you will be able to jump right into some exciting science, start developing your professional networks and begin learning the skills you will need to embark on a post-graduate career to make a difference to the environment.

What should I do now?

We have all the details you need to know to get set up and on your way. They are summarized in the "Getting Started at GLIER Checklist" at the end of this section. If you have any questions or difficulties, don't hesitate to contact the GLIER Graduate Office.

Before you arrive at GLIER

Activate your UWinID

This will allow you to monitor your application status online through UWinsite Student . If you activate it through this link using your PAC, it will also automatically set up your UWindsor Outlook account as well.

Register in the program

See section "Coursework" for information on which courses you must register for as a M.Sc. student and as a PhD student. This is done through UWinsite Student.

Check out the UWin Faculty of Graduate Studies Website

The FGS website has information on:

- Tuition Fees: contains payment deadlines, current fees and payment options. For instance, you can arrange to pay your tuition through a biweekly payroll through the Cashier's Office.
- Graduate Assistantships: Contains hourly and annual rates.

Funding Available: Contains a list of available scholarships. Check out the UWin Graduate Student Society Website

The GSS website has information about the GSS and what it can offer, including health care coverage and scholarship opportunities.

International Students: Apply for a Study Permit (i.e., Student Visa)

Due to the long processing time, it is a good idea to start your visa application six to eight months before you wish to start your program. Because every country's requirements will be different, be sure to check out the excellent International Student Centre's (ISC) page on applying for a permit. Your permit will be issued to you at your port of entry.

International Students: Check out the International Student Centre's website

The International Student Centre (ISC) website has information about their "Suitcases to Backpacks" program, the "Soft Landing" program and offers useful suggestions for first-night hotels and airport pick-up services, alongside many other useful items.

Once you arrive at GLIER

Meet with your Advisor

You will need to discuss your project, your degree and lab customs.

Meet with the Graduate Program Chair

To review your graduation timeline, milestones, and necessary courses for completion.

Contact the Graduate Secretary

The Secretary will:

- assign you office space and a phone extension.
- inform you about the internet system in use at GLIER.

Contact the Assistant to the Director

The Assistant will:

- arrange your paperwork for a key to the building, your office and lab. You will need a local mailing address, phone number and student/employee number before they can begin the paperwork.
- arrange completion of the New Hire Package (if you will be receiving a salary through a GA (Graduate Assistantship), Work Study or salaried RA – most graduate students do). You will need this to get your employee number (see below); you need to fill in the top part.

Get an employee number (if you will be salaried, e.g., for Graduate Assistantships (GA's) & Research Assistantships (RA's))

Contact Human Resources (Room 207 Chrysler Hall Tower) so they can help you get an employee number. There is a list of forms to complete and documents to bring on their website. International Students, see below for information on getting your SIN, Student Study Permit, and a bank account.

Pay key deposit and pick up your office keys.

Once you have received a student number, you can go to the Key Control website and place an order for your office keys. The order will be sent to GLIER's Administrative Assistant (Mary Lou Scratch) for approval.

Once the keys have been made and are ready to be picked up, you will receive an email informing you that they are ready from Key Control. The Key Control office is located at 2601 Union Street. You will go there to pick them up and you must pay a $50 refundable key deposit by debit or credit card. Your receipt is kept on file by Key Control. When you are completely done your graduate studies, you can return your keys back to the Key Control to get your deposit returned to you the way that you paid (debit or credit).

Front Door Entrance to GLIER with Your UWin Card

You can access entry to the front doors of GLIER using your UWin student card. To get this activated, please email Mary Lou Scratch with the 5-digit number on the back bottom right corner of the UWin card along with your student number and the approximate date that you will be completing your studies. Once Mary Lou inputs this in the system, you will receive access within a week. You then will be able to enter the front doors of GLIER by swiping your UWin card to the card scanner located outside the front doors on the right hand side.

Complete online training modules

You may be able to access all of these modules from the consolidated required training website.

Required Training	Notes	
Workplace Hazardous Materials Information System (WHMIS) Training	Everyone working in a lab must have Workplace Hazardous Materials Information System (WHMIS) training, updated annually. This is an online course that can be completed in about 30 minutes.	~30 minutes
Accessibility for Ontarians with Disabilities Act, 2005 (AODA) training	A series of training videos followed by a short quiz.	~25 minutes
Accessible Customer Service Training	Learning Module and Quiz	~90 Minutes
Health & Safety in the Workplace - An Orientation Guide for Workers	An orientation document and quiz.	
Violence & Harassment Prevention in the Workplace: Awareness Training	PowerPoint and Quiz	

Choose whether to opt out of Green Shield coverage or add family members

If you already have extended health coverage, including dental, you can choose to opt out of UWin's program and be reimbursed for the fee. You can also choose to add family members to your program. You will be prompted to opt out by the Graduate Student Society (GSS) just before the beginning of each semester. You can also visit the GSS webpage and opt out there. The key dates for opting in/out of coverage can be found at Dates and Periods - UWindsor GSS. Please be sure to check this regularly to ensure that you are within the opt in/out time period or you will be automatically registered for coverage.

International Students: Apply for a SIN

You will need a Social Insurance Number in order to be paid by the University. See the ISC website for details. To apply for a SIN, international students must provide an original work permit or an original study permit that states the permit holder "may accept employment". If your study permit doesn't have the proper employment remarks, please visit ISC and they will assist you to amend your study permit to change the conditions/remarks on your study permit based on your situation. You can also take your letter of employment from Human Resources to a Services Canada location (inside City Hall) to get your SIN.

International Students: Open a Chequing Account at a Canadian Bank

The closest bank to the University is the Toronto Dominion (TD) Bank at the corner of Wyandotte and Rankin. They offer a Student Account (details here). You will need your Passport, Student Permit, letter of acceptance and/or Uwincard.

Get your UwinCARD (Student Card)

The UwinCARD office is in on the 1st Floor of the Joyce Entrepreneurship Centre. They will take your picture and print your card. You will need to bring one piece of government-issued photo ID (e.g. passport).

Pick up your International Student Identity Card (ISIC)

You can get these from the University of Windsor Student Association (Room 209 of the CAW Centre) to be eligible for discounts around the city and across Canada (see “Discounts” in the “Finance” section).

Arrange for any reimbursement cheques to be direct deposited

All reimbursements (e.g., travel costs) are direct deposited to your bank account in order to speed up the reimbursement process.

Getting Started at GLIER (checklist)

You can look in the "What should I do now?" sections to find details on each task **(Items highlighted in blue are for International Students only).**

Date completed	*Item to complete*
☐	Meet with your Advisor
☐	Meet with the Graduate Program Chair
☐	Register
☐	Contact the Graduate Secretary
☐	Contact the Assistant to the Director
☐	Get an employee number
☐	Pay key deposit and pick up card/keys
☐	Complete online training
☐	Workplace Hazardous Materials Information System
☐	• Accessibility for Ontarians with Disabilities Act
☐	• Accessible Customer Service
☐	• Health & Safety in the Workplace
☐	• Violence & Harassment Prevention in the Workplace
☐	Choose whether to opt out of dental/health coverage
☐	Get your UwinCARD
☐	Arrange for any reimbursements to be direct deposited
☐	Pick up your International Student Card *
☐	Open a chequing account *
☐	Apply for a SIN *

*Specific for International students

Getting involved

…as a student representative

The representatives are responsible for ensuring that the Graduate Student needs and concerns are met in the agendas of the committees. It also gives committee members who volunteer a great education in how an academic enterprise functions, an opportunity to relate closely with the faculty and an addition to your Co-Curricular Record and/or CV. There can also be a small stipend.

Graduate representatives sit on all of the GLIER Committees. Nominations and elections to these committees take place in early September of each academic year. Most committees meet once a month, on average.

- Departmental Council
- Appointments Committee
- Graduate Committee

Graduate students also serve on committees at all levels of the University:

- Graduate Student Society (GLIER Representative)
- Board of Governors
- Senate
- Faculty of Graduate Studies
- Research Council

These appointments are managed through the Graduate Student Society (GSS). Executive elections are typically held the first week of March; Council elections are generally held in mid-September to early October.

…in the GLIER Graduate Student community

- GLIER Social
- Sports
- Seminars
- Managing and contributing to the unofficial GLIER Graduate Student Social Media (FB, Twitter, and Instagram)

…in the UWin Graduate Student community

- The Graduate Student Society organizes a Welcome Barbecue, a Winter Gala, soccer and ping pong tournaments and a movie night.
- Lancer clubs and intramurals
- Any student club or society you could think of

…as a scientist in the wider community

- Science Fair Judging
- Doors Open
- Science Rendezvous
- Science Week at Devonshire Mall
- High School outreach
- Presentations, conferences, travel
- Christmas Adopt-a-family
- See also Volunteer Opportunities and Lead@UWindsor, below

What is there to do in Windsor?

As one of Canada's most multi-cultural cities and a vibrant border town, Windsor has a lot to offer. Check out these resources for a sampling:

- GLIER's (unofficial) Facebook, Instagram and X pages. GLIER students can contribute content to staff for posting.
- Through the University of Windsor Student Alliance website you can subscribe to UWeekly Events -- a weekly newsletter keeping you up to date on events put on by student groups at the University of Windsor.
- UWin's Daily News keeps you abreast of what's happening at UWindsor.
- CJAM and The Lance (the campus radio station and blog, respectively) are also great resources for finding out what's happening on- and off-campus.
- The website of the International Student Centre (ISC) has a bunch of information about how to get around Windsor and what's available.
- Windsorite.ca keeps you posted on local events as does the "What's Going On?" column in the local newspaper, the Windsor Star.
- Tourism Windsor-Essex-Pelee Island has an excellent Calendar of Events to find out what's going on in the County.

Program Requirements:

Master's Program Requirements:

Duration:

- Duration=1-3 years

The Faculty of Graduate Studies stipulates the minimum duration of a Master's degree is 1 calendar year. An MSc must be completed within 3 calendar years. The normal duration of a MSc in GLIER is 2 calendar years.

Program Requirements:

- The completion of 2 graduate level courses (GLIE-8500 and GLIE-8700) as well as registration in GLIE-8970 (Thesis)
- Undertake original research, write and satisfactorily defend an MSc thesis
- Successfully submit 1 research article to a peer-reviewed journal

Coursework:

The successful completion of GLIE-8500 (GLIER Multidisciplinary Graduate Seminar) and GLIE-8700 (GLIER Environmental Research Proposal). See Appendix D for more details)

GLIE-8500 (GLIER Multidisciplinary Graduate Seminar): This course is taken over the first two semesters and is worth six credits. **Following successful completion of this course, all M.Sc. students will be required to continue registering in this course as an audit.** To audit a course, you have to fill out a 'Add Course Form'. Please ask the graduate secretary for this form. On the form, please indicate the reason for your request as 'Requesting to audit course (GLIER 8500) as per program requirements to graduate' You will send this form back to the Grad Secretary.

GLIE-8700 (GLIER Environmental Research Proposal): This course is taken within the student's first semester. The research proposal developed here will be submitted to and evaluated on a pass/fail basis by the student's Advisory Committee in their 1st advisory committee meeting.

Note: The student must maintain an average grade standard of (77%). Any student whose performance is deemed unsatisfactory in course work or research may be required to withdraw from the program.

Research Requirements:

In each term, you must register for the Master's Thesis (GLIE-8970), which will appear as IP (In progress) on your transcript until thesis submission, when it will be changed to P (pass), or you complete a transfer talk to switch to the PhD program. You will conduct research under your supervisor's direction and write a thesis. Your supervisor can advise on what is an acceptable quantity of material for an MSc student in your specific field of Environmental Research. They can advise you on drafting your thesis. Some great suggestions for choosing a thesis or dissertation research topic can be found in the following website, here.

Information on the thesis format, thesis submission and the defense process are given in Appendix A

MSc Committee Composition:

Advisory Committee:

The Master's thesis advisory committee will consist of:

1. A research supervisor or co-supervisors from the program. The supervisor or at least one co-supervisor must have full graduate faculty status. Refer to the list of **current graduate faculty members**.
2. Two other readers from the University of Windsor.
3. Additional members may be added with the approval of the program coordinator and the Executive Committee of the Faculty of Graduate Studies.

The majority of the members of an Advisory Committee, including your Advisor, must have graduate faculty status. Adjunct Faculty can be on Committees except sole Advisor (i.e., they can be a co-Advisor). Some committees may have additional members called "Special Members" with specialized skills.

You must have submitted a Master's Thesis / Doctoral Dissertation Committee Form within your first term of study.

You are expected to meet with your Advisory Committee once every six months. Prior to your meeting you are expected to submit a Research Progress Report (See Appendix C) to your committee. This report will include a synopsis of their current research activity and your plans for the next six months and is utilized by the committee to discuss progress and research plans.

M.Sc Advisory Committee Checklist:

Name of Committee Member	Position on Committee
	Supervisor
	Reader
	Reader

Examination Committee:

1. Your Advisory committee (Supervisor, Internal Program Reader, External Program Reader)
2. Chair: Master's students are responsible for finding their own chair. However, you can seek assistance from the Graduate Secretary or the Graduate Coordinator if you are having trouble securing a Chair.

M.Sc. Examination Committee Checklist (Defense):

Name of Committee Member	Position on Committee
	Chair (non-voting member)- Selected by student
	Supervisor
	Reader
	Reader

***More information on Committee Composition can be found in Appendix E.**

Examinations:

Thesis Defense:

Your thesis will take place at the end of your studies after you have completed a satisfactory original research paper as determined by both you and your supervisor. A Master's thesis defense usually takes

about 2 hours in total. In the first 15-20 minutes you and your committee will be introduced to the audience by the Chair after which you will make an oral presentation (typically 15-20 minutes) summarizing the chief conclusions of the thesis or dissertation. The Chair will ask for questions from the general audience (Committee Members will withhold questions at this time).

After a short (five to ten minute) recess, you will retire to the Boardroom at GLIER, where the Committee Members will take turns asking you questions. One round of questioning usually lasts for about an hour, and so with multiple rounds, it can go on for several hours. The order of questioners and types of questions posed are moderated by the Chair, whose role is to ensure fairness. The Chair may participate in the questioning but won't necessarily do so. Once the questions are over, the candidate and members of the audience are excused (you will likely wait in your Grad Office).

The Committee evaluates both the written thesis/dissertation, your presentation and your handling of the questions asked (from both the general audience and the Committee Members). Specific revisions may be put forward as a prerequisite for recommending that the candidate be passed. Once they have made their decision, you will be recalled and advised of the outcome of the deliberations.

Similar to the Comprehensive Exam, you will receive an immediate verbal report, followed within 24 hours by a one-page letter (you can see the "Report form" here under "Thesis and dissertation forms") written by the Chair and copied to you, your Advisor, each of your Advisory Committee Members, the Chair of the Departmental Graduate Committee and the Graduate Secretary, who will place the report in the your file.

Who can be there?

Defenses are advertised across campus and are open to the public. They are held in the Alex Davidson Conference Center for Environmental Excellence, (Rm 250). Questions from the general audience are permitted at the discretion of the Chair. The general public may also attend the committee-questioning period that follows the presentation and held in GLIER's Boardroom. The audience may remain until the Committee begins its deliberations. If they elect to stay through the question period, they must remain seated and silent throughout the entire process and must leave before deliberations.

What results can I get?

Pass with no changes

Pass with minor changes

If there are only small revisions needed (e.g., typographical errors, clarification of textual material, qualification of conclusions) your Advisor can sign off on them.

Pass with major changes

If major revisions are required (e.g., new analyses, substantive textual changes) your Examining Committee will need to lay out very clearly what is required for completion.

Fail but can resubmit

If more than one negative vote is cast, you will meet with your Advisor, the Graduate Program Chair and the Dean of Graduate Studies to determine your options and resubmit between three and twelve months after your initial grade is given.

Fail

Must be unanimously negative. You may not resubmit your defense and must withdraw from the program.

If the Committee has agreed to a Pass or a Pass with minor changes, your committee can then immediately sign your thesis signature page. Please make sure signatures are done in **black ink** – otherwise, your thesis will be returned by the library thesis-formatting group and need to be redone.

For Pass with major changes, your committee will hold off signing the thesis signature page until you have made the corrections and notified the committee of them– either through a written synopsis or individual meetings with the members. Some members may ask to re-read the thesis before signing.

MSc. Timeline:

The Faculty of Graduate Studies stipulates a minimum duration of a Masters degree as one calendar year and maximum duration of three consecutive calendar years. The normal duration of a research-based MSc at GLIER is two calendar years.

Your supervisor is best placed to guide you in terms of the quantity/quality of research which is considered appropriate for an MSc in your specific field. Students registered in the MSc program should consult regularly with their supervisors about timelines and progress towards completion.

In Every Term:

- Register for the Masters Thesis (GLIE-8970)
- Sign up for Graduate Assistantship (GA)
- Check emails, Department website, and the Faculty of Graduate Studies website for information on forthcoming scholarship applications. See Scholarships and Awards (Appendix B).

Term 1: Register for GLIE-8500 (GLIER Multidisciplinary Graduate Seminar), GLIE-8700 (GLIER Environmental Research Proposal) and GLIE-8970 (Thesis). Arrange your supervisory committee and submit the committee form (see standard forms, Appendix C). The committee form must be submitted before the end of your first registered term.

Term 2: Register for GLIE-8500 (GLIER Multidisciplinary Graduate Seminar) and GLIE-8970 (Thesis).

Term 3: Arrange a meeting of your supervisory committee to discuss annual progress. Submit an annual Progress Report by **May 31** (see Standard Forms, Appendix C). You may also wish to discuss with your supervisor and/or committee about a transfer to the PhD program at this time.

Term 4: If you wish to transfer to the PhD program arrange a meeting with your supervisor and your supervisory committee. The supervisory committee must recommend the transfer, in writing, based on demonstrated excellence in research and provide evidence of a complete plan of research for the doctoral degree. Once confirmed by your committee you would submit a transfer form (see standard forms, Appendix C) to the Faculty of Graduate Studies.

Term 5: Discuss a timeline for completion with your supervisor

Term 6-7: Arrange a meeting of your supervisory committee to discuss annual progress. Submit an Annual Progress Report prior to **May 31** (see standard forms, Appendix C). Discuss a timeline for completion with your supervisory committee. Complete drafting of the thesis and defense of the thesis

– liaise with the Graduate Secretary with respect to deadlines when nearing completion (see Appendix A). Once a thesis defense date has been set, you should apply to graduate.

A list of additional important academic dates can be found here.

Transferring from a M.Sc. to a Ph.D. program:

The M.Sc. to Ph.D. transfer program is a well-established custom in the Sciences for "fast-tracking" graduate students who have demonstrated outstanding progress in both course work and research after one full year of their M.Sc. studies.

This process allows a student to enter the PhD program without first completing the Master's degree. **Recommendations from the program must be made no earlier than Term 3, and be approved prior to the completion of Term 4 of the Master's degree. Recommendations received beyond the end of Term 4 will not be considered.** To be eligible, the student must have completed all graduate courses for the Master's degree and must have obtained a minimum 80% average. The supervisory committee must recommend the transfer, in writing, based on demonstrated excellence in research and provide evidence of a complete plan of research for the doctoral degree. All applications must be approved by the Faculty of Graduate Studies.

The requirements are:

- Completion of at least one graduate level course (3 credits) with no grade(s) lower than 80% or "satisfactory" for all coursework.
- At least one first-author journal article submitted.
- Exceptional progress in coursework and research.
- Registered in the M.Sc. program full-time for between 12 and 15 months.
- Approval of your Advising Committee. If this is unanimous, then you can transfer with a minimum of paperwork. If there is one or more objections, your request will have to go in front of the GLIER Graduate Committee.

Deadlines for MSc-to-PhD transfer:

INTENDED PHD START TERM	DEADLINE DATE FOR TRANSFER
Winter	October 1
Summer	February 1
Fall	June 1

Doctoral Program Requirements:

Duration:

- Duration= 3-7 years

The Faculty of Graduate Studies stipulates a minimum duration of a PhD degree is three calendar years of full-time study and a maximum of seven consecutive years if a student enrolled directly into the PhD program or six consecutive years if a student has one year's advance standing (e.g. already holds a master's qualification).

Program Requirements:

- Students must complete GLIE-9800 (GLIER Multiple Stressors and Environmental Modelling), GLIE-8500 (GLIER Multidisciplinary Graduate Seminar), and GLIE-8700 (GLIER Environmental Research Proposal).
- Successfully pass the Oral Qualifying Examination
- Publication of at least one original research article derived from the dissertation in a peer-review journal
- Submission of at least one additional article derived from the dissertation in a peer-review journal
- Undertake original research, write and defend a PhD dissertation satisfactorily.

Coursework:

A total of three graduate level courses are required prior to the thesis defense (See Appendix D). These include:

GLIE-9800 (GLIER Multiple Stressors and Environmental Modelling): Taken over the course of 2 semesters. Unfortunately, the GLIE9800 course is not currently offered at GLIER. You will need to discuss a course substitution suggested by your advisor. Past students have taken a course in the department of Biology as a substitution. You will need to fill out this form: Course Substitution Form (uwindsor.ca) and have your advisor and grad coordinator approve the form first before sending to Grad Studies for final approval.

GLIE-8500 (GLIER Multidisciplinary Graduate Seminar): Successful completion of the GLIER Multidisciplinary Graduate Seminar course (this course is taken over two semesters). **All Ph.D. students who have successfully completed this course will be required to continue registering in this course as an audit following their first year of residency.** To audit a course, you have to fill out a 'Add Course Form'. Please ask the graduate secretary for this form. On the form, please indicate the reason for your request as 'Requesting to audit course (GLIER 8500) as per program requirements to graduate' You will send this form back to the Grad Secretary.

GLIE-8700 (GLIER Environmental Research Proposal): This course is taken within the student's first semester. The research proposal developed here will be submitted to and evaluated on a pass/fail basis by the student's Advisory Committee in their 1st advisory committee meeting.

Note: The student must maintain an average minimum grade of 77%. Any student whose performance is deemed unsatisfactory in course work or research may be required to withdraw from the program

Research Requirements:

In each term, you must register for the PhD Dissertation (GLIE-8970), which will appear as IP (In progress) on your transcript until dissertation submission, when it will be changed to P (pass).You will conduct research under your supervisor's direction and write a dissertation. Your supervisor can advise on what is an acceptable quantity of material for an PhD student in your specific field of Environmental Research. They can advise you on drafting your dissertation. Some great suggestions for choosing a thesis or dissertation research topic can be found in the following website, here.

Information on the dissertation format, dissertation submission and the defense process are given in Appendix A

PhD Committee Composition:

Advisory Committee:

The Doctoral advisory committee will consist of:

1. A research supervisor or co-supervisors from the program. The supervisor or at least one co-supervisor must have full graduate faculty status. Refer to the list of **current graduate faculty members**.
2. Two internal program readers - faculty members from the student's program.
3. One outside program reader from the University of Windsor. **The outside program reader may not be cross appointed to the program in which the student is registered.**
4. Additional members may be added with the approval of the program coordinator and the Executive Committee of the Faculty Council of Graduate Studies. The majority of the committee members must have graduate faculty status. Review the guidelines on **committee composition.**
5. For the final oral defense of the dissertation the committee will be supplemented by an independent external examiner. Refer to the **external examiner guidelines**.

The majority of the members of an Advisory Committee, including your Advisor, must have graduate faculty status. Adjunct Faculty can be on Committees except sole Advisor (i.e., they can be a co-Advisor). Some committees may have additional members called "Special Members" with specialized skills.

You must have submitted a Master's Thesis / Doctoral Dissertation Committee Form within your first term of study.

You are expected to meet with your Advisory Committee once every year. Prior to your meeting you are expected to submit a Research Progress Report (See Appendix C) to your committee. This report will include a synopsis of their current research activity and your plans for the next year and is utilized by the committee to discuss progress and research plans.

Doctoral Advisory Committee Checklist:

Name of Committee Member	Position on Committee
	Supervisor
	Internal Program Reader (GLIER Faculty member)
	Internal Program Reader (GLIER Faculty Member)
	External Program Reader (From department outside of GLIER)

*Because GLIER Faculty are cross appointed to other departments, they can act as either Internal or External readers, provided you already have a GLIER Internal reader. The same applies for GLIER Hybrid Faculty (i.e., those who are from outside departments granted hybrid status to GLIER).

Examination Committee:

The Doctoral Examination Committee will consist of:

1. Your advisory committee (Supervisor, 2 Internal Program Readers, An External Program Reader)
2. A Chair (a non-voting member appointed by the Dean of Graduate Studies)
3. External Examiner (A subject expert from outside of the University of Windsor appointed at least 8 weeks prior to your defense)

Doctoral Examination Committee Checklist (Comprehensive Exam & Dissertation):

Name of Committee Member	Position on Committee

	Chair (non-voting member)- Selected by Dean of Graduate Studies
	Supervisor
	GLIER Faculty member
	Internal Program Reader (GLIER Faculty Member)
	Internal Program Reader (GLIER Faculty Member)
	External Program Reader (From department outside of GLIER)*
	External Examiner (Outside of UWindsor- appointed at least eight weeks prior to your defense)

***More information on Committee Composition can be found in Appendix E.**

Oral Qualifying Examination:

Students in the PhD program are required to complete an oral comprehensive examination:

- within the first two years of beginning their program to ensure that you have both a reasonable mastery of your specialized field and knowledge of broader areas of Environmental Science

The Ph.D. Oral Qualifying Examination is intended to explore the breadth and depth of a Doctoral student's knowledge and is considered one of the most important examinations in the doctoral training program. Advancement to candidacy is contingent on the successful completion of this Examination. During the Examination, the student will be expected to demonstrate a comprehensive understanding of all aspects of their research project. The examining committee should expect that greater knowledge will be evident on topics closer to the student's area of expertise, although any aspect of Environmental Research can be the focus of questions. This Examination is not an evaluation of the student's research proposal, nor exclusively of knowledge central to the student's research topic; it is a wide-ranging exam with the goal of evaluating the student's knowledge, with a focus on their area of special expertise. Passing your Comprehensive Exam is a key milestone in your progression towards your PhD qualification. Questioning is typically challenging and is meant to review how you might perform in the oral defense for your PhD. The Examination is undertaken by your Supervisory Committee

Format:

Students should approach their Advisory Committee **six months before the scheduled exam date and begin preparing for their exam then** though their advisor may recommend starting earlier. You are strongly encouraged to meet with your Advisory Committee Members to discuss likely knowledge areas where they may concentrate their questions to help you focus your study direction. They may provide you with materials, such as journal articles or book chapters.

Once a date for your comprehensive Exam has been finalized, a neutral Chair will be selected by the Dean of Graduate Studies for your exam. It is usual that a faculty member from the program be the chair. **Begin this process as soon as possible to ensure it is in the faculty member's calendar**. Then please inform the Graduate Secretary so she can prepare an information folder for the Chair.

The examination takes approximately three hours. First the Chair will explain how the examination will proceed, then there will be two or three rounds of questions, where each examiner takes about 15 minutes to ask a series of questions. The person who starts the questions is the most external and the order moves to the most internal (your Advisor). The Chair and your Advisor may take notes to help identify areas of strengths and those that may need improvement.

Once questions have completed you will be asked to step out of the room – you're usually asked to wait in your Grad Office; someone will come to get you when they are ready. To help focus the discussion on the student's performance (and avoid gut-feeling or arbitrary decisions), the Examining Committee discuss each of the questions on the "Grading Rubric for Oral Comprehensive Examination" and complete it together. While the Chair doesn't vote, they do moderate the discussion and provide feedback on how this examination compares to previous exams in the department.

After the vote is complete, you are invited back into the room and the result is reported immediately by the Chair– this typically takes about 5 to 20 minutes. Five results are possible: Pass with Distinction, Pass, Conditional Pass, Repeat Exam, and Failure. The verbal report is followed within 24 hours by a report written by the Chair of the exam, and includes the "Grading Rubric." The written report is copied to you, your Advisor, each of your Advisory Committee Members, the Graduate Program Chair and the Graduate Secretary, who will place the report in the student's file.

In the event of a Failing Grade or Conditional Pass?

- If this was your first attempt at the exam you will be given a "Repeat Exam" result. You can re-take the exam within six months of the first. If you fail the second exam, you must withdraw from the Ph.D. program.
- If you receive a "Pass with Conditions", you will have to fulfil some conditions to proceed, such as specific reading, writing, or course completion tasks. These will be spelled out in the Chair's submission including the names of the people who will evaluate whether these criteria have been met. Failure to meet these conditions before your PhD defense will render you ineligible to defend.
- If your initial performance is particularly poor (showing limited progress and/or limited insight into your research and the relevant scientific literature), then your Committee may determine that you will not be allowed to repeat the Examination. You may be requested to withdraw from the Ph.D. program immediately.

The Comprehensive Exam Report Form (see below) will be provided by the Graduate Secretary and must be completed, signed and returned to the Graduate Secretary who will upload the Form to UWinsite.

Question	Satisfactory	Somewhat satisfactory (*Needs improvement*)	Unsatisfactory (*Needs much improvement*)
Did the student demonstrate an understanding of the basic principles of their discipline (e.g., biology, biogeochemistry, environmental science)?			
Did the student demonstrate an understanding of the ideas in their area of speciality (e.g., evolution, animal behaviour, toxicokinetic, trophic ecology)?			
Did the student demonstrate an ability to put their research ideas into the context of previous research findings and the work of others?			

Did the student demonstrate a capacity to reason through challenging questions?			
Did the student demonstrate an understanding of the important methods and techniques in their area of specialty (e.g., genetics, stable isotopes, redox chemistry, and bioenergetics)?			
Did the student demonstrate an understanding of experimental design and data analysis approaches appropriate to their sub-discipline?			
Does the student have sufficient general scientific knowledge to become a recipient of a Ph.D. degree from GLIER- University of Windsor?			

Outcome	*Explanation*
Pass with Distinction	*Answer is "Satisfactory" to every question or nearly every question and the student demonstrated mastery well beyond the accepted level. A rare distinction.*
Pass	*Answer is "Satisfactory" to most questions with very few answers of "Unsatisfactory".*
Conditional Pass	*Answer is "Satisfactory" or "Somewhat" for many questions and "Unsatisfactory" to several questions.*
Repeat Exam	*Answer is "Unsatisfactory" to many questions.*
Failure	*Answer is "Unsatisfactory" to many questions and it is the student's second attempt.*

Dissertation:

Your dissertation defense will take place at the end of your studies after you have completed a satisfactory original research paper as determined by both you and your supervisor. A Dissertation defense usually takes about 3 1/2 hours in total. In the first 15-20 minutes you and your committee will be introduced to the audience by the Chair after which you will make an oral presentation (typically 30-45 minutes) summarizing the chief conclusions of the dissertation. The Chair will ask for questions from the general audience (Committee Members will withhold questions at this time).

After a short (five to ten minute) recess, you will retire to the Boardroom at GLIER, where the Committee Members will take turns asking you questions. One round of questioning usually lasts for about an hour, and so with multiple rounds, it can go on for several hours. The order of questioners and types of questions posed are moderated by the Chair, whose role is to ensure fairness. The Chair may participate in the questioning but won't necessarily do so. Once the questions are over, the candidate and members of the audience are excused (you will likely wait in your Grad Office).

The Committee evaluates both the written thesis/dissertation, your presentation and your handling of the questions asked (from both the general audience and the Committee Members). Specific revisions may be put forward as a prerequisite for recommending that the candidate be passed. Once they have made their decision, you will be recalled and advised of the outcome of the deliberations.

Similar to the Comprehensive Exam, you will receive an immediate verbal report, followed within 24 hours by a one-page letter (you can see the "Report form" here under "Thesis and dissertation forms" or in Appendix A) written by the Chair and copied to you, your Advisor, each of your Advisory Committee Members, the Chair of the Departmental Graduate Committee and the Graduate Secretary, who will place the report in the your file.

Who can be there?

Defenses are advertised across campus and are open to the public. They are held in the Alex Davidson Conference Center for Environmental Excellence, (Rm 250). Questions from the general audience are permitted at the discretion of the Chair. The general public may also attend the committee-questioning period that follows the presentation and held in GLIER's Boardroom. The audience may remain until the committee begins its deliberations. If they elect to stay through the question period, they must remain seated and silent throughout the entire process and must leave before deliberations.

What results can I get?

Pass with no changes

Pass with minor changes

If there are only small revisions needed (e.g., typographical errors, clarification of textual material, qualification of conclusions) your Advisor can sign off on them.

Pass with major changes

If major revisions are required (e.g., new analyses, substantive textual changes) your Examining Committee will need to lay out very clearly what is required for completion.

Fail but can resubmit

If more than one negative vote is cast, you will meet with your Advisor, the Graduate Program Chair and the Dean of Graduate Studies to determine your options and resubmit between three and twelve months after your initial grade is given.

Fail

Must be unanimously negative. You may not resubmit your defense and must withdraw from the program.

If the Committee has agreed to a Pass or a Pass with minor changes, your committee can then immediately sign your thesis signature page. Please make sure signatures are done in **black ink** – otherwise, your thesis will be returned by the library thesis-formatting group and need to be redone.

For Pass with major changes, your committee will hold off signing the thesis signature page until you have made the corrections and notified the committee of them– either through a written synopsis or individual meetings with the members. Some members may ask to re-read the thesis before signing.

PhD Timeline:

The Faculty of Graduate Studies stipulates a minimum duration of a Masters degree as 3 calendar years and maximum duration of 7 consecutive calendar years. The normal duration of a PhD at GLIER is 4 calendar years.

Your supervisor is best placed to guide you in terms of the quantity/quality of research which is considered appropriate for a PhD in your specific field. Students registered in the PhD program should consult regularly with their supervisors about timelines and progress towards completion.

In Every Term:

- Register for their Dissertation (GLIE-9980)
- Sign up for Graduate Assistantship (GA)
- Check emails, Department website, and the Faculty of Graduate Studies website for information on forthcoming scholarship applications. See Scholarships and Awards (Appendix B).

Term 1: Register for GLIE-8500 (GLIER Multidisciplinary Graduate Seminar), GLIE-8700 (GLIER Environmental Research Proposal), GLIE-9800 (GLIER Multiple Stressors and Environmental Modelling) and GLIE-9980 (Dissertation). Arrange your supervisory committee and submit the committee form (see standard forms, Appendix C). The committee form must be submitted before the end of your first registered year.

Term 2: Register for GLIE-8500 (GLIER Multidisciplinary Graduate Seminar), GLIE-9800 (GLIER Multiple Stressors and Environmental Modelling) and GLIE-9980 (Dissertation).

Term 3: Arrange a meeting of your supervisory committee to discuss annual progress. Submit an annual Progress Report by May 31 (see Standard Forms, Appendix C).

Term 4: Ensure you are registered for GLIE-9980 (Dissertation) and auditing GLIE-8500 (GLIER Multidisciplinary Graduate Seminar) for each semester onward.

Term 5/6: Meet with your committee to discuss and make arrangements for your Oral Qualifying Examination. Discuss with your committee topics they may be testing you on and begin preparing for your examination with the support of your supervisor. **Prior to the examination, you will need to have provided their Advisory Committee with a written research proposal outlining the background, approach and general expectations of the intended project.**

Term 7: Complete your Oral Qualifying Examination. Complete any remedial work assigned from your Oral Qualifying exam and provide proof of completion to committee members.

Term 9: Discuss a timeline for completion with your supervisor

Term 10-12: Discuss a timeline for completion with your supervisory committee. Complete drafting of the dissertation and defense of the dissertation – liaise with the Graduate Secretary with respect to deadlines when nearing completion (see Appendix A). Once a dissertation defense date has been set, you should apply to graduate.

A list of additional important academic dates can be found here.

Graduation Requirements for MSc. And PhD:

M.Sc. and PhD. Defense Timeline & Checklist

Whether you are a master`s student or a doctoral student you will need to prepare to defend your thesis or dissertation. Here is a checklist to summarize the requirements for both:

Completed	*Requirement*	*MSc Timeline*	*PhD Timeline*
	Prospectus to Committee and GLIER Grad Secretary –at same time as 1st Committee Meeting	Within 6 months of Start Date	Within 12 months of Start Date
	1st Committee Meeting (FGS form, submit on UWinsite)	Within 6 months of Start Date	Within 12 months of Start Date
	2nd Committee meeting Final Meeting (Forms Internal)	Within 6 months of Defence N/A	1 year after 1st Committee Meeting Within 6 months of Defense
	Comprehensive Exam	N/A	Within 18 months of Start
	Journal Submission (must provide proof)	Prior to Graduation	Prior to Graduation
	Submission Accepted by Journal (This is a GLIER specific requirement, you must provide proof to the Grad Secretary)	N/A	Prior to Graduation
	Notify date of defence to Grad Secretary	3 weeks prior to Defence date	6 weeks prior to Defence date
	Defend Thesis/Dissertation	At least 1 month prior to Graduation	At least 1 month prior to Graduation
	Order Hardcopy of Thesis/Dissertation for Dept./self (Campus Printshop)	After defense	After Defense
	Apply for Graduation	Deadline set by FGS	Deadline set by FGS

Timeline Extensions

A student admitted to a PhD program must complete all requirements for the PhD. within six consecutive calendar years. Work on a Master's degree must be completed within three consecutive calendar years after the student's first registration. If an extension of the time limit becomes necessary, the student should address a petition to the Dean of Graduate Studies giving reasons for the request and plans for the completion of the work. A student who exceeds the time limit may be required to take additional qualifying examinations or additional course work, or both. You can request an extension from the Dean of the Faculty of Graduate Studies by submitting the Time Limit Extension Form through

UWinsite Student. Make sure to include a detailed timeline to completion and your advisor's signature is required.

Leave of Absence

As a full-time graduate student, you need to be **continuously registered** as a full-time student in the GLIER program. Please refer to the Categories of Registration on page 25 of the University of Windsor Graduate Calendar. If something occurs that will interrupt your studies, you can request a Leave of Absence from your program. The deadline to apply for a Leave of Absence is the posted registration add/drop deadline for each term (Leave of Absence Form). Instructions for submitting the form through UWinsite Student are found at the bottom of the Form.

Graduating Requirements for the Master of Science Degree in Environmental Science

Timeline:

MSc. Students need to completely finish their graduating requirements within 36 months of admission (3 consecutive years).

Coursework:

- **GLIER Multidisciplinary Graduate Seminar course:** Required by both MSc and PhD candidates. You must register for this in the fall **(GLIE 8500)** and winter term **(GLIE 8500B)**. In addition, **all** students are required to register for and audit the course every fall and winter term after they've obtained a grade. **Do NOT register for the GLIER Seminar Course if you plan to defend EARLY in the semester (i.e., by the Phase I deadline).
- **GLIER Environmental Research Proposal course (GLIE 8700):** only register for this course in your first year
- **GLIER MSc. Thesis (GLIE 8970)**: Ensure that you are registered for this course *every semester* (including Summer Intersession)
- Additional coursework required by your Examining Committee.
- Obtain B+ (77%) minimum in all coursework. Once classes are completed, it is good practice to double check your UWinSite account to ensure your transcript is complete and has all coursework accurately recorded including your thesis.

Research activities and submissions:

- Within the first 6 months, you will need to submit a written Research Proposal to your Committee. Usually in the first committee meeting. This will outline the background, approach and general expectations of the intended project.
- One journal article submitted for publication in order to graduate (but not required prior to the defense).
- At least 2 meetings with your Master's Committee: first meeting within six months of starting your program; at least one other six months prior to your thesis defense.
- Annual Report submitted to the Graduate Secretary by May 31 of each year. Specific original Annual Reports (i.e. Scholarship winners) will be forwarded to the Faculty of Graduate studies on their request.
- Master's thesis.

Final Examination:

- A public defense of your thesis before the Examining Committee. This should be completed at least three weeks before convocation. Please note that you must fulfill the requirements of your degree in order to graduate – i.e., having a paper submitted for publication. You can still defend your Master's without the submission requirement.

Graduating Requirements for the Doctor of Philosophy Degree in Environmental Science

Timeline:

You need to be completely finished within six consecutive years of admission if you entered the program with a M.Sc.; seven consecutive years if you transferred from a University of Windsor M.Sc. program.

Coursework:

- **GLIER Multiple Stressors and Environmental Modelling course**: Register for this course dependent on when you've started your program and when it is offered. If the course is offered, please talk to your supervisor and see if you can take a course substitution from another department within UWindsor or as an Ontario Visiting Graduate Student at one of the universities within Ontario. This will need to be approved by Graduate Studies so please reach out to the graduate secretary after getting approval from your supervisor.
- **GLIER Multidisciplinary Graduate Seminar course:** You must register for this in the fall **(GLIE 8500)** and winter term **(GLIE 8500B).** In addition, **all** students are required to register for and audit the course every fall and winter term after they've obtained a grade. **Do NOT register for the GLIER Seminar Course if you plan to defend EARLY in the semester (i.e., by the Phase I deadline).
- **GLIER Environmental Research Proposal course (GLIE 8700):** Only register for this course if it's your first year.
- **GLIER Dissertation (GLIE 9980):** Ensure that you are registered for this course *every semester* (including Summer Intersession)
- Additional coursework required by your Examining Committee.
- Obtain B+ (77%) minimum in all coursework. Once classes are completed, it is good practice to double check your UWinSite account to ensure your transcript is complete and has all coursework accurately recorded including your thesis.

Research activities and submissions:

- Within the first 18 months, you will need to submit a written Research Proposal to your Committee. This will outline the background, approach and general expectations of the intended project.
- Two journal articles: one accepted; one submitted.
- At least 3 meetings with your Doctoral Committee: the first meeting should be within 12 months of beginning the program; the second within 24 months of beginning the program and the final meeting 6 months prior to your dissertation defense.
- Annual Report submitted to the Graduate Secretary by May 31 of each year (Annual Report Form). Specific original Annual Reports (i.e., Scholarship winners) will be forwarded to the Faculty of Graduate studies on their request.
- Doctoral dissertation, which may include any journal articles you've produced during the course of your Ph.D. work.

Examinations:

- Oral comprehensive exam administered by Doctoral Committee during first two years of enrolment.
- A public dissertation defense before the Examining Committee.

Appendix A: Things to discuss with your Advisor early in your program

Your Project:

- What is the expectation about how long it will take you to complete your degree? What is the average time of completion of your Advisor's students?
- What responsibilities will I have that are unrelated to my thesis topic (e.g., training other, teaching assistantships, group research activities)?
- How do we set a clear plan of action for my research program to ensure it stays on track?
- When should I have this and how detailed should it be?
- How much input will the Advisor provide in establishing this plan?

Day to Day Activities:

- What is your official start date?
- Are there regular laboratory meetings?
- Will your Advisor be available to meet with you on a regular basis?
- What is the policy on use of laboratory equipment? Are items shared, or are individuals each responsible for their own equipment and supplies?
- What is the procedure for replacing consumables and ordering supplies and equipment?
- What is the policy for use and cleanliness of bench space, glassware, etc.?
- What is the policy on long-distance telephone calls? What is their long distance calling code (if to be provided)?
- How should my lab book be kept? How should I save my data for long-term storage?
- How often should we meet to assess my progress in research or courses?
- Who would you like me to communicate with first if I am having problems (e.g., lab manager, Advisor)?
- What is the best way for us to communicate regularly (e.g., e-mail, phone, face-to-face)?
- Will there be a regular "research group" meeting? What is my role in this?

Academic Concerns:

- When will you be expected to submit a research proposal?
- How will you select your research topic?
- Will your Advisor be absent for any extended periods of time (e.g., sabbatical, research leave, field work abroad)? If so, what arrangements will be made for interim supervision and provision of research supplies during the absence?
- Are you expected to conduct your research completely on your own; i.e., is collaboration with other students allowed or encouraged?
- Will laboratory assistance be available to help you with your research, culture maintenance, preparation of reagents and media, etc.?
- Will you be expected to assist with other laboratory projects that aren't directly related to your thesis? Is there compensation (e.g., monetary, acknowledgement, authorship, reciprocated assistance)?
- Are there courses you recommend I take beyond the required departmental courses? (What aspects do you perceive yourself to be lacking?)
- Who in the lab should I expect to get hands on training from?
- Will your Advisor expect you to be a Graduate Teaching Assistant in any specific courses?

- If direct transfer from a Master's into the Ph.D. program is a possibility, is the Advisor amenable to your applying for a transfer if you so desire? Will the Advisor expect you to apply for a transfer?
- What is the Advisor's policy regarding attendance and presentations at conferences?
- What are the expectations regarding publication of results of your thesis research and the ultimate disposition of data and or specimens?
- What are the expectations regarding authorship?

Financial Concerns:

- For how long will you be guaranteed financial support, and at what salary?
- What are the stipends for Research/Grad Assistant?
- What photocopy and printing costs will the Advisor pay for? If to be provided, what is the Advisor's photocopier code?
- What sundry items will be considered personal expenses; for what sorts of items can you expect to be reimbursed?
- If you are engaged in field work, will you be reimbursed for use of your own vehicle, food or accommodation costs?
- What about specialty field wear necessary for your research (e.g., waders)?
- Will you be provided with partial or complete financial support to attend conferences?
- Will the Advisor pay for publication and/or reprint costs?
- Will additional scholarships/bursaries, which I secure, be paid in addition to my stipend funding? Do you have any suggestions of where to apply?

Appendix B: Forms and UWinsite Student Help

The majority of the paperwork that you will need to complete will now be handled under your UWinsite Student account. Any forms you should need can be obtained through the Graduate Secretary. There are many helpful links and reference sheets on the Students Resources page. Below are some of the functions that you will probably use most often. Remember, GLIER Graduate Students ***must*** be registered in the Thesis Course each semester. The course code for the MSc Thesis course is GLIE 8970 and for the PhD Thesis course is GLIE 9980.

Enrolling in courses

1st. Login to UWinsite Student and select the Manage Classes Tile.
2nd. Click on the Class Search and Enroll tab on the left
3rd. Search for classes by entering a subject, course, topic, or by using Favourites or Recently Viewed
4th. Under Course Information select the desired course
5th. After reviewing the courses and times select a class and click NEXT
6th. Review the Class Preferences and Accept
7th. You may then Enroll or Add to Cart. Remember that adding courses to the Shopping Cart does not officially register you in the course.
8th. Click the radio button next to each class in your Shopping Cart and click Validate to submit your choices. A green check mark means the class is valid and a red X means the class is not valid. A class may not be valid for many reasons-including time conflicts, prerequisites, or if an instructor's permission required.
9th. OR in the Browse Course Catalog tab under the Manage Classes Tile you can search for keywords, available subjects, catalog number, or when the course is typically offered.

Uploading Forms

1st. Login to UWinsite Student and select the Research Tracking block.
2nd. Go to Service Request Management. Select Add New Value and Insert your SIN (Student Identification Number) and UWIN as the Institution.
3rd. In the Service Request Management page you must select a Category and a Type (see chart below). The subtype is your program (Environmental Science/GLIER), if you do not find Environmental Science use Earth and Environmental Science and add a note to your attachment stating that you are studying at GLIER.
4th. You will also need to save and submit any changes at this point. Once you have submitted any requests please contact the Grad Secretary so your Service Request can be reviewed and referred to the Grad Coordinator for approval at the program level and then forwarded to Grad Studies. Please email the Grad Secretary or Grad Coordinator to let them know there is a form to approve.

Program Activities	Research Activities
Course Substitution Form	Committee Members Form
Leave of Absence Form	External Examiner Form (PhD)
FGS Annual Report	Submit Thesis Supervisor Form
	Time Limit Extension Form

Applying for Graduation

1st. Login to UWinsite Student and click on the My Academics tile.

2nd. Click the Graduation Tile and select Apply for Graduation.
3rd. Select the term you anticipate to Graduate.
4th. Select your Delivery Option. If you are planning on attending convocation, select a time and how many tickets you need.
5th. After clicking Continue remember to Submit Application.

Note: There is also a helpful reference sheet, Apply to Graduate.

Here is the Convocation website for more details

Additional Help

There are three ways to find addition help with UWinsite Student:

- You can search your questions on askuwindsor.ca to find Knowledge Articles.
- You can visit UWinsite Student and scroll down to find the Student Resources where you will find training modules and videos on the most frequently used functions of UWinsite.
- You can email uwinsite@uwindsor.ca and the UWinsite Team will respond to you, they are very helpful.

Appendix C: Thesis/ Dissertation Format and Submission

Format of the Thesis

University templates are available on-line to ensure you complete the thesis according to the University standards: www.uwindsor.ca/graduate-studies/385/format-requirements.

It is important to use a university-approved template; a thesis requires a non-standard set of margins (particularly extra space on the left-hand side for binding). It is convenient to download a template at an early stage in the thesis writing process to ensure uniformity across the entire document.

Any questions regarding the preparation and formatting of a thesis or dissertation should be directed to Svetlana Georgieva (Faculty of Graduate Studies) at ext. 2104.

The thesis should contain both a declaration of originality and an approval page for signing by your Committee. Both these forms can be downloaded here:

www.uwindsor.ca/graduate-studies/360/student-forms

Timeline to the Defense

Final copies of the thesis must be in the hands of each committee member at least two weeks prior to the scheduled date of the Examination. Once thesis writing is well underway, you should consult with the Graduate secretary on current timelines for thesis submission in order to meet financial deadlines (so-called Phase I or Phase II) and/or to ensure your thesis is defended in good time to attend a specific University Convocation where you will receive your qualification.

Current information on timelines can be found under "Thesis and Dissertation Forms":

http://www.uwindsor.ca/graduate-studies/360/student-forms

Planning for your thesis defense starts several months before you intend to defend. The following is an approximate timeline but it is vital to consult with the Graduate Secretary to ensure you meet the relevant deadlines.

Please contact the graduate secretary to obtain the most recent checklist to help guide you towards your defense.

Eight weeks prior to tentative defense: After completing your Pre-Oral meeting, inform the Graduate Secretary at the Great Lakes Institute for Environmental Research of your intent to submit and defend your thesis/dissertation. The Graduate Secretary can submit the name of the external examiner decided upon at the Pre-oral meeting for approval by Graduate Studies. If the examiner has not previously undertaken examining duties at the University of Windsor, then the external examiner will be asked to provide a Curriculum Vitae which will be considered for approval.

Seven Weeks before the defense: The Graduate Secretary will obtain formal approval for the External Examiner from the Dean of Graduate Studies.

Five weeks before the defense: You will need to bring a printed copy of the dissertation to the Graduate secretary and obtain the form "Approval to Submit a Doctoral Dissertation for External Examination". This form, along with the dissertation, needs to be reviewed and signed by each doctoral committee

member. The Graduate Secretary will contact the committee members and confirm a defense date and time. This form can be found under “Thesis and Dissertation Forms”:

http://www.uwindsor.ca/graduate-studies/360/student-forms

Note: The date and time of the thesis/dissertation defense cannot be confirmed until the thesis is complete, so it is important to get your completed thesis/dissertation submitted as early as possible.

The Approval Form must be signed by all members of your Committee. Your committee has the right to read the thesis before signing the form. You should discuss this with them and allocate additional time if necessary for them to read the thesis.

At least four weeks before the defense: One hardcopy of the thesis/dissertation, along with the signed approval form, must be hand-delivered to the Office of Graduate Studies and Research. The Office of Graduate Studies will send the dissertation to the external examiner by courier. Ensure you give an extra day or two in addition to the four weeks in case of public/statutory holidays etc.

Note: If the external examiner requests an electronic copy, it is the Office of Graduate Studies who must send it out, not you!

Two weeks before the defense: An electronic or printed copy of the dissertation must be provided by the student to all members of the committee. The external examiner is required to provide a written report on the thesis/dissertation which must explicitly state whether the thesis can proceed to the defense.

One week before the defense: The Graduate secretary will post the defense notice.

Note: You are encouraged to attend the defense and questioning period for other MSc and PhD candidates to familiarize yourself with the procedure. You might also find it useful to attend other defenses which involve members of your Committee so you can identify potential lines of questioning which they may favor.

Appendix D: Financial Assistance

GLIER guarantees that students admitted into our program will receive at least $18K/year (M.Sc.) or $19K/year (Ph.D.). This funding may take the form of scholarships, Graduate Assistantships (GAs), salaried Research Assistantships (RAs) and/or summer stipends. Note that these are program minimums with actual stipends reviewed annually. In our latest review covering the period 2023-2025, all graduate students in our program received financial assistance that exceeded the Living Wage calculated for Windsor.

Tuition and Fees

The Cashier's Office provides a simple calculator to determine what your tuition and fees will cost annually.

Scholarships & Awards

The Faculty of Graduate Studies funding website has much of the information you will need on internal and external sources of funding. Graduate students are able to search for awards on the UWinAward Search webpage. Graduate students are expected to apply for all major scholarships for which they are eligible. For more information on how to apply to awards visit: Scholarships and Awards | Faculty of Graduate Studies (uwindsor.ca).

External Awards

There are some very prestigious awards available. The Student Affairs website has a few databases as well as online and UWin resources they recommend to help you start your search. Scholarship deadlines are all year long and some have very few applicants so it's always worth applying!

GLIER Endowment Awards

GLIER has a number of graduate awards exclusively for GLIER graduate students showing financial need. Graduate students will receive an e-mail from GLIER's Graduate Chair during the fall and winter notifying them of the GLIER awards available and giving details on how to apply.

Windsor Family Credit Union (WFCU) Environmental Science Scholarship

Awarded on the basis of merit to a Master's student in the GLIER Environmental Science program at the University of Windsor. Must be Canadian citizen or Permanent Resident, and show financial need. Value: $1,000.

Alex S. Davidson Award

Awarded to a Canadian citizen or permanent resident of Canada who shows financial need and is doing research on the Great Lakes. Value: $8,000.

Lum Clark Research Excellence Awards

Two awards are granted annually: one at the MSc level and one at the PhD level. The awards are made on the basis of exceptional research abilities as displayed in publications and presentations. Value: $1,000 each.

Great Lakes Institute for Environmental Research (GLIER) Research Award

Awarded to Ph.D. or M.Sc. students in GLIER's Environmental Science program on the basis of a meritorious publication record. Must be Canadian citizen or Permanent Resident, and show financial need. Value: $750.

Dr. Jill Crossman Environmental Research Scholarship

Awarded to a Ph.D. or M.Sc. student in GLIER's Environmental Science program or School of the Environment's Earth Sciences program with a minimum cumulative grade point average of 80%. Candidates must be conducting research focusing on environmental science, with a preference given to students concentrating on the areas of climate change, microplastics and/or hydrology. Submission of transcripts and a 500-word abstract outlining the student's research and the outcomes they hope to achieve is required. Value: $1,500.

Graduate Student Conference Travel Support Fund

Funds are often available to full-time graduate students who have made presentations of their research at an academic conference. The amount of each reimbursement will not exceed $500.00 CDN for travel within North America, and $750.00 CDN for travel outside of North America. For more information, check out the Faculty of Graduate Studies website. The application can be obtained at this link: Conference Travel Support Fund for Graduate Students.

Graduate Student Society

GSS gives out several scholarships ($500 each) every winter usually based on financial need. Applications are usually available in December and the deadline is normally in January (you will receive an e-mail from the Graduate Secretary). You can check the GSS website for details.

National and Provincial Scholarships

If you have an outstanding academic record (average A- in most recent two years of study) you may be in the running for a major external award. Evidence of research capability, previous research awards (such as NSERC Undergraduate Student Research Awards), and experience of research will also strengthen an application. See the Faculty of Graduate Studies website for more information.

UWin Endowment Awards

In the early fall, the Faculty of Graduate Studies sends out an e-mail with the current list of endowment awards available to graduate students (some are listed on their website). These can all be applied for through your UWinSite portal and normally should be completed by February.

Paid work

Graduate Assistantships (GAs)

As a GA, your duties may include preparation of laboratories or quizzes, teaching labs to undergraduate students, marking assignments and similar activities. The Faculty of Graduate Studies website has an excellent webpage with all the details on GA responsibilities. An orientation workshop and training (GA/TAcademy) is offered every fall explaining all of your rights, responsibilities and basic instruction. The Centre for Teaching and Learning offers development opportunities, support, feedback and training for interested GAs throughout the year.

A fulltime GA is 10 hours/week for one term (140 hours total). **M.Sc. students are guaranteed to hold three GA positions (one per semester) over two years**; **Ph.D. students can hold seven GA positions over four years**. Throughout the years, students have been fortunate enough to receive a 4th (M.Sc.) or 8th (Ph.D.) GA-ship (although they cannot be guaranteed). Keep in mind when a student transfers from the MSc to the PhD program the number of guaranteed GA positions resets to zero. This means you will be entitled to at least seven more appointments over the first four years.

Any GA-ships applied for after these guaranteed GA's are termed "grace GA" for one additional term, but this is dependent on teaching needs. The Office of Graduate Studies must approve any Grace GA's requested. **Note: that you cannot defer a GAship except under special circumstances. GAs are covered under the CUPE 4580 agreement.**

Research Assistantships (RAs)

These are awards funded from professors' research grants and the value varies by academic program. They can be either scholarship or salary depending on whether you are trying to secure income or facilitate your research (Research Assistantship Guidelines). Your supervisor may decide to either top-up your salary during the semester you are a GA or may reserve to pay you a lump sum during the summer semester.

Summer Stipends

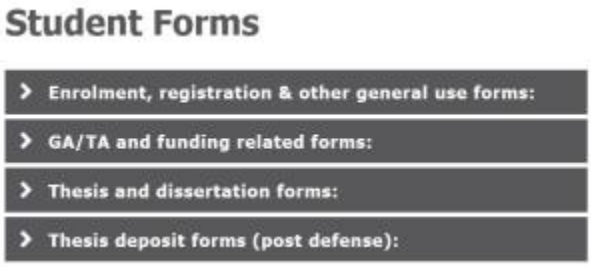
Because GA-ships are rare during the summer semester (given the number of courses taught during this time), students are paid through their supervisor's grants.

Appendix E: University Standard Forms

Current versions of standard forms can be downloaded from the Faculty of Graduate Studies website.

www.uwindsor.ca/graduate-studies/360/student-forms

The forms are currently stored under four categories:



- Download and complete the current version of the form and obtain signatures from your supervisor and/or committee members and the Graduate Coordinator.
- Once complete, the form should be returned to Nia Khuong the Graduate Secretary so that your Departmental record can be updated.
- The form then needs to be uploaded to UWinsite for formal approval by the Faculty of Graduate Studies.

Thesis/Dissertation Committee Form

When you have your first committee meeting, this is the form that will need to be signed by all your committee members. MSc students will need to fill out the MSc Thesis Committee Form and PhD students will need to fill out the PhD Dissertation Committee form. These forms can be found under Thesis and dissertation forms from the Faculty of Graduate Studies website or from the graduate secretary.

Second/Third Committee Form Research Progress Report:

Having a second or a third committee meeting will help you and your committee to track your progress. The second/third committee form is specific to GLIER and cannot be found on the Faculty of Graduate Studies website.

The form should be emailed to your committee every 6 months (MSc.) or 1 year (PhD), prior to a progress meeting with your committee. Utilizing the form you and your committee will discuss your progress, if your research is currently on track, and the best next steps to ensure you continue that progress or to move past any roadblocks you may have encountered. Please ask the graduate secretary for this form.

Annual Report Form

At the end of each academic year, you should complete an Annual Report Form highlighting your progress and a commentary from your supervisor on how they perceive your progress. This form should be submitted to the graduate secretary by May 30th of every year. You can obtain the annual report form under Enrolment, registration & other general use forms or the graduate secretary.

Transfer to the PhD Form:

At the very beginning of the fourth semester of study, many students will transfer from the MSc to PhD program. You will need to complete a Transfer to PhD Form and get a letter of recommendation from your advisor and a member of your committee or graduate coordinator. The form to request a transfer can be found at this link: Transfer from MSc to PhD Form

Appendix F: Coursework

ENVIRONMENTAL SCIENCE COURSE SEQUENCE SCHEDULE	
MSc.	
Year 1 - Fall	**Year 1 - Winter**
GLIE-8500A: GLIER Multidisciplinary Graduate Seminar	GLIE-8500B: GLIER Multidisciplinary Graduate Seminar
GLIE-8700: Environmental Research Proposal	GLIE-8970: Thesis*
GLIE-8970: Thesis*	
Year 1 - Summer	
GLIE-8970: Thesis*	
Year 2 - Fall	**Year 2 - Winter**
GLIE-8970: Thesis*	GLIE-8970: Thesis*
GLIE-8500A: GLIER Multidisciplinary Graduate Seminar *AUDIT*	GLIE-8500B: GLIER Multidisciplinary Graduate Seminar *AUDIT*
GLIE-8700: Environmental Research Proposal	
Year 2 - Summer	
GLIE-8970: Thesis*	
PhD.	
Year 1 - Fall	**Year 1 - Winter**
GLIE-8500A: GLIER Multidisciplinary Graduate Seminar	GLIE-8500B: GLIER Multidisciplinary Graduate Seminar
GLIE-8700: Environmental Research Proposal	GLIE-9980: Dissertation*
****GLIE-9800: Multiple Stressors and Environmental Modelling**	
GLIE-9980: Dissertation*	
Year 1 - Summer	
GLIE-9980: Dissertation*	
Year 2 -Fall	**Year 2 - Winter**
GLIE-9980: Dissertation*	GLIE-9980: Dissertation*
GLIE-8500A: GLIER Multidisciplinary Graduate Seminar *AUDIT*	GLIE-8500B: GLIER Multidisciplinary Graduate Seminar *AUDIT*
GLIE-8700: Environmental Research Proposal	
Year 2 - Summer	
GLIE-9980: Dissertation*	
Year 3 - Fall	**Year 3 - Winter**
GLIE-9980: Dissertation*	GLIE-9980: Dissertation*
GLIE-8500A: GLIER Multidisciplinary Graduate Seminar *AUDIT*	GLIE-8500B: GLIER Multidisciplinary Graduate Seminar *AUDIT*
GLIE-8700: Environmental Research Proposal	GLIE-8700: Environmental Research Proposal
Year 3 - Summer	
GLIE-9980: Dissertation*	

*Ensure that you are registered *every semester* (including Summer Intersession) for your "Thesis" or ""Dissertation" (Course number GLIE 8970 for MSc Students, GLIE 9980 for PhD Students).

**** Unfortunately, the GLIE9800 course is not currently offered at GLIER. You will need to discuss a course substitution suggested by your advisor. Past students have taken a course in the department of Biology as a substitution. You will need to fill out this form: Course Substitution Form (uwindsor.ca) and have your advisor and grad coordinator approve the form first before sending to Grad Studies for final approval.**

Students must obtain B+ (77%) minimum in all coursework. Once classes are completed, it is good practice to double check your UWinSite account to ensure your transcript is complete and has all coursework accurately recorded including your thesis. Additional coursework may be required by your examining committee.

Course Substitution requests

If you want to substitute a course external to the GLIER program instead of taking one of the required GLIER courses, you will have to get pre-approval from both the Graduate Coordinator and the Faculty of Graduate Studies as this will be a change to the approved program structure.

A list of courses available for substitution is listed in Appendix G.

I am defending close to the beginning of the term - do I need to register?

Yes, all graduate students must register and pay appropriate fees until actual completion of all of their degree requirements. Tuition refunds are available if all degree requirements, including the deposit of the major paper/thesis/dissertation, the scholarly article submission/acceptance requirements as per the program you are in, are completed by the posted Phase I and Phase II deadlines at the beginning of each term.

Taking graduate courses at another University (visiting student)

The Ontario Visiting Graduate Student program (OVGS) allows a graduate student at an Ontario University to take graduate courses at another Ontario University while remaining registered at his/her Home University. See the Faculty of Graduate Studies website for more information.

Appendix G: Optional graduate-level coursework available at the University of Windsor

Optional graduate-level coursework available at the University of Windsor

Beyond required coursework detailed as part of the requirements for M.Sc. and Ph.D. programs, students, in consultation with their advisor and/or Committee may wish to enroll in graduate-level courses offered in other departments. The list below is not all-inclusive and not all courses are offered each year. Students are encouraged to consult the Graduate Calendar (https://www.uwindsor.ca/registrar/485/academic-calendars) to identify a full selection of courses and their descriptions that may be offered. To find out whether a particular course will be offered and to see details about 'Special Topics' classes, please see the Timetable (https://www.uwindsor.ca/registrar/541/timetable-information).

For students interested in receiving formal instruction in STEM pedagogy, courses are offered by the Faculty of Science:

SCIE-8000. Theory and Practice of University Teaching and Learning in STEM
In this course, students will explore and critically evaluate current educational theory and practice relating to university teaching and learning in STEM (science, technology, engineering and mathematics). Students will be asked to critically evaluate their teaching beliefs and broaden their knowledge and skills by participating in classroom discussions and microteaching opportunities. (Prerequisites: Admission to a thesis-based master's or PhD program in the Faculty of Science and consent of the instructor.) (3 credits.)

SCIE-8001. **STEM Teaching Development**
In this course, students will be asked to select an undergraduate or graduate course in their discipline and work with a faculty mentor to redesign, teach and assess one unit in that course. A "unit" is defined as the equivalent of three 50-minute lectures, or one 3-hour laboratory session or tutorial. Through the practicum, students will explore course and curriculum design elements by producing a detailed lesson plan, and a strategy for assessment and evaluation of the success of teaching the unit. Students will be asked to critically reflect on their experience in this course by submitting reflective essays and participating in group discussions. Final experiences will be shared through a symposium poster presentation. (Prerequisites: SCIE-8000 and admission to a thesis-based master's or PhD program in the Faculty of Science and consent of the instructor.) (3 credits)

Additional graduate-level classes that may be of interest to Environmental Science graduate students, include:

BIOL-8004. Selected Readings in the Biological Sciences
Current publications on common themes of potential significance in students' area of study will be chosen for round table oral presentation and discussion. Multiple sections, each with enrollment of 8-12 students will be offered in the fall term of each year as required. This course is intended for graduate students in Biological Sciences only. (2 discussion hours a week.)

BIOL-8008. Special Topics in Biological Sciences
Special Topics in the Biological Sciences courses may be used to introduce a new graduate offering, typically on a "trial" basis. Approved courses taken at Wayne State University or elsewhere, or courses offered by visiting professors may also fall into the category of Special Topics in the Biological Sciences. A limited number of these courses may be included in the program of graduate student.

BIOL-8014. Selected Readings in the Biological Sciences
Current publications on common themes of potential significance in students' area of study will be chosen for round table oral presentation and discussion. Multiple sections, each with enrollment of 8-12 students will be offered in the winter term of each year as required. This course is intended for graduate students in Biological Sciences only. (2 discussion hours a week.)

BIOL-8018. Techniques in Molecular Biology
A course designed to introduce the student to a variety of biochemical, cellular, and molecular techniques. This course is composed of a series of topics from which students are required to participate in a minimum of four. The topics include: chromatography, electrophoresis, immunocytochemistry, electron microscopy, cell culture, cloning and nucleic acid analysis, computer-based protein and nucleic acid analysis, and radioisotope methods. Students should consult with their research advisors and supervisory committees in choosing the topics for study. (Prerequisite: consent of instructor.) (2 lecture hours, 4 laboratory hours a week for selected experiments during the year, both terms.) (One term course credit.) (Offered in alternative years.)

BIOL-8208. Special Topics in Population and Environmental Biology
This is a regularly offered course covering subjects that reflect current graduate program needs and departmental expertise in specific areas. The course addresses one or more theme subjects in any particular term. Students receive a course credit for each term in which they register for this course provided that a particular theme is not repeated. Where a theme parallels an undergraduate course listing, students may be required to attend some portion of the undergraduate course as a prerequisite or corequisite. Subjects that may be offered as special topics include but are not limited to the following: animal behaviour; advanced topics in aquatic ecology; biogeography, conservation biology, ecotoxicology, quantitative ecology. (Prerequisite: consent of instructor.) (2-3 discussion hours and/or up to 5 laboratory hours a week.)

BIOL-8270. Fundamental Topics in Population and Evolutionary Biology
Major topics may include the evolution of mating systems, population structure and demography, population genetics and life history variation, theory of optimal resource use. (Prerequisite: consent of instructor.) (3 lecture/discussion hours a week.) (Offered in alternate years.)

BIOL-8280. Fundamental Topics in Community Biology
Major topics include niche and diversity theory, trophic complexity and community stability, assembly of guilds, ecosystem structure and function, biogeography. (Prerequisite/corequisite: BIOL-3250, or consent of instructor.) (3 lecture/discussion hours a week.) (Offered in alternate years.)

BIOL-8508. Special Topics in Molecular and Developmental Biology
This is a regularly offered course covering subjects that reflect current graduate program needs and departmental expertise in specific areas. The course addresses one or more theme subjects in any particular term. Students receive a course credit for each term in which they register for this course provided that a particular theme is not repeated. Where a theme parallels an undergraduate course listing, students may be required to attend some portion of the undergraduate course as a prerequisite or corequisite. Subjects that may be offered as special topics include but are not limited to the following: biology of cell transformation; electron microscopy; genetic engineering and its applications; advanced topics in immunochemistry; advanced topics in microbial physiology and ecology; advanced topics in physiology; plant hormones and development; virology. (Prerequisite: consent of instructor.) (2-3 discussion hours and/or up to 5 laboratory hours a week.)

BIOL-8900. Experimental Design and Analysis in Biological Research
Discussion of philosophical and quantitative approaches used to investigate biological systems, with emphasis on design and implementation of efficient and unbiased experiments. Students will use expertise acquired in lectures and readings to constructively evaluate their own and others' research proposals through round table discussions and individual presentation. (Prerequisite/corequisite: BIOL-3022, or consent of instructor.) (2 discussion hours a week.)

BIOL-8450. Sensory Ecology
This seminar/lecture course will examine interconnections between sensory biology and ecology as they relate to the evolution of signal reception. Special emphasis is placed on a comparative approach to understanding sensory neurobiology and the current state of the field of sensory ecology. (Note: It is recommended that students taking this course have completed Principal Neuroscience (55-258) or equivalent.)

BIOL-8400. Behavior and Physiology of Fishes
The goal of this course is to increase one’s understanding of current research in the behaviour and physiology in fishes by synthesizing and evaluating current literature, leading class discussions, assessing presentations of others and by preparing a review paper based on research ideas presented in the course. (Prerequisite: Any two of the following undergraduate courses or their equivalents from other universities: 55-204, 55-210, 55- 425 or 55-440.)

BIOC-8020. Structural Proteomics and Its Applications
This course provides an introductory overview of the technologies and practices in structural proteomics and its applications. It will cover the history, current status, and the workflow of high-throughput approaches to structural biology. It will introduce the concepts of drugability, target selection and validation, chemical probes, chemogenomics in modern drug discovery and the critical role of structural proteomics in these applications. Also, progress in several important protein families, such as kinase, methyltransferase, deubiquitinase, will be discussed. This course is intended for graduate students in life science major who have interests in protein structural biology, want to interface with structural biologists or utilize the knowledge in their study and research. (2 lecture hours/week.)

BIOC-8030. Integrative Biological Mass Spectrometry
This course will focus on the theory and applications of biological mass spectrometry. The most common types of ionization methods and mass analyzers will be thoroughly presented including data interpretation. A major part of the course will be to discuss the applications of this technique in identifying multiprotein complexes, mapping post-translational modifications, structural biology, and quantitative proteomics. Various techniques that are commonly interfaced with the mass spectrometer will be introduced in order to emphasize proper sample preparation and stimulate discussion on applying mass spectrometry to common biological research fields. (2 lecture hours/week.)

BIOC-8260. Analytical Toxicology
Analysis of drugs and other toxic substances in biological fluids. The metabolism of drugs as well as the symptomology of poisoning of common therapeutic drugs and the more common industrial chemicals will be discussed. (Prerequisites: BIOC-3100 and BIOC-3110, or consent of instructor.) (2 lecture hours a week.)

BIOC-8640. Advanced DNA Science
An advanced lecture and seminar course dealing with DNA science. The lectures cover the biochemistry of DNA and RNA at the molecular levels, the current research topics and their implications for the future research. The course also contains a seminar component in which a number of selected topics will be discussed and presented by and among participants. (Prerequisites: consent of instructor.) (2 lecture hours a week.)

COMP-8580. Topics in Bioinformatics
The purpose of this course is to present a representative sample of computational problems in molecular biology, bioinformatics, genomics and proteomics and efficient algorithms to solve them. Topics may include: molecular biology, sequence alignment, genomics database, protein structure protein interaction, phylogenetic analysis, RNA structure, gene regulation, functional genomics, microarrays. Students will be required to investigate selected problems/methods in computational biology and bioinformatics.

COMP-8590. Statistical Machine Learning
This course introduces the important elements of statistical learning. Statistical learning refers to a set of tools for modelling and understanding complex datasets. It blends Statistics with methods in machine learning, and its main goal is to “learn from the data”; that is: to extract important patterns and trends from the data, and understand “what the data says”. Topics include: linear methods for regression, linear methods for classification; resampling methods, model assessment and selection, regularization; non-linear models, basis expansions; tree-based methods; support vector machines, kernel methods; unsupervised learning. Additional topics may include: matrix factorization methods; network-based machine learning; kernel smoothing methods; model inference and averaging; boosting methods; neural networks; prototype methods; ensemble learning; graphical models; high-dimensional problems. The legal, societal and ethical implications of artificial intelligence and machine learning are also discussed.

COMP-8610. Neural Networks and Deep Learning
This course introduces the fundamentals of neural networks and deep learning. Neural network architectures are discussed along with their associated set of learning algorithms. Topics include: supervised and unsupervised learning, associative learning, competitive learning, probably approximately correct learning, adaptive learning, gradient-descent and optimization. Students will be required to investigate selected shallow and deep learning models of neural networks, including autoencoders; and convolutional, recurrent, recursive, adversarial and probabilistic networks. Applications of deep learning to computer vision, speech recognition, natural language processing, and others. The legal, societal and ethical implications of artificial intelligence and machine learning are also discussed.

ESCI-8720. Advanced Integration of Remote Sensing and GIS Techniques
Lectures, readings and practical projects will focus on image rectification, restoration, registration, and integration of digital photographic, multispectral scanner data, radar image data and ancillary data in a GIS environment. Multitemporal data merging, change detection procedures, and multi-source image classification decision rules will also be emphasized. (Prerequisite: ESCI-8710 or consent of instructor.) (3 lecture, seminar, and/or project hours a week.)

ESCI-8730. Environmental Modelling and Spatial Simulation
The modelling process; integrating environmental models and GIS; spatial heterogeneity and representative areal units; measurement scales vs. process scales; sensitivity and uncertainty analysis; model complexity; effects of input data quality; simulation model experiments; technical and conceptual limits of environmental modelling. Students will complete a small research project. (Prerequisite: ESCI-8710, or consent of instructor.) (3 seminar hours a week, plus project.)

Appendix H: Committee Composition

Your committee members can be one of your most valuable resources during your graduate work: they bring expertise to help you troubleshoot problems and experience to suggest different research lines you may want to pursue. They will review your experimental design and proposed analyses, approve your coursework, give you feedback and advice on your progress and participate in your examination(s). They are also the people most likely to write supportive letters of reference for scholarship or job applications! For more details, you can look at the sections on "Advisory Committees" on GLIER's site (M.Sc. and Ph.D.) and at the Faculty of Graduate Studies website.

Who do I need on my Advisory Committee?

An Advisory Committee needs to have at least:

- Your Thesis/Dissertation Advisor and/or co-advisor
- Internal Department Reader: one other GLIER faculty member (M.Sc.); two other GLIER faculty members (Ph.D.)
- Outside Department Reader: faculty member at UWin, but "outside" of GLIER*

*Because GLIER Faculty are cross appointed to other departments, they can act as either Internal or External readers, provided you already have a GLIER Internal reader. The same applies for GLIER Hybrid Faculty (i.e., those who are from outside departments granted hybrid status to GLIER). Other committee members -- including people outside of UWin from industry or government – can be included, but these three are mandatory

Who selects my Committee members?

Your Committee members will be selected with the advice and assistance of your Advisor.

Occasionally, new discoveries from your research may cause your research program to diverge to the point where the expertise of one or more of your Committee members is no longer relevant. You always have the option to revise your Committee membership to keep the expertise relevant to your research question (either adding or dropping). You can also bring even more expertise to your Committee by adding "Special Members" from industry, government or NGOs. Whenever there are changes made to your Committee you will need to resubmit your Committee membership form.

What do I need to do and bring for my Committee meetings?

You will need to inform your Graduate Secretary prior to your committee meetings. A Committee Meeting form can be found in at this link: MSc Committee Meeting form or the PhD Committee Meeting form. The Graduate Secretary can provide you with a committee meeting form as well. Fill out the form with your student ID#, the title of your research project, the anticipated date of the meeting and who the members of your committee are. Bring the form with you to your meeting. Your committee members will each need to sign the form, to officiate the creation of the committee and acceptance of your proposal. This signed form gets sent to the Faculty of Grad Studies (don't worry – the Grad secretary does this on your behalf).

You will also be required to provide the Graduate Secretary with either an e-copy or hard copy of the written proposal you will have submitted (and presented) to your Committee for your first official meeting.

Every subsequent meeting has an internal committee form. You can request a copy of this form from the Grad Secretary or this form can be found in Appendix C This is to make sure that everyone is aware of what you are doing, is in agreement with any changes to your thesis that may happen, and that you are indeed on track to defend.

Appendix I: Procedures and Policies

Research-Related

Academic Integrity

Academic dishonesty (e.g., plagiarism, cheating) can have a heavy cost to your academic career. The Academic Integrity Office has everything you need to avoid this pitfall, including interactive tutorials and twice-yearly workshops especially for international students, who may not be as familiar with North American citation and anti-plagiarism standards.

Appeals

All students have the right of appeal under Senate Bylaw 55 (see Section 1.12: Graduate Appeals). In addition to appealing informally (see Bylaw 55, section 1.12.1), if you feel you have been treated unfairly, you may submit an appeal of grade to the Dean of Graduate Studies. Read more at the Faculty of Graduate Studies website.

Boats

Boat users operate the vessels with the understanding that they or their Advisor are responsible for the repair of any damage other than routine wear-and-tear. Boat maintenance and safety issues can be addressed through the Animal Care/Field Technician. Boats may only be operated by individuals who have:

- received appropriate, department-approved instruction
- agreed to follow Departmental Guidelines regarding safety on field trips
- have a valid boat operator's license
- have MED A3 certification

Field Courses

Additional certifications and licenses may be required depending on your research needs. These can take a long time to receive, so discuss these issues with your Advisor early in your research. For example:

- If you will be taking a boat to collect fish through electroshocking, you would require:
    - Electroshocking course (three to four days; usually offered in the Spring)
    - First Aid and CPR. Necessary if you are going to take the electroshocking course.
    - Marine Emergency Duties A3 (MED A3) usually offered in spring through the University or Georgian College. Necessary if you will be in charge on any water-going vessel for work reasons.
- If you will be working with a government agency collecting and studying live samples of endangered species, you could potentially require:
    - Fish Collection Permit (OMNR)
    - Fish Transport Permit (OMNR)
    - SARA permit (DFO)
    - Animal Care course (UWin)
    - Animal Utilization Project Protocol (UWin)
    - Research Agreement or other documents relating to intellectual property and/or insurance

Fieldwork

Talk to your Advisor, the Field Safety Coordinator/Animal Care/Field Technician and experienced lab mates to get their advice about planning and conducting field research. Here are some general things to keep in mind.

- Will you have to transport any controlled substances (e.g., non-native plants, biohazardous materials, controlled substances like ethanol)? This can especially be a problem crossing borders.
- Have you taken appropriate safety courses?
- Do you have reliable safety equipment (e.g., Personal Flotation Device, First Aid Kit)?

- Have you let people know your plans: where you are going, when you will be back and who to contact? If you have taken a boat, ensure that the Animal Care/Field Technician also has this information.
- Are you traveling with another person? Always do fieldwork in pairs.
- Do you have all your permits with you?
- Never conduct field research in hazardous weather conditions.
- Have you developed a sample labeling system?
- What kind of preservative will best store any samples?
- Do you have any special shipping considerations (e.g. do you have samples that need to be frozen?)?
- Will you need refrigeration at the site?
- What other equipment/supplies/instruments are required that you will need to bring in with you?

Fume Hood Alarms

After a power fluctuation or outage, fume hood alarms may sound; these can simply be muted. If there is a fume hood that is continuously sounding, notify the owner of the fume hood.

Major Equipment Malfunction

In the event of a malfunction of major equipment (e.g., freezers) during business hours please contact the Secretary to the Director. If it is outside of regular business hours, check to see if there is a name and telephone number of a contact person and attempt to contact this individual right away.

Reimbursement

What is reimbursed?

Some of your expenses -- such as field course and supply costs and travel expenses -- may be reimbursable. It is completely up to the individual Advisor what they will reimburse, so make sure to find out. Make sure you are completely clear on what they will pay for, including *per diem* and mileage costs *before* you take your trip!

How can I pay for travel costs?

Some Advisors have Travel VISAs, which they may allow you to use. There may also be Travel Awards available to help defray costs. If you use the Advisors travel Visa you can submit your paperwork immediately after making your purchase and your Advisor will be reimbursed before their next credit card statement.

How do I apply for reimbursement?

Register for to the UWinFinance System

Before being reimbursed, you will need to be set up in the UWinFinance system as a 'Supplier'. This is done by completing a ticket to UWinsite Finance at this link: New Supplier Request. You need to include a project # on the ticket where the expenses will be charged to. Your supervisor will provide this to you.

The procurement office will review the ticket and send you a link to register in the self-serve supplier portal. You will be required to submit your information including banking details through the online form. Please note that the all reimbursements will be done via EFT (electronic funds transfer).

Once the procurement office reviews and approves your application, you will receive an approval email with further instructions to activate their Self-Service Supplier Portal account.

Once you have been set up on the financial system as a supplier, log into the UWinFinance system and follow these steps:

• Click on **Purchase Requisitions** (shopping cart) icon
• Choose **Payment Request** on the left-hand side of the screen under Request Form.

• You must go to the Item **Description** section and enter **payment request** for whatever it is that you purchased or a conference that you attended and the dates.
• **Category Name** is what you are claiming the expense for, example hotel accommodation.
• Next you enter the amount (without the tax) and the currency will be Canadian.
• On the **supplier** line you will enter your surname and it should put your information on the screen.
• Next you would click on **Add to Cart**. If you have additional expenses, you will add another one and then add that one to the cart also. Make sure that you add the actual receipt to each expense item.
• You can click on the cart and review your entries.
• For each line you must complete the **project number, task number** and **expenditure type**.
• Once all the information has been completed for all your expenses, click **save**
• Next you would click on Submit. At this point, an option comes up for you to print your report which you should do and keep your receipts with it.

Keep your receipts

Keep all relevant receipts– some students have found it convenient to have a pencil case where they store all their receipts and a small notebook to write down everything in case they lose their receipts (or just take a photo with your phone). Once you have returned from your trip, photocopy all of your receipts – a good way to do this is to tape or staple them all to sheets of blank paper before photocopying. If you are going to buy alcohol, try to get it on a separate receipt, as it **will not be reimbursed**.

Lost Receipts

If you have lost a receipt or if the receipt you have is not itemized then you will have to fill out a Lost Receipt Form. An *itemized receipt* has the following:

- Business Name
- Date
- Item(s) Purchased
- Price of Each Item
- Total Amount of Bill

Other items to keep

Air Travel

If you are asking for reimbursement for air travel, include receipt and boarding passes.

Conference

If you are asking for reimbursement for a conference, please include a print out of the relevant page(s) of the conference agenda with your presentation(s) circled as well as a photocopy of the cover of the program.

Vehicles

If you need access to a work vehicle for university-related business, your Advisor can e-mail the Secretary to the Director to say that you are approved to drive the GLIER vehicles. You will then need to provide a Driver's Abstract (Motor Vehicles Report; $12 – 16) and a photocopy of the front and back of your Canadian Driver's License. The Assistant to the Director will have a form that needs to be completed and signed so you will be covered by the University's insurance policy.

Your Advisor will book the vehicle for you. Drivers are required to replace any fuel used, fill out the log sheet (stored in the vehicle) and clean the vehicle after each trip.

Volunteers/Work Study Students/Undergraduate Research Assistants

If you need extra help you may decide to take on an undergraduate assistant (with your Advisor's approval). One option is to hire an Undergraduate Research Assistant (RA) -- either paid from your Advisor's grant or an UWin-paid Work Study student.

For either a grant-paid RA or a volunteer, you can ask your Advisor if they have been approached by any undergraduates requesting work experience in their lab. Alternatively, you can make up a PowerPoint slide or two outlining your needs and expectations and ask a professor to show them in their class.

Undergraduate assistants are especially useful if you have menial, repetitive tasks that are robust so you can train your assistant(s) quickly and then leave them to it. The student should be enthusiastic, responsible, organized and a quick learner. Work study and RAs will have fairly consistent hours; volunteers may have inconsistent and variable hours. All of these qualifiers mean that there are many situations where you get little to no benefit from hiring someone. Remember to offer a letter of reference from you and/or your Advisor and a record for their Co-Curricular Record.

Waste

If you are unsure of how to dispose of something, please take a look through the Chemical Control Centre website. There you will find information on:

- Chemical Waste
- Biological Waste
- Empty Containers
- Radioactive Waste
- Battery & Cell phone Recycling
- Toner Cartridge Recycling
- PCB Management
- E-waste

If you still can't find the answer to your question, please contact the Chemical Control (x3523, option #2). They will be very happy to answer any questions you might have.

Here are a few notes that are more GLIER-specific:

Biological/Geological Waste

Bacterial Plates (e.g., Agar)

Will need to be autoclaved in a red Biohazard bag. Check the autoclave instructions (Room 201) on how to prepare your samples.

Biological Samples

If you have a lot of Biological Samples, you can obtain a large cardboard barrel from CCC for their disposal (see CCC's chart); please let the Animal Care/Field Technician know, as, depending on the amount, he may have to arrange billing. If there is just a small amount, you can put it into a Biological Waste bag and store it in the fibre bin in the walk-in freezer overseen by the Animal Care/Field Technician. Note that this is biological waste *only* – not gloves, syringes, etc.

Soil, sand, stones

Small quantities of solid waste (discarded potting soil, aquarium sand, sediment, stones, etc.) can be placed in the garbage. Large quantities should be taken to one of the municipal 'clean fill' landfill locations for disposal. These materials should not be dumped into flower beds or on the grounds around the building.

Solid waste & Garbage

Broken glass

There should be a yellow broken glass container in your lab.

Cardboard Boxes

Can be placed in the GLIER hallway for pick up by the custodial staff.

Garbage

Garbage is removed daily from laboratories, offices and classrooms by the custodial staff.

Recyclables

The university recycling program was started largely through the efforts of graduate students in the Department of Biological Sciences. The university presently recycles fine paper, corrugated products and aluminum cans. Drop off areas for used printer toner cartridges, batteries and cell phones are also available.

Sharps

Blades and needles should be disposed of in a special sharps container, kept in your lab.

Waste Drop Off Station

Room 124. Waste will be picked up regularly from the Lab Services Room on the bottom floor. You can also find empty waste containers, labels and tags here. If you need more, contact your Lab Manager or CCC.

General Procedures and Policies

Addresses

To have parcels/boxes shipped to UWin

University of Windsor – GLIER
(Name of the Receiver)
Shipping and Receiving
2601 Union Street
Windsor, ON
N9B 3P4

To have letters sent to UWin

University of Windsor – GLIER
(Name of the Receiver)
2601 Union Street
Windsor, ON
N9B 3P4

Billing Address

University of Windsor
Accounts Payable Department
401 Sunset Ave
Windsor, ON
N9B 3P4

Street Address of GLIER

2990 Riverside Drive West
Windsor, ON

N9C 1A2

International Purchases and Shipping Address for UW

A new online Customs Portal meant to aid in assembling all necessary information about how to execute your international purchases. Following the steps outlined on this page will ensure: a) compliance with new CBSA and CUSMA regulations; b) an expedited customs clearance by TACO; and c) the lowest possible duty/processing costs charged to your accounts.

Attention: Contact Name, GLIER
University of Windsor
401 Sunset Ave
Windsor, ON
N9B 3P4

Backing up your computer

With all the time and effort you put into your data collection, analysis and writing, it makes sense to back up your computer regularly. Windows and Mac computers both ship with tools to back up locally (to an external hard drive or USB key) and there are several affordable services that will back up your computer automatically and store it on the Cloud.

Booking rooms

The Boardroom (247b), Alex Davidson Centre for Environmental Excellence Conference Room(250) and Student Lounge (228) can all be booked by e-mailing the Assistant to the Director.

Fax

There is a fax machine (519-971-3616) in the Mail Room. Instructions for use are posted above the machine. For long distance faxes you will need a code from your supervisor/lab.

Mail

Canada Post

Parcels and Boxes

If they are not too large or heavy, you can leave them in the mailroom. If they are labeled and stamped you can leave the package in the mailroom for distribution services to pick up. They will send out the package. Otherwise, you will have to take them to a post office – the closest is in the Shoppers Drug Mart at Tecumseh and Huron Church).

Courier Service

Parcels can be sent via courier using forms available from the Assistant to the Director. They will need to arrange for pick up so let them know before noon, if possible; The cost of courier delivery is borne by the sender, and you will need a grant number to cover these costs. The University's contract with UPS gives us the best rate.

Note that if you would like another institution/company to use our courier account numbers, you can give them our account number, a grant number (very important) and UWin's Shipping and Receiving address (with Attention: Person's name, GLIER). Provide the Assistant to the Director the Way Bill #, the Grant #, to know who the costs will be charged to.

Inter-University Transit Service (IUTS)

The University is a member of the Ontario Inter-University Transit Service (IUTS) which means that letters and small parcels destined for other Ontario Universities are delivered postage-free. Write "IUTS" with the name and # of the

University where stamps are normally placed (list of IUTS participating institutions), then put the items in the Outgoing Mail box.

Mailboxes

Mailboxes for graduate students are grouped by letters of your surname.

Pickup and Delivery

Inter-campus mail is picked up from the white box in the Mail Room on Mondays, Wednesdays and Fridays. Stamped off-campus mail can also be placed in the white bin in the mailroom for pick up and processing.

Postage

Stamps for personal correspondence can be purchased at the Pharmacy, located in the basement of the CAW Student Centre (Room B06). For research-related correspondence, simply write the grant number where postage would normally go.

Office Supplies

Normal office supplies (pens, pads of paper, tape, staples, file folders etc.) are the students' responsibility. Supplies necessary for running laboratories, marking exams, etc. will be provided by course instructors/Advisors.

Parking

Parking permit fees are currently ranging anywhere from $400 – 800/year for students. The nearest UWin lot for students is on Askin. Alternatively, there is free street-side parking further west on Riverside/Sandwich Street and northwest on Russell Street.

There is a bike rack available at the front of GLIER.

Pets

Pets are not permitted at GLIER.

Photocopying

Departmental Copying

A photocopy machine for small jobs is available in the Mail Room. This machine requires a personal access number which your Advisor can give you.

Large Copying Jobs

If you need large numbers of copies, you can contact the University Print Shop in the lower level of Chrysler Hall Tower, Room 01.

Library Copying

Serial materials cannot be removed from the Leddy Library so any photocopying must be done onsite. Copying machines are located throughout the library and operated with your UwinCARD, which can have funds added in a number of ways, including the machine located on the first floor of the Leddy Library.

Poster Printing

The University Print Shop in the lower level of Chrysler Hall Tower, Room 01 offers full-colour, large-scale poster printing, as do a number of print shops around town.

Receiving Packages

The Secretary to the Director or graduate secretary may call the Grad Offices or Labs looking for someone to accept a parcel or send out an email. Please ask your Lab Manager, Advisor or a fellow lab member what the procedure is for your lab. Generally, it will be something like this:

- Check the contents against the packing slip.
- Ensure that the contents have arrived chilled or frozen, if appropriate
- Stow the contents of the package appropriately.
- File the packing slip appropriately.

Cardboard boxes can be put into the hallway for recycling.

Repair Requests

Please route all repair and cleaning requests (including light bulb changes) through the Assistant to the Director.

Safety & Security

Deter Thefts

There have been a few thefts of opportunity at GLIER over the past years. Please ensure that your valuables, particularly laptops, are locked up securely if you are going to leave them unattended. The policy on locking the grad offices is left up to the students occupying the individual offices, so talk to your officemates to find out the custom.

Always lock doors to offices or laboratories if they are to be unoccupied even for a few minutes. Do not hesitate to politely question unfamiliar people whom you see in hallways outside of normal business hours (e.g., "May I help you?" or “Can I help you find something?”). If you have any doubts, call Campus Police, ext. 911. With millions of dollars of equipment and irreplaceable research at stake, it is better to be safe than sorry.

Emergencies

In case of an emergency, dial x911 and give your name and location. The 911 number is the emergency number to Campus Police, who will be able to reach your location quickly and will contact the municipal emergency people and provide timely assistance. For non-emergency calls to Campus Police, dial extension #1234.

Fire Safety

As per Ontario Fire Codes, there are fire extinguishers in all the labs. Because of the sensitive research conducted at GLIER, you will be notified if there will be a fire alarm test – the sound will be short and intermittent. If there is a long, continuous alarm, it is a real fire alarm. You must leave the building by the nearest exit and meet at the rallying point: south (front) west side of building.

First Aid

Some GLIER staff and several faculty have first aid training (current list is in the mailroom). First aid kits are located in rooms throughout the building, including Room 249B (Mailroom).

Gloves in the Hall

No one is permitted to wear laboratory gloves in the hallways due to the risk of contamination going both ways (public and your samples!).

Insure Your Belongings

Note that your personal belongings are not insured by the university. You should check to see if your home/apartment insurance covers items that you keep in your office (personal computer, camera, etc.).

Reporting Injuries

If you are hurt while on campus or while engaged in your research off campus, you must fill out an injury report form within 24 hours. Or alternatively, the Assistant to the Director has these forms. The department will be fined if you require medical attention and have not turned in a form; please take the time to report injuries, no matter how minor.

Reporting Spills

If a spill occurs while you are present, follow the instructions in the Hazardous Materials Spill Response Manual developed by the Chemical Control Centre (CCC). If you are unsure of how to handle the spill, or if the spill is too large for you to handle on your own, contact the CCC at x3519 or – if after hours -- Campus Police x911. Make sure you fill out a Spill Incident Report form within 24 hours of the incident. There is a spill response kit in the ice machine/chemical disposal room on the main floor-GL 127.

Safety features at GLIER

All labs are equipped with an eyewash station and emergency shower. Many have First Aid kits and fire extinguishers. Please ensure that you are familiar with all of the safety features for Lab Safety.

Walk safe

Walk safe helps people get to their vehicle, home, apartment or residence on- or off-campus at night. Dial 0 from any university phone and ask for Walk safe, or call x3504.

Sending a large electronic file

Look at the information page on Big File Drop Box and follow the directions.

Software

Students are eligible to download software licensed by the University, including virus protection software. Check out what they've got at the Software Depot.

Telephone

The University of Windsor has a common telephone number (519) 253-3000, with separate four-digit extension numbers for each line.

University Directory:

Collect Calls / Incoming Calls

Because all incoming telephone calls (except FAX numbers) are received through an automated central switchboard, collect calls for individuals will not be accepted.

Emergencies

Calls for emergency services should be placed by dialling x911 to call the Campus Police. They will arrive quickly and will arrange for off-campus emergency response, if required.

Local and '800' calls

To make a local call dial 9 and then the 10-digit telephone number. If you wish to make a call to an '800' number, you must dial 9, 1, 800, and the 7-digit telephone number.

Long Distance Calls

To make a long distance call, dial 9-1-[Area code]-[phone number]. Enter the 5-digit authorization code when the system prompts you with a tone. Each faculty and staff member has been assigned an authorization code. Long distance charges for research are deducted from grants.

Phone List

The Secretary to the Director has a more complete one available (including grad students), if you'd like it.

Equipment & Supplies

Research-related Equipment and Supplies

Autoclave

GLIER's autoclave – a Tuttnauer Autoclave -- is located in GL-201. There are explicit instructions posted in the room, but you must go through a quick orientation from Shelby Mackie ext. 3761 (EGF Technician) before your first use. Please ensure that you sign the usage sheet.

Biological Safety Cabinet

Located in the Tissue Culture Room (Room 205), this is used for cloning and other culturing work. Please contact Shelby Mackie (EGF Technician) for an initial general orientation. Note that while some of the equipment and supplies are common, others are lab-specific.

Boats

To support field transport and research on the Great Lakes or other inland lakes, GLIER core faculty possess several 18 to 28 foot boats for use on Lake St. Clair, Lake Erie and on the Detroit River. Studies on other large lakes (e.g., Michigan, Ontario, or Superior) are limited to coastal habitats using our boats, or in open waters on large craft by arrangements with other research groups in the USA and Canada.

See "Boats" in "Research-Related Procedure and Expectations," below, for guidelines and policies.

Dishwasher

There is a dishwasher available in GL-201. There are instructions for use posted in the room. Ensure that you are not using a detergent with phosphates.

Environmental Chamber

Room 146. The Institute has two environmental chambers located on the first floor. If there are any problems, please contact Facility Services through the Secretary to the Director. The Animal Care/Field Technician Aaron Newhook may also be able to help.

Field Sampling Equipment

Individual labs have field equipment (e.g., waders, nets) at their disposal. The Animal Care/Field Technician may be able to help you track down needed field equipment and discover if that lab is willing to lend it to you. Other equipment may be able to be borrowed from, for example, the Department of Fisheries and Oceans.

Freezer (Walk-In)

Room 121, 121A. The Animal Care/Field Technician operates the walk-in freezer for short-term storage, so please contact him before putting anything into the room. Items should be stored in a Rubbermaid tote with a large and clear label indicating the date it was deposited, the PI of the lab and a contact number. All items must fit in the room at least one foot below the fans so the compressors do not get blown. Please note that this is for short-term (<1 year) storage only; it is *not* for items to be archived.

Gas Cylinders

Gas cylinders will be delivered to the storage cage located in the courtyard. Empty cylinders are to be returned to this cage as well. If you will be dealing with gas cylinder, you must have online training course on compressed gas cylinder safety.

Generator back up plugs

If you have an electrical instrument that must run without interruption (e.g., -80 C freezer), you may want to consider finding an electrical outlet with generator backup. If there is an electrical failure, these may still experience a spike or brief power loss before the generator kicks in, so they are not Uninterrupted Power Sources. Electrical plugs that have

generator back up are either orange or are labeled beginning with the letter "E." In a pinch, the -80 freezers in the "Elevator Lobby" on the 3rd floor are all on generator back up if you can find a plug there.

Ice Machine

Located in the Lab Services Rooms: GL-127 in the basement and GL-201 on the first floor.

Specialized Research Equipment

The excellent Technical Support Centre has a complete machine shop in Room 64-B-1 in the basement of Essex Hall. They manufacture and repair mechanical equipment for teaching or research for the cost of the materials, which are charged to the research grant. The Technical Services Centre also has an electronic design centre (Room 117, Essex Hall) that will design and construct the electronic components.

Vehicles

To support field transport and research on the Great Lakes or other inland lakes, GLIER core faculty possess three pickup trucks and two SUVs that may be used for university-related business. See "Vehicles" in "Research-Related Procedure and Expectations," below, for guidelines and policies.

Water

Water in labs on the entire west side of the GLIER building has been plumbed for reverse osmosis (RO) water (virtually free of organic, bacterial and particulate contaminants). Ultra-pure water facilities are owned by individual labs and facilities, and you must get permission to use them. These give ASTM Type l water for use in analytical techniques and molecular biology applications, for instance.

General Equipment and Supplies

Bus Passes/Tickets

Can be purchased at the University of Windsor Student Alliance office.

Extending your UWin Account

After you have accepted an offer of admission to University of Windsor, you have to extend your UWin Account in order to gain access to additional services. Extending your UWin Account gives you access to:

- Your @uwindsor.ca e-mail account
- The University's student information system, UWinsite Student
- The University's online learning system, Brightspace
- The University's Wireless network
- The Leddy and Law Libraries
- The full suite of Microsoft Products
- Other online services

After you have extended your UWin Account, UWindsor the Registrar's Office will send all email communications to your UWindsor e-mail account. It is the University's official policy to only send e-mails to students through their UWindsor e-mail accounts.

Information on how to extend your UWin Account can be found on the ITS webpage.

Intercom

An intercom is located at the front door of GLIER. Visitors can contact you through your office extension.

Telephone

There is a phone in the GLIER lobby.

Uninterrupted Power Source

If you have a computer analysis to perform that needs an extended running time, you may want to consider purchasing an uninterrupted power source – your lab may also have some to borrow or may arrange their purchase.

Wi-Fi

You can access UWin's Wi-Fi network from across campus, including the residences as long as you have an active UWin ID.

Appendix J: Student Support Services

Where can I go for help?

A comprehensive list of Student Support Services can be found here: Student Support Services | University of Windsor

Discounts

International Student Identity Card (ISIC).

To get your ISIC card visit the office of UWSA (2nd floor CAW). Bring your validated student card and a passport-size photo.

- Porter Airlines
- Via Rail
- Everything from pizza to clothing (Benefits and Discounts)

Student Price Card (SPC).

Available online or at stores at Devonshire Mall (e.g., Aldo, Footlocker, Shoppers Drug Mart) for $11.99/year.

- Body Shop
- McDonald's
- Guess Jeans
- And many more retailers and restaurants are covered

UwinCard

- Free access to all UWin athletic home games and events
- Discount with Transit Windsor
- Canadian Superstore (10% off on Tuesdays; there is a special free bus service for all students that runs from UWin's Alumni Hall between 6 – 9 PM on Tuesdays. Check with the International Student Centre for more information.)
- Bulk Barn (10% off on Wednesdays)
- Terra Cotta Pizza (2 for 1 pizza with purchase of a beverage on Wednesdays)
- University Players – amazing subscription price and a discount on individual shows
- Roots and other clothing stores
- Detroit Pistons and Red Wings often offer UWin students a discount on tickets (watch the UWin Daily News)
- Most of the major computer hardware and software providers (e.g., Microsoft, Dell, Apple) offer student discounts
- Also try Googling "student discounts Canada"

Womxn's Centre

The Womxn's Centre operates as collective offering a resource library and referral service for all students. It is a safe space and environment for women to come together, meet new friends, talk, exchange ideas about the world, discuss common issues and gain support from each other. The office is located on the second floor of the CAW Centre.

CUPE 4580

If you are a GA, you are a member of CUPE 4580. Members of any union are eligible for discounts at a number of local and national retailers.

UWin Employee

There are a number of retailers that offer staff discounts to UWin employees, including corporate rates on hotels and discounts on Lancer camps.