

## ENVS\*3150 - Aquatic Systems

### Winter 2024 Course Outline

Section: 01

Credits: 0.50

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## Land Acknowledgement: Guelph

The University of Guelph resides on the ancestral lands of the Attawandaron people and the treaty lands and territory of the Mississaugas of the Credit. We recognize the significance of the Dish with One Spoon Covenant to this land and offer respect to our Anishinaabe, Haudenosaunee and Métis neighbours. Today, this gathering place is home to many First Nations, Inuit, and Métis peoples and acknowledging them reminds us of our important connection to this land where we work and learn.

## Calendar Description

In this course students will be taught how to apply quantitative methods to the analysis of aquatic systems of the earth from many simultaneous perspectives. The material will include the physical, chemical and biological components of the various liquid surficial structures and processes and also how they interact with humans. The economic, social and policy implications of humans interacting with aquatic systems will also be emphasized. The history of the analysis of aquatic systems will be systematically included in the material.

**Prerequisite(s):** 10.00 credits including (BIOL\*1030, BIOL\*1040) or (BIOL\*1070, BIOL\*1090), CHEM\*1040

**Restriction(s):** BIOL\*3450

**Department(s):** School of Environmental Sciences

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## Course Description

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## Lecture Schedule

TuTh 1pm-2:20pm in ALEX\*117 (1/8 to 4/23)

## Lab / Seminar Schedule

Day	Time	Location	Sections
Monday	2:30-4:20	Graham Hall 3309	01
Friday	12:30-2:20	Graham Hall 3309	02

## Instructor Information

Paul Sibley  
Email: psibley@uoguelph.ca

Neil Rooney  
Email: nrooney@uoguelph.ca

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## Additional Support

- Please be sure to check CourseLink for information updates on a regular basis (daily is recommended).
- Zoom links for the labs and lectures are provided in CourseLink under the Zoom tab.
- All lectures will be recorded for later asynchronous viewing; these will be posted to CourseLink under the Recordings tab.

## Learning Resources

### Campus Resources

If you are concerned about any aspect of your academic program: Make an appointment with a Program Counsellor (<https://www.uoguelph.ca/uaic/programcounsellors/>) in your degree program. If you are struggling to succeed academically: There are numerous academic resources offered by the Learning Commons (<https://www.lib.uoguelph.ca/using-library/spaces/learning-commons/>) including, Supported Learning Groups for a variety of courses, workshops related to time management, taking multiple choice exams, and general study skills.

## Course Learning Outcomes

1. To gain foundational knowledge to understand the basic physiography, chemistry and biology/ecology of aquatic (freshwater and marine) systems
2. To understand the science of aquatic systems in the context of management and policy principles and the essential link that must be established between these two elements in order to develop innovative and effective policies
3. To understand 1 and 2 in the context of key global environmental issues presently facing humanity and how these issues have been or should be managed using sound science and policy
4. To evaluate scientific evidence through critical evaluation of the literature and defense of ideas through discussion and debate
5. To promote effective communication in an academic and professional environment through technical reports, discussions and debates
6. To promote numeracy through problem solving (calculations) in lectures and statistical analysis of laboratory-generated data sets presented in laboratory reports

## Assessment Breakdown

Description	Weighting (%)	Due Date
Scientific Report: Nutrient Lab OR Biodiversity Lab	20%	Feb 16 or Mar 31
Critique: Ocean Acidification Lab	15%	Mar 4 (M); Mar 8
Media Piece: Fisheries Lab	10%	Mar 11 (M); MR 15 (F)
Data Report: Toxicity Lab	<i>Bonus 5%</i>	April 7
Lab Participation	5%	End of course
Midterm Exam	25%	Feb 17
Final Exam	25%	April 17

## Assessment Details

### Midterm

#### Midterm

Midterm covers first half of lecture material.

**25%**

Course Learning Outcomes Assessed: 1, 2, 3, 4, 5, 6

### Exam

#### Final Exam

Final exam covers second half of course material (the exam is not cumulative).

**25%**

Course Learning Outcomes Assessed: 1, 2, 3, 4, 5, 6

## Lab Assignments

### Critique

The critique is associated with the ocean acidification lab and is due on the day you have your regular lab via Dropbox.

**15%**

Course Learning Outcomes Assessed: 1, 4, 5

## Lab Reports

### Nutrient Report

20%

Data from the Wednesday and Friday labs will be combined and available on the Friday of the second week. Lab reports are due 2 weeks thereafter (see due dates).

Course Learning Outcomes Assessed: 1, 5, 6

### Media Report

10%

The media report is associated with the fisheries discussion and will be due on the day you have your regular lab via Dropbox.

Course Learning Outcomes Assessed: 2, 3, 5

### Biodiversity Report

20%

Data from the Wednesday and Friday labs will be combined and available on the Friday of the second week. Lab reports are due 2 weeks thereafter (see due dates).

Course Learning Outcomes Assessed: 1, 5, 6

### Data Report (Optional-Bonus)

5%

This scientific (lab) report is associated with the toxicity lab and is due on April 7. **IT IS AN OPTIONAL LAB**

Course Learning Outcomes Assessed: 4, 5, 6

## Final Exam

Date: Apr 17

Time: Wed 8:30am-10:30am

Location: TBA *Please see Web Advisor closer to the date of scheduled final for location.*

To understand rules and regulations regarding Examinations students are encouraged to read Student's Responsibilities (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/examinations/>)

If the student is unable to meet the final exam requirements due to medical, psychological or compassionate circumstances they are encouraged to review Student's Responsibilities in the Academic Consideration, Appeals and Petitions (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-consideration-appeals-petitions/>) section of the Academic Calendar.

## Laboratory Notes

1. Specific guidance on the format for writing the reports will be given (posted to CourseLink) ahead of each assignment.
2. All lab assignments will be submitted via Dropbox on CourseLink unless otherwise specified. **Specific dates for assignment submissions are provided in the table above.** Experimental assignments (labs 2, 4, and 5) are due on Fridays [via Dropbox](#). All other assignments are due on the day of your respective labs, also via Dropbox.
3. Only one (1) of the two lab reports (eutrophication or biodiversity) must be written up (you can choose which one you would like to submit). You are welcome to write both labs and we will take the better mark of the two as your final grade for the scientific report component. Strategically, it is recommended that you write up the first one and decide on submission of the second depending on your performance in the first one.
4. Exams: **Exams will be written in-person.** The mid-term is worth 20% and the final exam is worth 25%. There is more material covered in the latter half of the course which is why the final exam is weighted greater than the mid-term. **If for any reason in-person classes are cancelled by the University, the midterm and/or final will be delivered virtually.** In this case, the exams will be accessible for a 24-hr period during which time you will have 1.5 hours to complete it once started.
5. We will not use Respondus Lockdown Browser for exams, if exams are delivered virtually.

## Last Day to Drop Course

The final day to drop Winter 2024 courses without academic penalty is the last day of classes: April 08

After this date, a mark will be recorded, whether course work is completed or not (a zero is assigned for missed tests/assignments). This mark will show on the student's transcript and will be calculated into their average.

## Course Grading Policies

### Submission of Assignments

*Assignments are to be submitted via Dropbox in CourseLink unless otherwise specified*

### Late Assignment

Students are expected to meet all posted deadlines (provided in the table above). Assignments will be handed in to the course instructor/teaching assistant at the specified time (usually by the end of the lab period) on the due date, either through CourseLink (Dropbox) or directly as a hardcopy before/after class, during lab, or at the office of the course instructor/TA. **Students will be assessed a late penalty of 5% per day unless appropriate arrangements with valid evidence have been made with the course instructor.**

## Course Standard Statements

### Course Policy on Group Work:

Some laboratory exercises will require students to work in groups. Although you will generate the data collectively, all students are expected to complete the associated laboratory (or any other) assignments individually (not as groups). Students who submit documents indicating collective (rather than individual) efforts will be considered to have plagiarized and will be dealt with according to the plagiarism statement (see “university statements” below).

### Course Policy regarding use of electronic devices and recording of lectures:

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the written permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

## Standard Statements for Undergraduate Courses

### Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University’s policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-misconduct/>) is outlined in the Undergraduate Calendar.

### Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability. Use of the SAS Exam Centre requires students to make a booking at least 10 days in advance, and no later than the first business day in November, March or July as appropriate for the semester. Similarly, new or changed accommodations for online quizzes, tests and exams must be approved at least a week ahead of time. For students at the Guelph campus, information can be found on the SAS website. (<https://www.uoguelph.ca/sas/>)

### Accommodation of Religious Obligations

If you are unable to meet an in-course requirement due to religious obligations, please email the course instructor within two weeks of the start of the semester to make alternate arrangements.

See the Academic calendar for information on regulations and procedures for Academic Accommodations of Religious Obligations (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-accommodation-religious-obligations/>).

## Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

## Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all undergraduate students except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in the Undergraduate Calendar - Dropping Courses (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/dropping-courses/>).

## Email Communication

As per university regulations, all students are required to check their <uoguelph.ca> e-mail account regularly: e-mail is the official route of communication between the University and its students.

## Health and Wellbeing

The University of Guelph provides a wide range of health and wellbeing services at the Vaccarino Centre for Student Wellness (<https://wellness.uoguelph.ca/>). If you are concerned about your mental health and not sure where to start, connect with a Student Wellness Navigator (<https://wellness.uoguelph.ca/navigators/>) who can help develop a plan to manage and support your mental health or check out our mental wellbeing resources (<https://wellness.uoguelph.ca/shine-this-year/>). The Student Wellness team are here to help and welcome the opportunity to connect with you.

## Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g., final exam or major assignment).

## Recording of Materials

Presentations that are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

## Resources

The Academic Calendars (<http://www.uoguelph.ca/registrar/calendars/?index>) are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs.

## When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. See the Undergraduate Calendar for information on regulations and procedures for Academic Consideration. (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-consideration-appeals-petitions/>)