# Course Outline Form: Winter 2016

## General Information

**Course Title:** Aquatic Systems

**Course 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.

**Credit Weight:** 0.50

**Academic Department (or campus):** School of Environmental Sciences

**Campus:** Guelph

**Semester Offering:** Winter

**Class Schedule and Location:**

Landscape Architecture, Room 204

Tuesdays & Thursdays, 1:00-2:20 pm

Wednesdays: 3:30-5:20

Fridays, 12:30-2:20

All labs will be held in Graham Hall, Room 3309

## Instructor Information

Instructor Name: Paul Sibley

Instructor Email: psibey@uoguelph.ca

Office location and office hours: Room 2103 (open door)

## GTA Information

GTA Name: TBD

GTA Email: TBD

GTA office location and office hours: TBD

## Course Content

### Specific Learning Outcomes:

With respect to course material:

1. To gain foundational knowledge on which 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

With respect to scientific evaluation and effective communication:

1. To evaluate scientific evidence through critical evaluation of the literature and defense of ideas through discussion and debate
2. To promote effective communication in an academic and professional environment through technical reports, discussions and debates
3. To promote numeracy through problem solving (calculations) in lectures and statistical analysis of laboratory-generated data sets presented in laboratory reports

### Lecture Content:

Date (Week of) Topic

January 11-22 (4 lectures) Introductory concepts and basic principles in water chemistry, hydrology, and physiography

January 25-February 05 (4 lectures) Dead lakes and dead zones: The science and management of nutrient pollution

February 08-26 (4 lectures) When the switch goes off: Ocean acidification and the state of –the world’s oceans

February 28-March 11 (4 lectures) Who killed the Grand Banks? The science and management of marine & freshwater fisheries

March 14-25 (4 lectures) From Ocean vents to Great Lakes Invasive Species: Concepts of Biodiversity

March 28-April 08 (4 lectures) Aquatic Systems as the final repository for the by-products of human activities

**Labs**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Lab** | **Subject** | **Date of lab** | **Lab assignment due date1** | **Assignment****Type** | **Value** |
| 1 | Data analysis and report writing | Jan 18-Jan 22 | N/A | N/A | N/A |
| 2 | Nutrient Pollution (week 1) | Jan 25-Feb 05 |  |  |  |
| 2 | Nutrient Pollution (week 2) |  | Week of Feb 22nd  | ScientificReport1 | 20% |
| 3  | Ocean Acidification  | Feb 08-Feb 12 | Week of Feb 29th  | Critique | 10% |
| 4 | Fisheries | Feb 22-Feb 26 | Week of Mar 9th  | Media Piece | 5% |
| 5 | Biodiversity(week 1) | Feb 29-Mar 11 |  |  |  |
| 5 | Biodiversity(week 2) |  | Week of Mar 21st  | Scientific Report1 | 20% |
| 6 | Contaminants(week 1) | Mar 21-Apr 01 |  |  |  |
| 6 | Contaminants(week 2) | . | Week of Apr 4th  | Data Report (optional) | 5% (bonus) |

1Students are to write up one of the two Lab Reports (20%).

### Seminars:

N/A

### Course Assignments and Tests:

| **Assignment or Test** | **Due Date** | **Contribution to Final Mark (%)** | **Learning Outcomes Assessed** |
| --- | --- | --- | --- |
| Lab Report | Week of February 22nd  | 20% | 1, 5, 6 |
| Mid-term | Week of February 29th  | 25% | 1-6 |
| Critique | Week of March 9th  | 10% | 1, 4, 5 |
| Media Report | Week of March 21st  | 10% | 2, 3, 5 |
| Toxicity lab | Week of April 4th  | 5% (bonus) | 4-6 |
| Participation | Week of April 4th  | 10% | 1-6 |
| Final Exam | TBD | 25% | 1-6 |

### Final examination date and time: April 20th 2015 (14:30-16:30)

### Final exam weighting: 25%

## Course Resources

### Required Texts:

N/A

### Recommended Texts:

Ecology of Aquatic Systems is recommended but not required.All other materials will be posted on D2L as needed.

### Lab Manual:

N/A

### Other Resources:

N/A

### Field Trips:

N/A

### Additional Costs:

N/A

## Course Policies

### Grading Policies

Students are expected to meet all posted deadlines (provided in the table above). Assignments will be handed in to the course instructor/teaching assistant by 4:30 of 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 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 the plagiarism statement (see 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.

## University Policies

### Academic Consideration:

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:

[Academic Consideration, Appeals and Petitions](http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml)

### Academic Misconduct:

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 is detailed in the Undergraduate Calendar:

[Academic Misconduct Policy](https://www.uoguelph.ca/registrar/calendars/undergraduate/2014-2015/c08/c08-amisconduct.shtml)

### Accessibility:

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Centre for Students with Disabilities as soon as possible.

For more information, contact CSD at 519-824-4120 ext. 56208 or email csd@uoguelph.ca or see the website: [Student Accessibility Services Website](http://www.uoguelph.ca/csd/)

### Course Evaluation Information:

End of semester course and instructor evaluations provide students the opportunity to have their comments and opinions used as an important component in the Faculty Tenure and Promotion process, and as valuable feedback to help instructors enhance the quality of their teaching effectiveness and course delivery.

While many course evaluations are conducted in class others are now conducted online. Please refer to the [Course and Instructor Evaluation Website](https://courseeval.uoguelph.cal/CEVAL_LOGIN.php)

### Drop period:

The drop period for single semester courses starts at the beginning of the add period and extends to the Fortieth (40th) class day of the current semester (the last date to drop a single semester courses without academic penalty) which is listed in [Section III (Schedule of Dates) of the Undergraduate Calendar](https://www.uoguelph.ca/registrar/calendars/).

The drop period for two semester courses starts at the beginning of the add period in the first semester and extends to the last day of the add period in the second semester.

Information about Dropping Courses can be found in [Section VIII (Undergraduate Degree Regulations and Procedures) of the Undergraduate Calendar](https://www.uoguelph.ca/registrar/calendars/undergraduate/current/).

**Additional Course Information**

None