# Course Outline Form: Fall 2015

## General Information

## Course Title: ENVS\*2310 - Current Issues in Earth Surface Processes

**Course Description:** This course provides an introduction to aspects of environmental Earth science which are critical to understanding issues that have direct social impacts. Students will gain a basic understanding of disciplines that represent different compartments of the active Earth, including geology, water and soil sciences, and atmospheric science. This knowledge will be directed toward exploring the links between scientific and societal perspectives. Examples of possible issues include climate change, resource extraction, and water supply.

**Prerequisites & Restrictions:** 1 of [ENVM\*1000](http://www.uoguelph.ca/registrar/calendars/undergraduate/current/includes/discontinued.shtml), [ENVM\*1200](http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c12/c12envm.shtml#ENVM1200), [ENVS\*1030](http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c12/c12envs.shtml#ENVS1030); CHEM\*1040

**Credit Weight: 0.5 credits**

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

**Campus: Guelph**

**Semester Offering: Fall 2015**

**Class Schedule and Location: Lecture Tu/Th, 10:30 am – 11:20 am, Alex 259**

 **Seminar Wed 2:30-4:20, Annu 204**

## Instructor Information

Instructor Name: Susan Glasauer

Instructor Email: glasauer@uoguelph.ca

Office location and office hours: 321 Alex; office hours by appointment (phone 52453 or email)

## Course Content

### Specific Learning Outcomes:

Students who pass the course will:

1. Understand key scientific concepts in Earth science

2. Demonstrate the development of critical thinking and problem solving skills for application in Earth science, as well as in the broader realm of environmental science

3. Understand the changing role of science and scientists in modern Canadian society

4. Show improved literacy in scientific communication

5. Demonstrate improved numeracy skills in an environmental Earth science context

### Lecture Content:

**Approximate Schedule of Lectures**

Date Topic

Sept 10 Intro

*HOW EARTH SCIENCE WORKS*

Sept 15/17 Uncertainty in science; science and the media

Sept 22/24 Geological time; catastrophism and uniformitarianism

*EARTH PROCESSES*

Sept 29/Oct1 Rock cycle

Oct 6/8 Earth history: In the beginning

Oct 15 Earth history: Life shapes Earth

Oct 20/22 Earth history: Earth evolution

Oct 27/29 Introduction to biogeochemical cycling

*THE ANTHROPOCENE*

Nov 3/5 Biogeochemical cycles: human impacts

Nov 10/12 Resource extraction

Nov 17/19 Water resources

Nov 24/26 Geoengineering global climate

Dec 1/3 Geoengineering global climate

### Seminars:

**Approximate Schedule of Labs/Seminars**

Date Topic

Sept16 Making valid estimates in Earth science

Sept23 Rock identification lab

Sept30 Field trip to the Penitentiary Quarry

Oct7 Radioactive dating; interpreting early Earth

Oct14 MIDTERM I

Oct21 Stable isotopes in biogeochemical cycles

Oct28 Gaia, global feedback loops

Nov4 Residence time

Nov11 Fossil fuel

Nov18 MIDTERM II

Nov25 Water distribution

Dec2 Evaluating geoengineering strategies

### Course Assignments and Tests:

**Mark Allocations**

|  |  |  |
| --- | --- | --- |
| Assignment/Exam | Value % | Due Date |
| Reading Quiz 1 | 3 | 9/22 |
| Reading Quiz 2 | 3 | 10/6 |
| Reading Quiz 3 | 3 | 10/20 |
| Reading Quiz 4 | 3 | 11/10 |
| Reading Quiz 5 | 3 | 12/1 |
|  |  |  |
| Midterm I | 25 | 10/14 |
| Midterm II | 25 | 11/18 |
| Final | 35 | 12/07 |
|  |  |  |
|  |  |  |

| **Assignment or Test** | **Due Date** | **Contribution to Final Mark (%)** | **Learning Outcomes Assessed** |
| --- | --- | --- | --- |
| **Quiz1** | **Sept 22** | **3** | **1, 4** |
| **Quiz2** | **Oct 6** | **3** | **1, 4** |
| **Quiz3** | **Oct 20** | **3** | **1, 4** |
| **Quiz4** | **Nov 10** | **3** | **1, 4** |
| **Quiz5** | **Dec 1** | **3** | **1, 4** |
|  |  |  |  |
| **MidtermI** | **Oct 9** | **25** | **1-5** |
| **MidtermII** | **Nov 13** | **25** | **1-5** |
| **Final** | **Dec 7** | **35** | **1-5** |

Additional Notes (if required):

**Journals**

Active reading is essential to your success in the course. Students are expected to keep a journal consisting of notes taken on the reading assignments. These notes *should not* repeat the reading verbatim, and they are not meant to reproduce every concept or thought presented by the authors. The notes should 1) demonstrate a grasp of the main points; 2) push you to tackle challenging concepts; 3) prepare you for class discussions, and 4) serve as useful reference material. There are 5 quizzes throughout the semester based on the assigned reading. For the quizzes, you are expected to have the reading completed in advance of the corresponding week. The quiz for a given date is not comprehensive, but will cover only the reading material not covered by prior quizzes. For example, Quiz 2 covers only the reading assigned for weeks 3 and 4; Quiz 5 will cover weeks 10, 11 and 12.

I will use the marks from your 4 best quizzes to come up with your final mark for this component, and your lowest mark will drop into oblivion; this allows you to skip a quiz or shake a poor mark. You may also turn in your reading journal with your quiz, if you think that your notes better represent your effort. The comprehensive mark for the reading quizzes accounts for 15% of the final grade.

***Midterms and finals***

These will consist of multiple choice, short answer and essay questions. The midterms will cover the material (lecture and seminar) *up to* the lecture before the midterm (i.e., the first midterm on Oct. 14 will cover all lectures and seminars through Oct. 8). Midterm II will cover from Oct. 7 – Nov. 6. The final is comprehensive.

Best 4 of 5 quizzes count towards your final grade.

### Final examination date and time:

December 7, 2015; 8:30am - 10:30am; Room TBA

### Final exam weighting:

35%

## Course Resources

### Required Texts:

Reading assignments will beposted on D2L by the week before the reading is due.

### Other Resources:

Additional material for the course will be posted on D2L as necessary.

## Course Policies

### Grading Policies:

Quizzes and midterms are given during regular class meeting times (lectures and seminars, as described).

**Policy on Late Assignments:** Making up a missed exam or assignment requires a doctor's note or equivalent. Late assignments will be penalized at a rate of 20% markdown per day after the due date.

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

### Course Policy on Group Work:

Group work will be allowed only where explicitly assigned by the instructor.

### 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.

Phones and laptops are distractions not just for the people using them, but for others sharing the same space. A recent study showed that students attempting to multi-task using laptops in the classroom did much worse than peers using pencil and paper to take notes. Even worse, students sitting next to the multi-taskers also suffered significantly ("Students' use of laptops in class lowers grades: Canadian study". Globe and Mail, August 14, 2013).

The use of cell phones, including texting and checking messages, is prohibited during class time. Please leave the room if you need to use your phone. Laptops are essential for some students to take notes, but they can create a distracting space within the classroom. You may use your computer for notetaking; you may not use it for any other purpose during class time as there will be no need to access the Internet.

## University Policies

### Academic Consideration:

The University of Guelph is committed to supporting students in their learning experiences and responding to their individual needs and is aware that a variety of situations or events beyond the student's control may affect academic performance. Support is provided to accommodate academic needs in the face of personal difficulties or unforeseen events in the form of Academic Consideration.

Information on regulations and procedures for Academic Consideration, Appeals and Petitions, including categories, grounds, timelines and appeals can be found in [Section VIII (Undergraduate Degree Regulations and Procedures) of the Undergraduate Calendar](https://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.

Detailed information regarding the Academic Misconduct policy is available in [Section VIII (Undergraduate Degree Regulations and Procedures) of the Undergraduate Calendar](https://www.uoguelph.ca/registrar/calendars/undergraduate/current/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 Student Accessibility Services (SAS), formerly Centre for Students with Disabilities (CSD), as soon as possible.

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

### 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

Commitment to the course:

This course is worth 0.5 credits. According to University policy, you should plan on spending up to 12 hours per week engaged with this course, including lectures and seminars. That leaves around 8 hours for study outside of class meetings. If you have invested this amount of time and still feel like you're struggling to keep up, please make an appointment to see me.