 

## General Information

**Course Code: ENVS 3180**

**Course Title: Sedimentary Environments**

**Course Description:**

This course examines the principles of sedimentology and stratigraphy as applied to various ancient and modern sedimentary systems. Students will learn to describe and interpret sedimentary deposits in terrestrial and marine systems as well as the larger forces that control the preservation and evolution of these sedimentary systems over geological time. The course includes several field trips.

**Credit Weight: 0.50**

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

**Campus: Guelph**

**Semester Offering: Fall 2016**

**Class Schedule and Location:**

Lectures: MWF 11:30 to 12:20 in ALEX 218

Lab: M 2:30-5:20 in ALEX 024

## Instructor Information

Instructor Name: Emmanuelle Arnaud

Instructor Email: [earnaud@uoguelph.ca](mailto:earnaud@uoguelph.ca)

Instructor Phone and Extension: (519) 824-4120, xt 58087

Office location and office hours: ALEX Room 126, by appointment via email

## Instructional Assistant Information

Instructional assistant: Steve Sadura

Instructional assistant email: [sadura@uoguelph.ca](mailto:sadura@uoguelph.ca)

Phone and extension: (519) 824-4120 xt 53393

Office location: Alex 221

## Course Content

### Specific Learning Outcomes:

In this course, students will:

1. Demonstrate the ability to characterize sedimentary deposits by constructing a stratigraphic log and describing sedimentary deposits using standard terminology
2. Differentiate environments based on typical facies associations and use this information to interpret the origin of sedimentary deposits using a facies approach
3. Demonstrate understanding of stratigraphic relationships by using these to deduce basin/site history
4. Demonstrate the value of detailed observation and the use of different scales in analysis of sedimentary data
5. Create a depositional model or conceptual framework for a site and use it as a predictive tool

### Lecture Content:

| WEEK of | TOPICS | READINGS  (NICHOLS, 2009) | LAB SCHEDULE |
| --- | --- | --- | --- |
| Fri Sept 9 | Introductions, overview, online review | Chapter 1, 2 | No lab this week |
| Sept 12-16 | Processes and products | Chapter 4 | Lab 1 |
| Sept 19-23 | Facies analysis & facies models | Chapter 5 | Lab 1 cont’ |
| Sept 26-30 | Terrestrial environments | Chapters 9, 10 | Lab 1 due, lab2 |
| Oct 3-7 | Marginal marine environments | Chapters 12, 13 | Lab 2 cont’ |
| Oct 12-14 | Clastic marine environments | Chapter 14, 16 | No class Monday;  Lab 2 due, no lab |
| Oct 17-21 | Finish environments; Midterm Friday |  | No lab this week |
| Oct 24-28 | Stratigraphic concepts | Chapter 19 | Lab 3 |
| Oct 31-Nov 4 | Biostratigraphy/dating techniques | Chapter 20, 21 | Lab 3 cont’ |
| Nov 7-11 | Subsurface sedimentary environments | Chapter 22 | Lab 3 due, lab 4 |
| Nov 14-18 | Sea level change & sequence stratigraphy | Chapter 23 | Lab 4 cont’; FIELD TRIP SATURDAY NOV 19\* |
| Nov 21-25 | Site conceptual model development |  | Lab 4 due |
| Nov 28-Dec 2 | Review |  | No lab this week |

\*Please let me know asap if you cannot make the Saturday Nov 19 field trip.

### Labs:

1. Description and classification of sedimentary deposits
2. Glaciofluvial sediments (local gravel pit)
3. Lacustrine sediments (Hamilton Beach)
4. Lake Erie Bedrock cores (Medina Formation)

### Course Assignments and Tests:

| **Assignment or Test** | **Due Date** | **Contribution to Final Mark (%)** | **Learning Outcomes Assessed** |
| --- | --- | --- | --- |
| Labs | Sept 26; Oct 12; Nov 7; Nov 21 | 40 (10 each) | A, B, C, D |
| WorldSed Assignment | Individual deadline throughout term | 10 | B |
| Midterm exam | October 21st, 2016 | 20 | B, C, D |
| Final exam | December 15, 7-9 pm | 30 | B, C, D, E |

### Final examination date and time: December 15, 7-9 pm

### Final exam weighting: 30%

## Course Resources

### Recommended Texts (available on library reserve):

Nichols, G. 2009. Sedimentology and Stratigraphy. 2nd ed. Oxford: Wiley Blackwell, 419 pp. Call no.: QE571 .N53 2009

### Lab Manual:

Instructions for labs will be posted to the course website the week prior for you to download and print.

### Other Resources:

Check the **course website** for additional in-course resources and information. Login with your email login and password at <http://courselink.uoguelph.ca/index.html>.

### Field Trips:

Sept 26 and Oct 3, (TBD)

Oct 24, 31 (Hamilton Beach)

Saturday Nov 19 (Hamilton various locations along the escarpment)

### Additional Costs:

Small fee (usually under 20$ but will depend on final course enrolment and space needed) will be collected to cover a third of the transportation costs of the five field trips.

## Course Policies

### Grading Policies:

Policy on Late Assignments: If you cannot meet a course requirement, let me know in writing as soon as possible and preferably before the due date. Late assignment will be penalized 10% per day and will no longer be accepted a week 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 is encouraged when completing in class labs though students have to make their own field or lab notes and write their own individual lab report.

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

Electronic recording of classes is expressly forbidden without consent of the instructor. When recordings are permitted they are solely for the use of the authorized student and may not be reproduced, or transmitted to others, without the express written consent of the instructor.

## 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/c08/c08-drop.shtml).

## Additional Course Information

It is recommended you keep copies of the course outline and any course work you complete if you are interested in professional certification (e.g. APGO) as you will no longer have access to the course site once the course ends and you may need these documents as part of your application to fulfill the academic requirements of this certification.