



# ENVS\*3180 Sedimentary Environments

Fall 2020

Section(s): 01

School of Environmental Sciences

Credit Weight: 0.50

Version 1.00 - September 14, 2020

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## 1 Course Details

### 1.1 Calendar 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.

**Pre-Requisites:** ENVS\*1050 or ENVS\*2240  
**Restrictions:** ENVS\*2400

### 1.2 Timetable

Lectures: MW 1:00 to 2:20 on Teams

Lab: M 8:30-11:20 on Teams

### 1.3 Final Exam

There is no final exam in this class.

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## 2 Instructional Support

### 2.1 Instructional Support Team

**Instructor:** Emmanuelle Arnaud  
**Email:** [earnaud@uoguelph.ca](mailto:earnaud@uoguelph.ca)  
**Telephone:** +1-519-824-4120 x58087  
**Office:** ALEX (AXEL) 126  
**Office Hours:** By appointment via email and virtually- please email me to

set up a time.

If you have a question about course issues or content, please use the discussion board on the course website-I will get notifications at the end of each day. To access this discussion forum, select **Discussions** from the **Tools** dropdown menu. If you have a conflict that prevents you from completing course requirements or have a question concerning a personal matter, please email me I will respond as soon as possible within a day or two of your email.

If you have not heard from me, I welcome a friendly email reminder ; ). if you have a complex question that would benefit from a live chat, we can set up a one-on-one virtual meeting on Teams.

Assignments will be graded within two weeks of submission.

**Lab Co-ordinator:** Alyson Brown  
**Email:** alysonb@uoguelph.ca  
**Telephone:** +1-519-824-4120 x53393  
**Office:** ALEX (AXEL) 221

The best way to contact Alyson is via email as she is also working remotely this semester.

## 2.2 Technical Support

### Technical Support for courselink

If you need any assistance with the software tools or the CourseLink website, contact CourseLink Support.

Email: [courselink@uoguelph.ca](mailto:courselink@uoguelph.ca)

Tel: 519-824-4120 ext. 56939 Toll-Free (CAN/USA): 1-866-275-1478

Support Hours (Eastern Time):

Monday thru Friday: 8:30 am–8:30 pm

Saturday: 10:00 am–4:00 pm

Sunday: 12:00 pm–6:00 pm

**Office 365 Teams** is a collaboration service that provides shared conversation spaces to help teams coordinate and communicate information. This course will use Teams for lecture and labs and one on one meetings with your Instructor. It is recommended that you use the desktop version of Teams. As a student you are responsible for learning how to use Teams and it's features.

For Teams Support visit the CCS website for more information.

<https://www.uoguelph.ca/ccs/services/office365/teams>

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## 3 Learning Resources

### 3.1 Required Resources

#### **Sedimentology and Stratigraphy (Textbook)**

Nichols, G. 2009. Sedimentology and Stratigraphy. 2<sup>nd</sup>ed. Oxford: Wiley Blakwell, 419 pp.  
Will be available on ARES reserve in the library.

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

#### **Software and systems requirement (Software)**

<http://spaces.uoguelph.ca/ed/system-requirements/>

System and Software Requirements

This course will use a variety of technologies including;

- CourseLink (main classroom)
- Teams (via Office 365)

To help ensure you have the best learning experience possible, please review the list of system and software requirements. <https://opened.uoguelph.ca/student-resources/system-and-software-requirements>

CourseLink System Requirements

You are responsible for ensuring that your computer system meets the necessary system requirements. Use the browser check tool to ensure your browser settings are compatible and up to date. (Results will be displayed in a new browser window).

<http://spaces.uoguelph.ca/ed/system-requirements/>

<https://courselink.uoguelph.ca/d2l/systemCheck>

### 3.2 Additional Resources

#### **Library resources (Other)**

<https://www.lib.uoguelph.ca/>

As a student, you have access to the University of Guelph's library collection, including both physical and electronic materials. For information on checking out or couriering physical

library items, accessing electronic journals and returning items to the library, visit the library's website.

If you are studying off campus and would like to access the library's electronic resources, use the Off Campus Login and login using your Single Sign On credentials or using your last name and library barcode.

<https://www.lib.uoguelph.ca/>

<https://www.lib.uoguelph.ca/campus-login>

### **Ares**

For this course, you may want to access course reserve materials through the University of Guelph McLaughlin Library. Note that you will need your Central Login ID and password in order to access items on reserve.

For further instructions on accessing reserve resources, visit [How to Get Course Reserve Materials](#).

If at any point during the course you have difficulty accessing reserve materials, please contact the e-Learning Operations and Reserve Services staff at:

Tel: 519-824-4120 ext. 53621

Email: [libres2@uoguelph.ca](mailto:libres2@uoguelph.ca)

<https://www.lib.uoguelph.ca/find/course-reserves-ares/how-get-course-reserve-material>

## **3.3 what online learning will look like...**

The course website (on course link) will hold all course information, links to past lectures, assignments, your grades etc. You can get there by logging into course link ([courselink.uoguelph.ca](http://courselink.uoguelph.ca)) using your central login ID and password.

The Teams platform (accessible through Office 365) will be used for us to connect during lecture and lab hours and for one-on-one meetings as necessary. I can also meet one-on-one using other platforms (google hangouts, zoom, Skype, webex) -just let me know your preference when you email me for a meeting. if you have never used Teams before, please go here for some great introductory resources: <https://www.uoguelph.ca/ccs/services/office365/teams>

### 3.3 Mental health and wellness

the pandemic has made the past few months challenging for many. If at any point you are experiencing difficulty, please reach out for help. I'm here to facilitate your learning and your success this semester and can help to connect with the right supports.

For more Info: [wellness.uoguelph.ca](http://wellness.uoguelph.ca)

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## 4 Learning Outcomes

### 4.1 Course Learning Outcomes

By the end of this course, you should be able to:

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

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## 5 Teaching and Learning Activities

We will be meeting virtually online during the scheduled lecture and lab times. To join the virtual lecture class or lab, please check out the announcement on the course link website. I'm expecting that we will meet from 9am -11 for the lab Monday morning and from 1-2:30 during the lecture slots on Mondays and Wednesday. I will post to the announcements and email if this changes. Because of the way the schedule is with the lab first thing Monday morning, I will likely use the lab slot for lecturing and do some of the hands on work in the lecture slots.

### 5.1 Lecture

#### Week 1

**Topics:** Introductions, overview, Processes and Products

**References:** Chapter 1, 2

## **Week 2**

**Topics:** Processes and Products

**References:** Chapter 4

## **Week 3**

**Topics:** Facies Analysis and Facies Models

**References:** Chapter 5

## **Week 4**

**Topics:** Terrestrial environments

**References:** Chap 9.1-9.4, 10 (skip 10.3 and 10.4); Glacial reading TBA

## **Week 5**

**Topics:** Terrestrial environments continue

**References:** Chap 9.1-9.4, 10 (skip 10.3 and 10.4); Glacial reading TBA

## **Week 6**

**Topics:** Marine Environments

**References:** Chapters, 12.1-12.3; 13.1-13.5, 14, 16 (skip 16.2.2, 16.3, 16.4)

## **Week 7**

**Topics:** Marine Environments cont'

**References:** Chapters, 12.1-12.3; 13.1-13.5, 14, 16 (skip 16.2.2, 16.3, 16.4)

**Week 8**

**Topics:** Stratigraphic concepts

**References:** Chapter 19

**Week 9**

**Topics:** Biostratigraphy/dating techniques

**References:** Chapter 20, 21

**Week 10**

**Topics:** Subsurface Sedimentary Environments

**References:** Chapter 22

**Week 11**

**Topics:** Sea level change and sequence stratigraphy

**References:** Chapter 23

**Week 12**

**Topics:** Wrap up lectures and Island presentations, note Thanksgiving make up class (Dec 4)

**5.2 Lab****Week 1**

**Topics:** introduction to online learning and to the Island project. I will also use some of this time to lecture.

**Week 2**

**Topics:** Lab 1 Description and identification of sediments and sedimentary rocks

**Week 3**

**Topics:** Island Project -location and geological context.

**Week 4**

**Topics:** Lake sediment exercise

**Week 5**

**Topics:** no lab this week because of Thanksgiving

**Week 6**

**Topics:** Island project-sediment collection and description.

**Week 7**

**Topics:** Island Project-sedimentary environments

**Week 8**

**Topics:** Hydrite Stratigraphy exercise

**Week 9**

**Topics:** Island Project-stratigraphy and cross sections

**Week 10**

**Topics:** Island Project-impacts and modelling

**Week 11**

**Topics:** sequence stratigraphy exercise

**Week 12**

**Topics:** Island project -finalize presentation for Dec 4

## 6 Assessments

Assessment for this course will focus on a virtual lab (15%), an online research assignment (20%) and a semester-long island project that consists of five sub-components completed individually (total 35%) and a final group presentation (30%). There will be no midterm or final



in this course. Details about each assignment will be posted on the course website.

Exercises (lake sediments, Hydrate stratigraphy, sequence stratigraphy) will not be graded but are important to help you understand concepts we are covering.

## 6.1 Marking Schemes & Distributions

Name	Scheme A (%)
WorldSed Assignment	20
Lab 1	15
Island Geological Context	10
Island Sediments	5
Island Sedimentary Environments	5
Island Stratigraphy	10
Island impacts	5
Island Final Presentation	30
Total	100

## 6.2 Assessment Details

### WorldSed Assignment (20%)

**Date:** individual deadlines throughout term, Dropbox

**Learning Outcome:** 2

### Lab 1 (15%)

**Due:** Wed, Sep 30, 5:00 PM, in dropbox

**Learning Outcome:** 1, 4

### Island Geological Context (10%)

**Date:** Wed, Oct 7, 5:00 PM, in dropbox

**Learning Outcome:** 1, 2, 3, 4

### Island Sediments (5%)

**Date:** Wed, Oct 28, 5:00 PM, in dropbox

**Learning Outcome:** 1, 2, 4

### Island Sedimentary Environments (5%)

**Date:** Wed, Nov 4, 5:00 PM, in dropbox

**Learning Outcome:** 1, 2, 3, 4

### Island Stratigraphy (10%)

**Date:** Wed, Nov 18, 5:00 PM, in dropbox

**Learning Outcome:** 1, 3, 4

### Island impacts (5%)

**Due:** Wed, Nov 25, 5:00 PM, in dropbox

**Learning Outcome:** 2, 4, 5

**Island Final Presentation (30%)**

**Due:** Fri, Dec 4, online on Teams

**Learning Outcome:** 1, 2, 3, 4, 5

## 6.3 Dropbox Submission

Assignments should be submitted electronically via the online **Dropbox** tool, following the file naming convention (LastName\_assignmentname.doc or PDF). When submitting your assignments using the **Dropbox** tool, do not leave the page until your assignment has successfully uploaded. To verify that your submission was complete, you can view the submission history immediately after the upload to see which files uploaded successfully. The system will also email you a receipt. Save this email receipt as proof of submission.

Be sure to keep a back-up copy of all of your assignments in the event that they are lost in transition. In order to avoid any last-minute computer problems, I strongly recommend you save your assignments to a cloud-based file storage (e.g., OneDrive), or send to your email account, so that should something happen to your computer, the assignment could still be submitted on time or re-submitted.

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## 7 Course Statements

### 7.1 Course Expectations

All students are expected to attend lectures using the online Teams platform and read the assigned chapters before class. It is the responsibility of the student to obtain class notes if they miss a lecture. Please let me know if you are going to be unable to join us for the synchronous live lectures. Video recordings of the lectures will be available within a day or two of the lecture (this will depend on the captioning/transcript creation process) so that you can watch these later if you missed one or want to review the concepts covered. Attendance at all labs using the online Teams Platform is mandatory. It is the responsibility of the student to contact me if any labs will be missed. All students should check the course website regularly for additional course materials and notices regarding assignments and course information. Students will be able to access their marks on the courselink course website.

### 7.2 Other Resources

Check the **course D2L website** for additional in-course resources and information. Login with your email login and password at <http://courselink.uoguelph.ca/index.html>

### 7.3 Grading Policies

All assignments are to be submitted through Dropbox on the course website by the due date (please check the schedule posted on the course website). If you cannot meet a course

requirement, let me know by email 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.

\*Please note that these policies are binding unless academic consideration is given to an individual student.

I will attempt to have grades posted online within 2 weeks of the submission deadline, if the assignment was submitted on time. Once your assignments are marked you can view your grades on the course website by selecting **Grades** from the **Tools** dropdown menu on the navbar. Your course will remain open to you for seven days following the last day of the final exam period.

University of Guelph students can access their final grade by logging into WebAdvisor (using your U of G central ID).

<https://webadvisor.uoguelph.ca>

## 7.4 Group Work

Group work is encouraged when completing in class exercises and assignments though students have to write their own individual reports

## 7.5 Course Evaluations

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. I use these comments every year to improve the course so feel free to provide constructive feedback based on your experience this year. You will be sent instructions to submit feedback online through the course and instructor evaluation website.

## 7.6 Recording of lab and lecture materials

The University of Guelph's primary mode of course delivery has shifted from face-to-face instruction to remote and online learning due to the ongoing COVID-19 pandemic. As a result, some learning activities (e.g., synchronous lectures or student presentations) will be recorded by me and posted to CourseLink for dissemination; students may be recorded during these sessions. By enrolling in a course, unless explicitly stated and brought forward to me, it is assumed that students agree to the possibility of being recorded during lecture, seminar or other "live" course activities, whether delivery is in-class or online/remote.

If a student prefers not to be distinguishable during a recording, they may:

1. turn off their camera
2. mute their microphone

3. edit their name (e.g., initials only) upon entry to each session
4. use the chat function to pose questions.

Students who express to me that they, or a reference to their name or person, do not wish to be recorded will discuss possible alternatives or accommodations me as soon as possible.

## 8 University Statements

### 8.1 Email Communication

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

### 8.2 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. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

<https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml>

### 8.3 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 students (undergraduate, graduate and diploma) 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 their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

Associate Diploma Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml>

## 8.4 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.

## 8.5 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 book their exams at least 7 days in advance and not later than the 40th Class Day.

For Guelph students, information can be found on the SAS website  
<https://www.uoguelph.ca/sas>

For Ridgetown students, information can be found on the Ridgetown SAS website  
<https://www.ridgetownc.com/services/accessibilityservices.cfm>

## 8.6 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 encourages academic integrity. 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.

Undergraduate Calendar - Academic Misconduct  
<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

## 8.7 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.

## 8.8 Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars

<https://www.uoguelph.ca/academics/calendars>

## 8.9 Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings and academic schedules. Any such changes will be announced via CourseLink and/or class email. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

## 8.10 Illness

The University will not normally require verification of illness (doctor's notes) for fall 2020 or winter 2021 semester courses. However, requests for Academic Consideration may still require medical documentation as appropriate.

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