

ES3314B Course Outline

1. Course Information

Course Information

ES3314B: Sedimentary Petrology

Details

Lectures 11:30am-12:30pm Monday and Wednesday

Labs 2:30-5:30pm Wednesday

List of Prerequisites

Earth Sciences 2200A/B; Earth Sciences 2206A/B

Unless you have either the prerequisites for this course or written special permission from the Department of Earth Sciences to enroll in it, you may be removed and withdrawn from this course in accordance with university policy. This may be done after the add/drop deadline of the academic term, and the course will be marked as withdrawn (WDN) on your academic record. This decision may not be appealed.

2. Instructor Information

Instructor: Dr. Carolyn Hill-Svehla, Surface Science Western, chill59@uwo.ca

Students must use their Western (@uwo.ca) email addresses when contacting their instructor and TA. Office hours: contact instructor by email; meetings may be held in person or online.

3. Course Syllabus, Schedule, Delivery Mode

Description: Identification and interpretation of various types of siliciclastic, chemical, and carbonate rocks; characteristics of sedimentary rocks and their key microscopic and macroscopic features for interpretation of present and ancient surficial and atmospheric processes; diagenetic and weathering processes that alter original properties of primary sediments; environmental pollutants and processes in sediment.

Learning Outcomes

Upon successful completion of this course, students will be able to:

- Identify key structures and textures in sedimentary rocks;
- Recognize sedimentary rock-forming minerals using a petrographic microscope;
- Combine textural, structural, and mineralogical data to interpret depositional settings;
- Explain how sedimentary deposits reflect past climates, and surficial and anthropogenic processes;

- Orally present pertinent information on a topic relating to sedimentary rocks to the class; topics may include, but are not limited to, sedimentological features or summarizing a research paper.

Lecture Topics

Introduction to sedimentary rocks

Siliciclastic rocks: textures, fluid flow, sedimentary structures

Siliciclastic rocks: classification, provenance, tectonic setting, depositional environments, chemical weathering, diagenesis

Carbonate rocks: composition and classification, depositional environments, diagenesis

Evaporites, sulphates, BIF, chert, Earth's atmosphere and sedimentary deposits, mineral deposits and sedimentary rocks

Environmental and anthropogenic contaminants in sedimentary deposits

Laboratory (One session = 3 hours)

Sessions	Topics
4	Composition and classification of siliciclastic rocks
4	Composition and classification of carbonate rocks
2	Composition and classification of chemical sedimentary rocks
2	Oral presentations

Contingency plan: Although the intent is for this course to be delivered in person, should any university-declared emergency or other situation require some or all of the course to be delivered online, either synchronously or asynchronously, the course will adapt accordingly. The grading scheme will not change. Any assessments affected will be conducted online as determined by the course instructor.

4. Course Materials

Any sedimentology textbook can be used as a resource, but none are required.

All course material will be posted to OWL: <https://westernu.brightspace.com/>.

Students are responsible for checking the course OWL site (<https://westernu.brightspace.com/>) regularly for news and updates. This is the primary method by which information will be disseminated to all students in the class. If students need assistance with the course OWL site, they can seek support on the [OWL Brightspace Help](#) page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

Technical Requirements

Microscope (provided by department)

5. Methods of Evaluation

The overall course grade will be calculated as follows:

Quizzes (posted on OWL)	15%
Midterm Exam (1 hour, date TBA)	15%
Lab assignments	20%
Oral Presentation	20%
Final Exam (2 hours, date TBA)	30%

A course calendar will be shared at the start of term with important dates to note for this course.

***NOTE: All lab assignments must be completed during each laboratory session. One lab assignment may be missed during the term, or a student may opt to remove their lowest lab assignment score from the total at the end of term.**

If you are unable to meet a course requirement due to illness or other serious circumstances, please contact your instructor immediately. For work/assessments worth less than 10% of the total course grade, the instructor may grant an extension.

General information about missed coursework

Students must familiarize themselves with the *University Policy on Academic Consideration –*

Undergraduate Students in First Entry Programs, posted on the Academic Calendar:

https://uwo.ca/univsec//pdf/academic_policies/appeals/academic_consideration_Sep24.pdf. This policy does not apply to requests for Academic Consideration submitted for **attempted or completed work**, whether online or in person. The policy also does not apply to students experiencing longer-term impacts on their academic responsibilities. These students should consult [Accessible Education](#).

For procedures on how to submit Academic Consideration requests, please see the information posted on the Office of the Registrar's webpage: https://registrar.uwo.ca/academics/academic_considerations/

All requests for Academic Consideration must be made within 48 hours after the assessment date or submission deadline. All Academic Consideration requests must include supporting documentation; however, recognizing that formal documentation may not be available in some extenuating circumstances, the policy allows students to make one Academic Consideration request **without supporting documentation** in this course. However, the following assessments are excluded from this and, therefore, always require formal supporting documentation:

- Examinations scheduled during official examination periods (Defined by policy)
- Practical laboratory and performance tests (Defined by policy)
- Midterm (Designated by the instructor as the one assessment that always requires documentation when requesting Academic Consideration)

When a student mistakenly submits their one allowed Academic Consideration request **without supporting documentation** for the assessments listed above or those in the **Coursework with Assessment Flexibility** section below, the request cannot be recalled and reapplied. This privilege is forfeited.

Absences from Final Examinations

When a student misses the Final Exam and their Academic Consideration has been granted, they will be allowed to write the Special Examination (the name given by the University to a makeup Final Exam). See the Academic Calendar for details (under [Special Examinations](#)), especially for those who miss multiple final exams within one examination period.

6. Additional Statements

6.1 Religious Accommodation

When a recognized religious holiday or observance conflicts with an examination, test, or other scheduled academic obligation, students must request accommodation via the University's Student Absence Portal

(SAP). This request should identify the conflict and specify which course component(s) (e.g. test, midterm, exam) are affected.

Students are encouraged to submit the SAP request as early as possible, but no later than two weeks before any examination, or one week before any mid-term test or quiz, to allow sufficient time for adjustment. The SAP request serves as official notification to both the course instructor and the Academic Advising Office, in accordance with University policy:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf

The Faculty of Science considers religious accommodations as scheduling conflicts. Instructors should provide either a make-up exam or an earlier sitting of the same exam to accommodate the student. For more information on recognized religious holidays, please visit the Diversity Calendar posted on the Equity, Diversity & Inclusion website - <https://www.edi.uwo.ca>

6.2 Academic Accommodation Policies

Students with disabilities are encouraged to contact Accessible Education, which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found at:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf

6.3 General Academic Policies

The website for Registrar Services is <https://www.registrar.uwo.ca/>.

Use of @uwo.ca email: In accordance with policy,

https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf, the centrally administered e-mail account provided to students will be considered the individual's official university email address. It is the responsibility of the account holder to ensure that emails received from the University at their official university address are attended to in a timely manner.

Requests for Relief (formally known as “appeals”)

Policy on Request for Relief from Academic Decision:

https://uwo.ca/univsec//pdf/academic_policies/appeals/requests_for_relief_from_academic_decisions.pdf

Procedures on Request for Relief from Academic Decision (Undergraduate):

https://uwo.ca/univsec//pdf/academic_policies/appeals/undergrad_requests_for_relief_procedure.pdf

6.4 Scholastic Offences

Policy on Scholastic Offences:

https://uwo.ca/univsec//pdf/academic_policies/appeals/scholastic_offences.pdf

Procedures on Scholastic Offences (Undergraduate):

https://uwo.ca/univsec//pdf/academic_policies/appeals/undergrad_scholastic_offence_procedure.pdf

Use of Electronic Devices During Assessments

In courses offered by the Faculty of Science, the possession of unauthorized electronic devices during any in-person assessment (such as tests, midterms, and final examinations) is strictly prohibited. This includes, but is not limited to: mobile phones, smart watches, smart glasses, and wireless earbuds or headphones.

Unless explicitly stated otherwise in advance by the instructor, the presence of any such device at your desk, on your person, or within reach during an assessment will be treated as a *scholastic offence*, even if the device is not in use.

Only devices expressly permitted by the instructor (e.g., non-programmable calculators) may be brought into the assessment room. It is your responsibility to review and comply with these expectations.

Use of Generative AI Tools

Unless otherwise stated, the use of generative AI tools (e.g., ChatGPT, Microsoft Copilot, Google Gemini, or similar platforms) is **not permitted** in the completion of any course assessments, including but not limited to: assignments, lab reports, presentations, tests, and final examinations.

Using such tools for content generation, code writing, problem solving, translation, or summarization—when not explicitly allowed—will be treated as a **scholastic offence**. If the use of generative AI is permitted for a particular assessment, the conditions of use will be specified by the instructor in advance. If no such permission is granted, students must assume that use is prohibited. It is your responsibility to seek clarification before using any AI tools in academic work.

6.5 Support Services

Please visit the Science & Basic Medical Sciences Academic Advising webpage for information on adding/dropping courses, academic considerations for absences, requests for relief, exam conflicts, and many other academic-related matters: <https://www.uwo.ca/sci/counselling/>.

Students who are in emotional/mental distress should refer to Mental Health@Western (<https://uwo.ca/health/>) for a complete list of options about how to obtain help.

Western is committed to reducing incidents of gender-based and sexual violence (GBSV) and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced GBSV (either recently or in the past), you will find information about support services for survivors, including emergency contacts, at: https://www.uwo.ca/health/student_support/survivor_support/get-help.html. To connect with a case manager or set up an appointment, please contact support@uwo.ca.

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. If you have any questions regarding accommodations, you may also wish to contact Accessible Education at:

http://academicsupport.uwo.ca/accessible_education/index.html

Learning-skills counsellors at Learning Development and Success (<https://learning.uwo.ca>) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling. Additional student-run support services are offered by the USC, <https://westernusc.ca/services/>.