



Earth Sciences 2260A Course Outline

1. Course Information

Earth Sciences 2260A: Stratigraphy and Sedimentology: From Beds to Basins – Fall 2024

Laboratories: Monday 2:30 PM to 5:30 PM

Lectures: Tuesday and Thursday 11:30 AM

Office hours: Open door (preferrably email to schedule an appointment)

Tutorial hours: TBD

List of Prerequisites: Earth Sciences 2200A/B.

Unless you have either the requisites for this course or written special permission from the Undergraduate Chair of the Department of Earth Sciences to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

2. Instructor Information

Dr. Alina Shchepetkina, Assistant Professor, Department of Earth Sciences

Instructors	Email	Office	Phone	Office Hours
Dr. Alina Shchepetkina	ashchep@uwo.ca			Open door
David Armstrong (TA)	darmst45@uwo.ca			TBD

Students must use their Western (@uwo.ca) email addresses when contacting their instructors.

3. Course Syllabus, Schedule, Delivery Mode

5. Methods of Evaluation

My goal in this course is to promote your interest in learning the basics of sedimentary geology and encourage creativity. Research has shown that assigning grades can reduce your interest in learning and make you less happy. To learn more about this, I would encourage you to listen to the following podcast: <https://www.happinesslab.fm/season-1-episodes/making-the-grade>) or read the book “Ungrading: Why Rating Students Undermines Learning” by Alfie Kohn (foreword) and Susan D. Blum.

As a result, this year, I will not be assigning grades in the traditional way for this course. I will instead use a system of grading called “Contract Grading”. This is a system of grading that gives students grades based on their work effort and completeness (i.e., how many assignments did you complete), rather than “right or wrong” answers. You will sign a contract that explicitly spells out what is required to achieve different grades, and assign yourself a grade to work towards this semester.

Some key features of this grading scheme include:

- Your work will be graded on a simple, mostly qualitative scale: Satisfactory (S), Unsatisfactory (U), or Incomplete (I). The letter or percentage grades will not be assigned until the end of the semester.
- The TA and I will provide written *feedback* on your work that responds to your ideas, explains your strengths and weaknesses, and offers suggestions for revisions or future improvements. Our feedback will be geared towards responding to your work, not to justify or explain a grade.
- You can opt to receive higher final course grades as a result of extra work, which is intended to increase and deepen your learning experience.
- All work is treated as being equally important; that is, there are no percentages that create work hierarchies (e.g., research paper is 30% of the grade, participation is 10%).
- You will understand exactly how to get various letter grades, and will have more agency and access to whatever grade you want to get.
- There is room some for varying levels of teacher-student negotiations of final grades, given extenuating circumstances, which will ideally take place via face-to-face discussions.

Below, I outline the components of this course. The required quantities of submitted material needed to achieve a certain grade is given in the Grading Contract (appended to the end of the Syllabus).

Anticipated Lecture Topics:

Week 1: Introduction to the course. Clastic rocks. Grain-size scale (*by TA, Dr. Shchepetkina in the field school*).

Week 2: Erosion and transport. Weathering. Common minerals in sedimentary rocks. Mudrocks (*Tuesday lecture by TA, Dr. Shchepetkina in the field school*).

Week 3: Textural properties of sediments. Maturity of clastic material. Carbonate rocks. Bacteria. Chemical and volcanogenic sediments. Carbonaceous sediments. Banded iron formations.

Week 4: Transport media. Properties of fluids. Grain size and flow velocity. Laminar and turbulent flows. Reynolds number.

Week 5: Flow regimes and bedforms. Dunes, bars, plane bedding. Wave- and wind-formed structures.

Week 6: Gravity-driven sediment flows (mass flows). Turbidity currents. Turbidites.

Week 7: READING WEEK.

Week 8: Sedimentary structures in paleogeography. *Mid-term test*.

Week 9: Glacial and aeolian environments. Alluvial fans. Intro to rivers, paleosols, lakes.

material, and will serve as a check on attendance. All of them will be graded as either "S", "U", or "I" based on completeness and your understanding of the material. Those who receive a grade of "U" for the mid-term test, will have one opportunity to revise and re-submit based on the feedback, two weeks after the test (there is NO such opportunity for the final exam). There is no make-up available for those who receive a grade of "I".

Mid-term test, written, random questions on the covered course material, Thursday, October 24th.

Final Exam, written, random questions covering the entire course. Date and classroom: TBA.

Lab Assignments

Seven lab assignments related to work conducted during lab time will be assigned during the course. These lab assignments will typically be assigned on Monday and will be due at the beginning of lab on the following Monday. These assignments will be graded as either "S", "U", or "I" based on completeness and your understanding of the material. Those who receive a grade of "U" or "I" will have one opportunity to revise and re-submit the assignment based on our feedback, two weeks after it was originally assigned. A schedule of assignments is given below.

Lab Assignment
Lab #1: Products of weathering and erosion (TA)
Lab #2: Clastic rocks
Lab #3: Carbonate rocks
Lab #4: Sedimentary structures and environments
Lab #5: Introduction to stratigraphy

Writing Assignment

Students wishing to receive an A+ grade must complete a Writing Assignment, analyzing the relevant scientific literature and outlining your ideas on an *emergent/emerging topic* in sedimentary geology. The report should include at least 3-5 references;

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**:

- Mid-term test and final examination
- Group Project Presentation

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.

Evaluation Scheme for Missed Assessments

If you are unable to meet a course requirement due to sudden illness or other serious circumstances, please contact the course instructor in advance to discuss an extension or make-up opportunity.

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.

Classroom Behaviour

Disruptive behavior will not be tolerated in class or on the course website. Please respect the rights of your classmates to benefit from the lecture by limiting your conversations to those essential to the class. Students who persist in loud, rude or otherwise disruptive behavior will be asked to leave. Cellular phones, pagers, and text-messaging devices are not to be used in class and must be placed in silent

[https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic Accommodation_disabilities.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf).

Academic Policies

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

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 e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at their official university address is attended to in a timely manner.

Scholastic offences

Earth Sciences 2260A Grading Contract

Prof. Alina Shchepetkina | Fall 2024

Dear students,

In this course, you will define your own learning path at the start of the semester. My aim is to give you more control over your learning and reduce the stress of traditional grading. Your grade will be determined by fulfilling a contract that outlines the requirements for achieving a specific grade. Contract grading allows you to decide how much work you want to do, considering your other commitments and the grade you want or need.

If you complete the work outlined in your contract, you will receive the corresponding grade. For example, if you have other commitments that prevent you from meeting the requirements for an A, you may choose to contract for a B or C. As long as you fulfill your contract, you will earn that grade. This approach gives you the responsibility to manage your own work and projects. If your situation changes during the semester, you can discuss your contract with me, and we can adjust it as needed.

After I am back from the field school (in our third lecture), each student will sign a contract for a grade, with a classmate as a witness. I will countersign it, and we will each keep a copy. Below, I outline the general terms of the contract and what is required to earn different grades. There will be opportunities for feedback and revisions on most assignments, allowing you to learn and improve.

Best regards,

Prof. Alina Shchepetkina

General Terms of Agreement

- 1. Attendance:** You agree to strive to attend every class and be on time. If extenuating circumstances prevent you from attending class, you are responsible for asking your classmates about announcements and/or new requirements. I will not keep formal attendance records but will track your attendance in class and through your participation in the in-class quizzes.
- 2. Participation and Collaboration:** You agree to participate in ways that are most appropriate for each day's goal (by actively listening, taking notes, asking questions, offering comments, etc.). You agree to work cooperatively and collegially in groups during class time, as requested by the professor.
- 3. Course Assignments:** You agree to strive to turn in all course assignments on time. All work should be completed fully and meet all assignment requirements. **IMPORTANT:** If assignments are not completed fully, they may be marked as "Incomplete" (see below). In the gradebook, a grade of "S" will be assigned a "2", a grade of "U" will be assigned a "1", and a grade of "I" will be assigned a "0".

a. **Random In-class Quizzes:** On occasion, I will give informal quizzes during lecture periods. These five closed-book in-class quizzes will be used to determine how well you understand the material and will serve as a random check on attendance. These quizzes will be graded as either "Satisfactory" (S), "Unsatisfactory" (U), or "Incomplete" (I) based on completeness and your understanding of the material.

b. **Lab Assignments:** Seven assignments related to work conducted during lab time will be assigned during the course. These assignments will be graded as either "Satisfactory" (S), "Unsatisfactory" (U), or "Incomplete" (I) based on completeness and your understanding of the material. Those who receive a grade of "Unsatisfactory" or "Incomplete" will have one opportunity to revise and resubmit the assignment based on our feedback two weeks after the handed-in assignment.

c. **Group Project:** Students are expected to work together in small groups (~2 people) to critically analyze a recent paper in sedimentary geology and will consist of an oral component, i.e., a 7-8 minute presentation by both authors followed by a 2-3 min question period. Every student in the audience will be expected to ask at least 1-2 questions during the Q&A period. This project will be graded as either "Satisfactory" (S), "Unsatisfactory" (U), or "Incomplete" (I) based on completeness and your understanding of the material.

d. **Mid-Term Test and**

Signature Page

By staying in this course, you agree to all of the above terms:

Your Contract Grade: _____

Your Name: _____

Signature: _____

Date: _____

Witness Name: _____

Witness Signature: _____

Date: _____

Co-signed by Instructor: _____

Date: _____