

Earth Sciences 2265A Course Outline

PLEASE NOTE: This course is designed for **in-person classroom learning**, with a compulsory component of hands-on exercises with rocks and fossils. You are strongly advised to consider other course options if you plan to learn remotely.

1. Course Information

Course Information

Earth Sciences 2265A, Paleobiology and Paleoecology

Academic term: 2026–27 fall term (September 1 – December 31, 2026)

Location and time:

Lectures: (see secure course site)

Laboratories: (see secure course site)

Prerequisites/corequisite: Earth Sciences 1022A/B or Earth Sciences 2200A/B or permission of the Department.

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special permission from the Department of Earth Sciences (Undergraduate Chair) to enroll in it, they may be removed and withdrawn from this course in accordance with university policy. This may be done after the add/drop deadline of the academic term, and the course will be marked as withdrawn (WDN) on their academic record.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

2. Instructor Information (see secure course site)

Instructors	Email	Office	Phone	Office Hours
Dr. Jisuo Jin				by appointment
TA: Aashirya Gulati				by appointment

- Students must use their Western (@uwo.ca) email addresses when contacting course instructor and TA.
- Office hours can be arranged either in-person or by Zoom.

3. Course Syllabus, Schedule, Delivery Mode

Key dates:

Classes begin: September 9, 2026

NDTR: Wednesday, September 30, 2026

Thanksgiving: Monday, October 12, 2026

Fall Reading Week: October 10–18, 2026

Classes end: December 9, 2026

Exam period: December 11–22, 2026

Course Description: A survey of common fossils from bacteria, protists, calcareous algae, to invertebrate animals. Topics on each group of fossils include functional morphology, evolution, ancient living environments, contribution to sediment accumulation and reef-building, utility for dating and correlating rocks and for understanding long-term biodiversity change.

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

- recognize the most common fossil groups in the geological record, predominantly megafossils that are visible as components of sedimentary rocks of various geological periods based on laboratory assignments;
- describe the most common rock-forming, including reef-building fossil groups and their importance in ancient ecosystems;
- explain the functional morphology of fossil organisms and interpret their adaptations to living environments in the geological past;
- use paleoecological information to interpret depositional environments, such as marine vs. fresh-water conditions, water depth, turbulence level, oxygen content, and substrate types.

Lectures (in-person classes; [see secure course site](#))

- Week 1: Introduction to the principles of paleontology, fossils and the geological time scale, paleoenvironments and paleobiogeography, processes of fossilization, and classification of organisms.
- Week 2: Bacteria. Origin and evolution of primitive life forms and their relationships to the early lithosphere, hydrosphere, and atmosphere. Bacteria contribution to ecosystems and deposits associated with black smokers, hot springs, microbial deposits.
- Week 3: Protists. Calcareous and siliceous forms (such as coccoliths, foraminifers, diatoms, radiolarians) and their importance to the carbon dioxide and silica balance in the ecosystems.
- Week 4–13: Major invertebrate fossil groups: zoological bauplan, functional morphology, evolution, and ecology/paleoecology; biostratigraphy, paleoenvironmental reconstruction, paleobiogeographic reconstruction, major trends of biotic radiation and mass extinctions.

Laboratory (in-person labs; [see secure course site](#))

Three-hour labs on these aspects of fossils: taphonomy, classification, and functional morphology, mostly relevant to interpretation of paleoenvironment.

Lab 1. Fossilization

Lab 2. Bacteria and protists

Lab 3. The reef-builders: sponges, corals, and byozoans

Lab 4. The shelly benthos: brachiopods and molluscs

Lab 5. Arthropoda (trilobites and “sea scorpions”)

Lab 6. The Deuterostomate invertebrates: echinoderms and hemichordates

4. Course Materials

Recommended text-book

- 1) Clarkson, E.N.K. 1998. Invertebrate Palaeontology and Evolution (4th edition). Blackwell Science.

Print or E-book version can be purchased at Western Bookstore:

<https://bookstore.uwo.ca/product/0632052384>

Other course material

2) Jin, J. PowerPoint lectures.

(Free, available in PDF electronic version on OWL_Brightspace)

5. Methods of Evaluation

Grading Scheme and Assessment Dates

The overall course grade will be calculated as listed below:

Classroom mini-quizzes (during lectures)	30%
Lab assignments	30%
Final exam	40%

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.

Required components of the course:

Labs: A student must complete all six lab assignments in order to get a final grade for the course.

Quizzes: A student must complete 8 of the 10 quizzes in order to get a final grade for the course.

Deadlines: The 48-Hour No-Late-Penalty Period

For each lab, students will submit a portion of the assignments during the 3-hour lab session, and submit the remainder portion within 5 days after the lab, although it will be most convenient to submit the take-home portion by the beginning of lab session in the following week, taking advantage of the university policy of 48-hour grace period.

Please note the new academic policy: After the 48-hour period, no further submissions will be

accepted, and students do not need to request Academic Consideration for a missed deadline; their grade for this component will be calculated as described above.

Special Examination

Per university policy, Academic Consideration requests with supporting documentation are required for the final examinations scheduled during official examination periods by the Registrar's Office.

If the student has been approved by the Academic Advising Office to write a Special Examination (SPC) and the final exam is their only outstanding course component, an SPC will be assigned to them and scheduled by the instructor per university policy.

If the student misses their SPC exam and is approved for Academic Consideration, they will be withdrawn from the course without academic penalty. If they experienced extenuating circumstances such as prolonged illness, they may appeal to the Associate Dean (Academic), on a case-by-case basis, for the opportunity to write the final exam the next time the course is offered. An outstanding SPC will reduce their course load for the term in which the exam is deferred, as outlined in the [Definitions of Types of Examinations](#) policy.

If the student misses their SPC exam and Academic Consideration is not approved, or was not requested, they will receive a grade of zero on the exam.

6. Additional Statements

6.1 Religious Accommodation

When a recognized religious holiday either requires a student to be absent from the University, or requires or prohibits an activity that makes it impossible for them to complete an academic requirement scheduled that day, they are entitled to accommodation. No student will be penalized for an absence for religious reasons, and an alternative means of satisfying the requirement will be arranged. This accommodation is provided in accordance with the University's policy on Accommodation for Religious Holidays:

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

The student should submit their requests through the Student Absence Portal (SAP), identifying the conflict and the specific course component(s) affected (e.g., test, midterm, exam).

Midterms and Tests: If a religious observance conflicts with a midterm test, they must submit their request no later than **one week** before the test. Their instructor will arrange an early sitting of the test. As set out above, no makeup test is offered for any other reason; this early sitting is available specifically for this accommodation.

Final Examinations: If a religious observance conflicts with the final exam, the student must submit their request no later than **two weeks** before the exam. Their instructor will arrange a Special Examination to take place no later than one month after the end of the examination period.

Students are responsible for finding out what was covered in any class they miss due to a religious observance, and for taking the appropriate steps to keep up with the course.

If a suitable arrangement cannot be reached between a student and their instructor, they should consult the Undergraduate Chair of the department offering the course, and if necessary, the Associate Dean

(Academic) of the Faculty of Science.

For a list of recognized religious observances, please visit the calendars posted on the Equity, Diversity & Inclusion website - <https://www.edi.uwo.ca> (About Us – Resources – Additional Resources – Calendars).

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, hidden cameras and wireless earbuds.

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

Effective September 2026, the typical penalty for this offence is a failing grade in the course AND a 12-month prohibition on retaking the course.

Only devices expressly permitted by the instructor (e.g., non-programmable calculators) may be brought

into the assessment room. It is their 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 the student's responsibility to seek clarification before using any AI tools in academic work.

6.5 Support Services

Academic Advising. 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/advising/>.

Mental Health Support. 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.

Gender-Based and Sexual Violence. 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 a student has experienced GBSV (either recently or in the past), they can 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.

Accessibility for Coursework. A student may contact the course instructor if they require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to them. If they have any questions regarding accommodations, they may also contact Accessible Education at http://academicsupport.uwo.ca/accessible_education/index.html

Learning Development and Success. Learning-skills counsellors at Learning Development and Success (<https://learning.uwo.ca>) are ready to help students improve their learning skills. The facility offers 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.

Student Councils.

Student-run support services are offered by the University Students' Council (<https://westernusc.ca>) and the Science Students' Council (<https://www.westernssc.ca>).