

THE UNIVERSITY OF WINNIPEG
GEOG 2216-(3)-001
Physical Geology
Winter 2024

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Lectures: Tuesday/Thursday 11:30-12:45

Labs: Wednesday 8:30 to 10:20

Office Hours: Tuesday/Thursday 13:00-14:00

COURSE DESCRIPTION: This course surveys the elements of stratigraphy, structural geology, earthquakes, historical geology, and volcanism within the unifying concept of plate tectonics. Labs demonstrate the methods of determining the characteristics of major geological structures as they typically appear on maps and air photos.

IMPORTANT DATES:

First Lecture	January 9, 2024
First Lab	January 10, 2024
Reading Week, No lectures	February 18-24, 2024
Louis Riel Day, University Closed	February 19, 2024
Final date to withdraw without academic penalty	March 15, 2024
Good Friday, University Closed	March 29, 2024
Last Lecture	April 4, 2024

COURSE ASSESSMENT:

Mid-Term Test	25 %	February 15, 2024
Labs	25 %	Jan. 10 to Mar. 20, 2024
Laboratory Exam	25 %	March 27, 2024
Final Test	25 %	T.B.A.

Final grades will be assigned based on accumulated numeric marks allocated throughout the term. Letter grades are typically determined using the following numeric groupings as guidelines:

90-100% = A+; 84-89 = A; 80-83 = A-; 75-79 = B+; 70-74 = B; 65-69 = C+; 55-64 = C; 50-54 = D; < 50 = F.

NOTE: The numeric boundaries separating letter grades may be adjusted at the request of the Departmental Review Committee.

TEXTBOOK: Essentials of Geology (7th Ed) by Stephen Marshak (Ebook)
ISBN:978-0-393-88309-1

TOPICS FOR DISCUSSION: The following table outlines the topics to be discussed during the lectures. The order of presentation is subject to change as circumstances dictate and all the topics listed may not be covered.

Week 1	Basic Petrology: principal characteristics of igneous, sedimentary and metamorphic rocks.
Week 2	Stratigraphy: general principals; types of breaks in the geologic record; stratigraphic correlation; geologic time scale.
Weeks 3-4	Structural Geology: dip and strike; solution of simple dip structures by the three-point method; types of crustal stresses; simple and plunging folds; faults; igneous intrusive structures.
Weeks 5-6	Earthquakes: types and transmission of seismic waves; epicentres and foci; earthquake magnitudes; earthquake distribution; internal structure of the Earth; major structural features of the crust.
Weeks 7-8	Plate Tectonics: evolution of the theory and survey of major lines of evidence; paleomagnetism; magnetic reversals and paleomagnetic evidence; determination of rates of spreading; major plates and processes at plate boundaries; relationship to major crustal features; polar wandering; continental dispersal and convergence; Wilson cycles and sea level.
Weeks 9-10	Fossils and Historical Geology: fossil classification and identification; processes of fossilization and conditions of preservation; dating techniques; geologic time scale and major events in the evolution of the fossil record; fluctuations in the diversity of life; extinctions; meteorite impacts as geological processes; Uniformitarianism and New Catastrophism.
Weeks 11-12	Volcanoes: classification and origin; distribution; eruption characteristics.

LABORATORY WORK: The labs in Physical Geology are considered integral parts of the course and will be presented as such. Therefore, it is the responsibility of the student to attend all scheduled labs. Students are required to download the lab assignments from Nexus; you are also required to complete the UW WHMIS course before labs commence on January 10th. The labs are worth 25% of the course grade. Late labs are penalized one percent for each day or part of day that they are late.

Ongoing Guidelines & Regulations

1. A permitted or necessary change in mode of delivery may require adjustments to important aspects of course outlines, like class schedule and the number, nature, and weighting of assignments and/or exams.
2. Students can find answers to frequently asked questions related to remote learning here: <https://www.uwinnipeg.ca/covid-19/remote-learning-faq.html>.
3. When it is necessary to cancel a class due to exceptional circumstances, every effort will be made to inform students via UWinnipeg email (and/or using the preferred form of communication, as designated in this outline).
4. Students have the responsibility to regularly check their UWinnipeg e-mail addresses to ensure timely receipt of correspondence from the University and/or their course instructors (b.buhay@uwinnipeg.ca).
5. Please note that withdrawing before the VW date does not necessarily result in a fee refund.
6. Students may choose not to attend classes or write examinations on holydays of their religion, but they must notify their instructors at least two weeks in advance. Instructors will then provide opportunity for students to make up work or examinations without penalty. A list of religious holidays can be found in the 2023-24 Undergraduate Academic Calendar.
7. Students with documented disabilities, temporary or chronic medical conditions, requiring academic accommodations for tests/exams or during lectures/laboratories are encouraged to contact Accessibility Services (AS) at 204-786-9771 or <https://www.uwinnipeg.ca/accessibility-services/> to discuss appropriate options. All information about a student's disability or medical condition remains confidential.
8. Reference to the appropriate items in the Regulations & Policies section of the *Course Calendar*, including Senate appeals and academic misconduct (e.g. plagiarism, cheating) <https://www.uwinnipeg.ca/academics/calendar/docs/regulationsandpolicies.pdf> Instructors should become familiar with the procedures for dealing with alleged academic misconduct at <https://www.uwinnipeg.ca/institutional-analysis/docs/policies/academic-misconduct-procedures.pdf>

9. All students, faculty and staff have the right to participate, learn, and work in an environment that is free of harassment and discrimination. The UW Respectful Working and Learning Environment Policy may be found at <https://www.uwinnipeg.ca/respect/>.
10. **Regulations, Policies, and Academic Integrity.** Students are encouraged to familiarize themselves with the Regulations and Policies found in the University Academic Calendar at <https://www.uwinnipeg.ca/academics/calendar/docs/regulationsandpolicies.pdf>. Particular attention should be given to subsections 8 (Student Discipline), 9 (Senate Appeals), and 10 (Grade Appeals). Please emphasize the importance of maintaining academic integrity and the potential consequences of engaging in plagiarism, cheating, and other forms of academic misconduct. Even unintentional plagiarism, as described in the UW Library video tutorial “Avoiding Plagiarism” (<https://www.youtube.com/watch?v=UvFdxRU9a8g>), is a form of academic misconduct. Similarly, uploading essays and other assignments to essay vendor or trader sites (filesharing sites that are known providers of essays for use by others who submit them to instructors as their own work) is a form of misconduct, as it involves aiding and abetting plagiarism.

Important information is outlined in the Academic Misconduct Policy and Procedures: <https://www.uwinnipeg.ca/institutional-analysis/docs/policies/academic-misconduct-policy.pdf> and <https://www.uwinnipeg.ca/institutional-analysis/docs/policies/academic-misconduct-procedures.pdf>.

11. **Respectful Learning Environment.** Students are expected to conduct themselves in a respectful manner on campus and in the learning environment irrespective of platform being used. Behaviour, communication, or acts that are inconsistent with a number of UW policies could be considered non-academic misconduct. See the Respectful Working and Learning Environment Policy (<https://www.uwinnipeg.ca/respect/respect-policy.html>) and Acceptable Use of Information Technology Policy (<https://www.uwinnipeg.ca/institutional-analysis/docs/policies/acceptable-use-of-information-technology-policy.pdf>). More detailed information is outlined in the Non-Academic Misconduct Policy and Procedures (<https://www.uwinnipeg.ca/institutional-analysis/docs/student-non-academic-misconduct-policy.pdf> and <https://www.uwinnipeg.ca/institutional-analysis/docs/student-non-academic-misconduct-procedures.pdf>).

12. Copyright and Intellectual Property. Course materials are the property of the instructor who developed them. Examples of such materials are course outlines, assignment descriptions, lecture notes, test questions, and presentation slides—irrespective of format. Students who upload these materials to filesharing sites, or in any other way share these materials with others outside the class without prior permission of the instructor/presenter, are in violation of copyright law and University policy. Students must also seek prior permission of the instructor/presenter before, for example, photographing, recording, or taking screenshots of slides, presentations, lectures, and notes on the board. Students found to be in violation of an instructor’s intellectual property rights could face serious consequences pursuant to the Academic Misconduct or Non-Academic Misconduct Policy; such consequences could possibly involve legal sanction under the Copyright Policy (https://copyright.uwinnipeg.ca/docs/copyright_policy_2017.pdf).

13. Academic Integrity and AI Text-generating Tools.

Students must follow principles of academic integrity (e.g., honesty, respect, fairness, and responsibility) in their use of material obtained through AI text-generating tools (e.g., ChatGPT, Bing, Notion AI). If an instructor prohibits the use of AI tools in a course, students may face an allegation of academic misconduct if using them to do assignments. If AI tools are permitted, students must cite them. According to the MLA(<https://style.mla.org/citing-generative-ai/>), “you should

1. cite a generative AI tool whenever you paraphrase, quote, or incorporate into your own work any content (whether text, image, data, or other) that was created by it

2. acknowledge all functional uses of the tool (like editing your prose or translating words) in a note, your text, or another suitable location

3. take care to vet the secondary sources it cites”

If students aren’t sure whether or not they can use AI tools, they should ask their professors.

14. Research Ethics. Students conducting research interviews, focus groups, surveys, or any other method of collecting data from any person, including a family member, must obtain research ethics approval before commencing data collection. Exceptions are research activities done in class as a learning exercise. For submission requirements and deadlines, see <http://www.uwinnipeg.ca/research/human-ethics.html>

15. Privacy. Students are reminded of their rights in relation to the collecting of personal data by the University

(<https://www.uwinnipeg.ca/privacy/admissions-privacy-notice.html>), especially if Zoom is being used for remote teaching (<https://www.uwinnipeg.ca/privacy/zoom-privacy-notice.html>) and testing/proctoring (<https://www.uwinnipeg.ca/privacy/zoom-test-and-exam-proctoring.html>).

16. **Indigenous Student Services.** Indigenous students seeking additional supports, academic or other, are encouraged to contact the Aboriginal Student Services Centre (ASSC). The ASSC offers a variety of support services, and was created to maintain a safe, educational and culturally sensitive environment for all Aboriginal students (First Nation, Metis and Inuit) as they pursue their academic studies at The University of Winnipeg. More information can be found at: <http://www.uwinnipeg.ca/assc/>.