

Faculty of Science Course Syllabus (revised August 2024) Department of Earth and Environmental Sciences

Tectonics, ERTH 4350 and ERTH 5350 Fall Term 2024

Dalhousie University is located in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq.

We are all Treaty people.

Instructor: Djordje Grujic dgrujic@dal.ca LSC 3045

Lectures: Fridays 8:35-11:25

Laboratories: *n/a*Tutorials: *n/a*

Course Description

This course aims to integrate the different aspects of geology taught in the third-year core program. The main focus of the course is on tectonic processes and how they shape and change the Earth's crust. We will study the essential geological, geophysical, and geochemical factors that are currently in action, such as plate tectonics, and consider how these may have been different in the past.

Course Prerequisites

ERTH 2270.03, ERTH 3140.03

Recommended: third-year core program courses

Minimum grades: B+

Required Course Materials

Textbook

Global Tectonics

By: P. Keary, K A Klepeis, F J Vine

eBook

http://ca.wiley.com/WileyCDA/WileyTitle/productCd-EHEP002358.html

and

Plate Tectonics. Continental Drift and Mountain Building

By: Frisch, W., Meschede, M., Blakey, R. C.

eBook by Springer

http://www.springer.com/earth+sciences+and+geography/geology/book/978-3-540-76503-5

• Labs: *n/a*



Course Structure

Our course is organised into 12 weekly modules.

Most weekly modules will include:

- lectures
- article readings and discussion
- graded assignments

Course Assessment

•	Assignments: Tectonic data analysis and interpretation.6, each 5%	30%
•	In-class discussions on a chapter or journal paper. 2, each 15%	30%
•	Term Paper:	40%

Other course requirements

Attend and participate in the lectures and related class discussions.

Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale:

A+ (90-100)	B+ (77-79)	C+ (65-69)	D	(50-54)
A (85-89)	B (73-76)	C (60-64)	F	(<50)
A- (80-84)	B- (70-72)	C- (55-59)		

Assignments

All the assignments are individual. However, students are allowed and encouraged to work together on paper discussions.

Term Paper

- The term paper MUST be submitted by 4:00 PM on December 04, 2024.
- No late paper will be accepted.

Term Paper may fail because it:

- Does not meet minimum scientific standards
- It contains serious errors in logic
- Does not meet minimum standards of English
- Lacks originality
- Is late
- Contain plagiarised material

Plagiarism detection software will be used



Course Content

This schedule is tentative. It may change to accommodate guest lecturers.

Week	Date	Topic
1	September 06	Introduction to Class, Earth Structure
2	September 13	Assignment I L2 Plate Movements L3 Plate Driving Forces
4	September 20	Assignment II L4 Continental Grabens L5 Magmatism in Rift Systems
5	September 27	L6 Passive Continental Margins Assignment III
6	October 04	L7 Mid Ocean Ridges L8 Hot Spots
7	October 11	L9 Mantle dynamics Student presentation 1
8	October 18	L10 Subduction zones L11 Continental arcs Assignment IV
9	October 25	L12 Continental crust
11	November 01	L13 Exhumation of UHP terranes Assignment V
10	November 08	Student presentation 2
11	November 15	Study Break
12	November 22	L14 Active orogens / Assignment VI
14	November 29	No lecture
	December 06	Term Paper due Classes End, Exam Period begins



University Policies and Statements

This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate.

Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.

Information: https://www.dal.ca/dept/university secretariat/academic-integrity.html

Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia).

Information: https://www.dal.ca/campus life/academic-support/accessibility.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

Code: https://www.dal.ca/dept/university secretariat/policies/student-life/code-of-student-conduct.html

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness

Statement: http://www.dal.ca/cultureofrespect.html

Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit or e-mail the Indigenous Student Centre (1321 Edward St) (elders@dal.ca).

Information: https://www.dal.ca/campus life/communities/indigenous.html

Important Dates in the Academic Year (including add/drop dates)

https://www.dal.ca/academics/important dates.html

University Grading Practices

https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html



Student Resources and Support

Advising

General Advising https://www.dal.ca/campus life/academic-support/advising.html

Science Program Advisors: https://www.dal.ca/faculty/science/current-students/academic-advising.html

Indigenous Student Centre: https://www.dal.ca/campus life/communities/indigenous.html

Black Students Advising Centre: https://www.dal.ca/campus_life/communities/black-student-advising.html

International Centre: https://www.dal.ca/campus life/international-centre/current-students.html

Academic supports

Library: https://libraries.dal.ca/

Writing Centre: https://www.dal.ca/campus life/academic-support/writing-and-study-skills.html

Studying for Success: https://www.dal.ca/campus life/academic-support/study-skills-and-tutoring.html

Copyright Office: https://libraries.dal.ca/services/copyright-office.html

Fair Dealing Guidelines https://libraries.dal.ca/services/copyright-office/fair-dealing.html

Other supports and services

Student Health & Wellness Centre: https://www.dal.ca/campus_life/health-and-wellness/services-

support/student-health-and-wellness.html

Student Advocacy: https://dsu.ca/dsas

Ombudsperson: https://www.dal.ca/campus life/safety-respect/student-rights-and-responsibilities/where-to-get-

help/ombudsperson.html

Safety

Biosafety: https://www.dal.ca/dept/safety/programs-services/biosafety.html

Chemical Safety: https://www.dal.ca/dept/safety/programs-services/chemical-safety.html

 $\textbf{Radiation Safety}: \underline{\text{https://www.dal.ca/dept/safety/programs-services/radiation-safety.html}}$

Scent-Free Program: https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-

free.html

Dalhousie COVID-19 information and updates: https://www.dal.ca/covid-19-information-and-

updates.html