

University Western Ontario - ES2200a Summer 2017
Plate Tectonics Theory, Environments and Products

Professor:

Dr. Neil Banerjee

Office: B&GS 0166

Phone: 519-661-3727

E-mail: es2200uwo@gmail.com

TAs:

TBD

E-mail: es2200uwo@gmail.com

Aims of the course: This is a comprehensive geology course that covers geological processes and products in the context of Plate Tectonics. The course strives to enable students to identify minerals and classify important rock types of Earth's crust, and to understand the tectonic environments and processes in which different rock types are formed, deformed, and transformed. In order to attain these goals, students will receive feedback on their techniques through weekly labs.

Pre-requisites: Prerequisite: Completion of a first year Earth Sciences course or enrollment in any Faculty of Science program. Please note: "Unless you have either the pre-requisites for this course or written special permission from your Dean 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."

Required materials 10x (or better) hand lens. Available for purchase during labs.

Required text

Earth: An Introduction to Physical Geology, Third or Fourth Canadian Edition by Tarbuck, Lutgens, Tsujita, and Hicock, 2015, ISBN 9780137047765

Grading scheme

1) Labs (20%)	June 12/13/14 B&GS Rm. 1053 (on Campus)
3) Lab Exam (15%)	June 14 th , 2017 B&GS Rm. 1053 (on Campus)
2) Mid-term Exam (15%)	June 17 th , 2017 at an approved exam centre
3) Quizzes (10%)	Two; Dates TBD
4) Theory Exam (30%)	During the exam period
5) Class Participation (10%)	Participation in online discussions will be noted

Note that the Final Theory exam may cover any of the course material presented in lectures, labs, and homework assignments.

Make-up policy: The policy for scheduling a special exam is indicated in the *UWO Calendar*.

Due dates: Minus 10% per day late. If you have exceptional circumstances, please contact Dr. Banerjee, preferably in advance of the due date.

Course Topics

Introduction to Geology and Plate Tectonics Overview, Mineral properties	Geologic Maps
Rocks & Minerals: Formation and Transformation	Plate Tectonics & Tectonic Settings
Igneous Minerals Major rock forming minerals	History of Plate tectonics Including contribution of seismology & paleomagnetism
Igneous Rocks Magma generation; mafic to silicic compositions	Mechanics of Plate tectonics
Sedimentary Minerals Clastic & precipitate minerals	Oceanic rifts & Ophiolites The formation of oceanic crust
Sedimentary Rocks Erosion & clast transport.; deposition & lithification; evaporation & precipitation	Active oceanic margins - Island arcs Volcanism; clastic sedimentary environments
Metamorphic Minerals Mineral stability & alteration	Tectonics & Metamorphism Regional metamorphism
Metamorphic Rocks Metamorphic facies; regional metamorphism; contact metamorphism	Deformation structures. Folds & faulting
	Continental Rifting Wilson cycles; passive margins
	Continental collision & orogens Isostasy, & gravity
	Mineral deposits and plate tectonics

Accessibility: Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 x 82147 for any specific question regarding an accommodation.

Illness: If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or other supporting documentation to the Dean's office as soon as possible and contact your instructor immediately. It is the student's responsibility to make alternative arrangements with their instructor once the accommodation has been approved and the instructor has been informed. In the event of a missed final exam, a "Recommendation of Special Examination" form must be obtained from the Dean's Office immediately. For further information please see:

<http://www.uwo.ca/univsec/handbook/appeals/medical.pdf>

A student requiring academic accommodation due to illness, should use the Student Medical Certificate when visiting an off-campus medical facility or request a Records Release Form (located in the Dean's Office) for visits to Student Health Services. The form can be found here:

https://studentservices.uwo.ca/secure/medical_document.pdf

Statement on Academic Offences: Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

<http://www.uwo.ca/univsec/handbook/appeals/scholoff.pdf>

Plagiarism: The following statement on Plagiarism should be added to course outlines:
“Plagiarism: Students must write their essays and assignments in their own words. Whenever students take an idea, or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar).”

The Exceptional Contributor: “The Class Was Better Because You Were Here”

As part of the learning process I expect all students to participate actively online. **Remember that 10% of your grade is assigned to participation.** Here are some guidelines to keep in mind when in class:

- You provide clear, concise, and correct explanations that help others gain a better understanding of concepts.
- You make outstanding, original, and informative comments.
- You make highly attentive and constructive comments on other people's statements.
- You ask questions that are penetrating or help clarify.
- You contribute strategically (understanding that there are other students in the class).
- You actively encourage others to express their ideas.
- You use language that communicates interest in what others are saying.

Statements Required by the Faculty Senate

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Exams: “Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.”

Conduct: “Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: <http://www.uwo.ca/univsec/handbook/appeals/scholoff.pdf>