

ERTH2404 – ENGINEERING GEOSCIENCE WINTER 2015

COURSE OBJECTIVES

- To describe earth materials and processes from both engineering and geological perspectives;
- To be aware of the impact of geological processes on engineering work;
- To be familiar with the specialized vocabulary of the earth sciences.

LECTURES

All EARTH2404 students are requested to attend the lectures. See tentative course schedule

Instructor: Mark Shore
Contact: mark.shore3@carleton.ca
2102 Herzberg
Office hours: Tue 11:30 AM – 1:00 PM and by appointment
Lectures: Tue 10:05 AM – 11:25 AM
Thu 10:05 AM – 11:25 AM
101 Azrieli Theater

Text book (mandatory):
Geology for Engineers & Environmental Scientists by Alan E. Kehew.
Prentice-Hall. 2006, 3rd Edition (ISBN 0-13-145730-6).
The book is available at the Carleton bookstore.

LABORATORIES

There is a laboratory component to the course for students registered in EARTH2404. Note that labs alternate between even and odd weeks, e.g., A1E or A1O, such that each student will attend a lab every second week. Check to see which week you are scheduled to attend the lab in the course schedule below.

Section	Day and Time	Room	Start Date
A1	Tue 6:05 PM – 8:55 PM	2110HP	Jan 09, 2015
A2	Mon 6:05 PM – 8:55 PM		
A3	Mon 2:35 PM – 5:25 PM		
A4	Fri 11:35 AM – 2:25 PM		
A5	Wed 11:35 AM – 2:25 PM		

The objectives for the laboratories are to: identify minerals in rock specimens; utilize rock classification systems for igneous, metamorphic and sedimentary rocks; use information on topographic and geological maps to construct cross-sections, identify structures and interpret geological history.

For the first three labs you must bring with you a magnifying glass or jewellers loupe, a penknife, a magnet and a penny.

Lab Manual (mandatory)
ERTH2404 – Winter 2015
Available in Room 118, Steacie building.

TENTATIVE COURSE SCHEDULE (dates subject to changes)

Date	Lectures	Laboratory
Jan 6	1. Intro, Geological time	No Labs this week
Jan 8	2. Geological time	
Jan 13	3. Minerals	Lab 1 Even
Jan 15	4. Igneous rocks	Minerals
Jan 20	5. Sedimentary rocks	Lab 1 ODD
Jan 22	6. Metamorphic rocks	Minerals
Jan 27	7. Plate tectonics	Lab 2 Even
Jan 29	8. Soils	Igneous rocks
Feb 3	9. Volcanoes	Lab 2 ODD
Feb 5	10. Volcanic hazards	Igneous rocks
Feb 10	11. Earthquakes	Lab 3 Even
Feb 12	12. Engineering seismology	Sed/Metamorphic rocks
Feb 16 - 20	Winter break	
Feb 24	Review	Lab 3 ODD
Feb 26	MIDTERM EXAM	Sed/Metamorphic rocks
Mar 3	13. Invited lecture	LAB EXAM Even
Mar 5	14. Structures	(Labs 1, 2, 3)
Mar 10	15. Rock mechanics	LAB EXAM Odd
Mar 12	16. Mass movement	(Labs 1, 2, 3)
Mar 17	17. Ground water	Lab 4 Even
Mar 19	18. Rivers and lakes	Structures & Geological Maps
Mar 24	19. Glacial processes	Lab 4 Odd
Mar 26	20. Natural resources	Structures & Geological Maps
Mar 31	21. Geophysics	No Lab This Week
April 2	22. Geomagnetic hazards	
April 6	Review	

IMPORTANT DATES

- Jan 20, 2015: Last day to request academic accommodations for the lab exam.
- Jan 31, 2015: Last day for withdrawal from winter term and winter portion of fall/winter courses with full fee adjustment.
- Feb 13, 2015: Last day to request academic accommodations for the midterm exam.
- March 9, 2015: Last day to request academic accommodations for the final exam.

EVALUATION

Theory exams are true/false and/or multiple choice questions.

Special “help sessions” will be scheduled in preparation for the lab exam and the theory exams.

A passing grade must be achieved in the lab to complete the course. Swapping between lab sections to write the lab exam is not permitted

Evaluation			
Theory exams	Midterm exam Feb 26	Lectures before the study break	30 %
	Final exam (End of term)	Lectures after the study break	30 %
	Course quizzes	Lectures	10 %
Laboratory work	Lab exam (March 2 – 13)	Labs 1, 2, 3	15 %
	Lab Quizzes	Labs 1, 2, 3	10 %
	Lab 4 Assignment	(handed in for grading)	5%
Total			100%

CU Learn

It is the student’s responsibility to download the lecture notes from CU Learn prior to lectures. Students should check the course homepage for general announcements. Students will be able to track their marks on CU Learn.

In case of problems with CU Learn, contact Computing and Communication Services (CCS) at ccs_service_desk@carleton.ca

APPROPRIATE USE OF TECHNOLOGY IN THE CLASSROOM

- Cell phones must be turned OFF at all times.
- Laptops and tablets are to be used only to look and annotate the lecture notes.

BOOKS IN THE LIBRARY RESERVE

2 hour maximum reading period

- Kehew, Alan E. 2006. Geology for Engineers & Environmental Scientists. 3rd Edition. Prentice Hall.
- Tarbuck, E.J. and Lutgens, F.K. 1999. Earth – An introduction to physical geology. 6th Edition. Prentice Hall.

REQUESTS FOR ACADEMIC ACCOMODATIONS

You may need special arrangements to meet your academic obligations during the term because of disability, pregnancy or religious obligations. Please email me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist.

Since labs are starting on 9 January, students requiring accommodations for lab work are urged to contact me during the first week of term.

Students with disabilities requiring academic accommodations in this course must register with the Paul Menton Centre for Students with Disabilities for a formal evaluation of disability-related needs. Registered PMC students are required to contact the Centre, 613-520-6608, to ensure that I receive your Letter of Accommodation, no later than two weeks before the lab exam. If you require accommodation for your formally scheduled final exam in this course, please submit your request for accommodation to PMC by March 9, 2015 for April examinations.

You can visit the Equity Services website to view the policies and to obtain more detailed information on academic accommodation at <http://carleton.ca/equity/accommodation>

DEFERRED EXAMINATIONS

For the lab exam and the midterm exam:

Students who are unable to write their examination because of illness or other circumstances beyond their control may apply to write a deferred examination. They must inform Mark Shore by email no later than five working days after the examination date. Their case must be substantiated with an official medical note or other documents.

For the final exam: see the Undergraduate Calendar, section 2.5.

PLAGIARISM

Plagiarism means to use and pass off as one's own idea or product work of another without expressly giving credit. Plagiarism is a serious offence. The instructor is required to report all incidents or suspected incidents of plagiarism to the Dean.

During the labs, students are encouraged to work cooperatively and share ideas. Each student, however, is required to submit an independent report for lab 4.

OTHER UNIVERSITY POLICIES

Please see next page for a summary of important university-wide policies, rights and responsibilities.

University Policies

ACADEMIC INTEGRITY

It is your responsibility to review Carleton's policy on Academic Integrity - Section 14 of the Calendar. <http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/acadregsuniv14/>

Plagiarism

The instructor is required to report all incidents (or suspected incidents) of plagiarism to the Dean. All work handed in must be your own. Plagiarism and cheating are viewed as being particularly serious and the sanctions imposed are accordingly severe. Students are expected to familiarize themselves with and follow the Carleton University Student Academic Integrity Policy. The Policy is strictly enforced and is binding on all students. Plagiarism and cheating – presenting another's ideas, arguments, words or images as your own, using unauthorized material, misrepresentation, fabricating or misrepresenting research data, unauthorized co-operation or collaboration or completing work for another student – weaken the quality of the graduate degree. Academic dishonesty in any form will not be tolerated. Students who infringe the Policy may be subject to one of several penalties including: expulsion; suspension from all studies at Carleton; suspension from full-time studies; a refusal of permission to continue or to register in a specific degree program; academic probation; or a grade of Failure in the course.

REQUESTS FOR ACADEMIC ACCOMMODATION

Please review the Carleton's Student Guide to Academic Accommodations at <http://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf>, and the websites therein.

For Students with Disabilities:

"The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your **Letter of Accommodation at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation.** After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website (www.carleton.ca/pmc) for the deadline to request accommodations for the formally-scheduled exam . "

For Religious Observance:

1. *As soon as you receive your course syllabus*, identify any potential conflicts between your religious obligations and course requirements. 2. Make a formal written request to your instructor indicating the nature of the religious obligation and suggest possible alternative dates and/or means of satisfying the academic requirements. *NOTE: Such request should be made during the first two weeks of the term*, or as soon as possible after a need for accommodation is known to exist, but in no case later than the second last week of classes for that term. For detailed information on Religious Obligations please visit our website at: carleton.ca/equity/accommodation/academic.

For Pregnancy:

A. For final exams. Identify and discuss your needs for final examinations with your professors. When an agreement is reached fill out and submit the online **Pregnancy Accommodation Final Exam Request Form** at: carleton.ca/equity/accommodation. Equity Services will forward the request to Exam Services to coordinate the accommodation. **B.** For in-class accommodations ONLY. If you anticipate you will only require in-class accommodations, discuss them directly with your course instructor. This request should be made in the first two weeks of the academic term. For detailed information on pregnancy and parental leave policies please visit the website at: carleton.ca/equity/accommodation/academic/