

Environmental Geology

Course Description

A study of earth processes and natural hazards and their influence on rocks, soils, fluids, and life in ways that either affect or control man's environment.

Course Rationale

As the world's population grows and expands, humans are placing a greater demand on earth resources, increasing the volume and extent of environmental pollution, encountering natural hazards more frequently, and are causing a rapid change in the world's climate. College-educated consumers, voters, and decision-makers need to understand the scope and impact of these changes and the limitations that science and technology have in reducing their negative effects. Studying environmental geology provides a valuable perspective for this understanding. This is a general survey course that does not count towards a major in the geological sciences.

Course Objectives

- Learn how earth processes affect and interact with our civilization, and how humans depend on earth resources
- Learn the basic principles of geology
- Review basic concepts of mathematics, chemistry, physics, and biology as applied to geology
- Develop an understanding of the methods geologists use to study the Earth
- Become familiar with environmental problems facing residents of Central Texas

Instructional Methodology

This course will be taught in a lecture/discussion format illustrated with videos, maps, diagrams, digital photographs and content on Web sites, and with an in-class field activity. Student learning will be assessed with three in-class examinations and a take-home assignment.

Registration

Section 35237 - 2:00-3:50 P.M. Monday through Thursday in RGC Rm. 108

Prerequisite - Reading proficiency on Texas Success Initiative (TSI) testing or are TSI exempt; a knowledge of high school and middle school mathematics is required. This is an accelerated, 5.5-week course that is not suitable for all students. Please complete the "Who Succeeds in Accelerated Courses?" self-assessment to determine if this course is appropriate for you.

Credit - Credit may not be received for GEOL 1305 and either GEOL 1301 or GEOL 1405.

Required Textbooks and Materials

Textbook - Keller, Edward A. 2008. *Introduction to environmental geology (4th edition)*. Upper Saddle River, NJ: Pearson Prentice Hall, 668 p., ISBN 978-0-13-225150-1.

Multimedia - King, Hobart M., Carpenter, B. M., and Wilson, Nicole D., 2008. *Hazard city: assignments in applied geology (third edition)*. Upper Saddle River, NJ: Pearson Prentice Hall, 1 CD packaged with Keller and Blodgett (2008).

Communication

Professor: Robert (Bob) H. Blodgett, Ph.D., P.G., Professor

Office Hours: 9:30AM - 2:00PM Monday and 5:50-6:20PM Tuesday or by appointment in Rio Grande Campus Rm.106. Appointments can be arranged for Tuesday or Wednesday mornings by telephone or by e-mail.

Telephone/ voice mail: 223-3892

Electronic mail: [rblodget @ austincc.edu](mailto:rblodget@austincc.edu) - checked at least daily Monday through Friday

Web page: <http://www.austincc.edu/rblodget>

Assessment and Grading

Examinations

Three in-class, closed-book tests will contain varying proportions of multiple-choice, matching, and short and long answer questions drawn from lectures, handouts, and reading assignments. The final lecture examination will be given on the last day of class and will emphasize material covered since the last mid-term examination. No examinations will be given early for any reason. If a single mid-term exam is missed, the final exam score will be recorded for that missed exam. Scores of 70 or greater on the final examination will substitute for the lowest mid-term examination score. Review questions will be distributed before each examination.

Hazard City Assignment

You will be assigned a take-home exercise on the Hazard City (3e) CD that accompanies your textbook. To prepare for this assignment you will be asked to submit your first, second, and third choice of topics to the professor by Wednesday, June 10, 2009. You will then be assigned a specific version of the exercise and a separate two-page paper on the hazard. A paper copy of the assignment must be turned in no later than the beginning of class on Wednesday, July 1, 2009. Five percentage points will be deducted for each calendar day that the assignment is turned in late. Late assignments placed in Professor Blodgett's mailbox in RGC Rm. 204 must have the date stamped on them by the administrative assistant in the mail room. Late work will not be accepted after the assignment has been returned to the class.

Final Grade

Your final course average will be calculated as follows:

25%	Midterm Exam 1	15%	Hazard City assignment
25%	Midterm Exam 2	35%	Final Examination

There is no "extra credit." The following scale will be used to determine your course grade:

90-100% - A	70-79% - C	Below 60% - F
80-89% - B	60-69% - D	

Students whose final course average is 59%, 69%, 79%, or 89% will be advanced to the next higher grade if their final examination score shows improvement over their mid-term examination scores.

Course Policies

Participation

Students are expected to attend lectures and participate in class discussion. Students who do not attend class during the first two weeks of the semester may be administratively withdrawn. You are expected to work with the professor and your classmates. This may include distributing and collecting course materials in the classroom, setting up and logging off of computers, participating in class demonstrations, and cleaning up the classroom.

Withdrawals

If you decide to drop this class, you must protect your academic record by withdrawing no later than Tuesday, June 30, 2009. The professor, however, reserves the right to withdraw a student for not meeting course objectives. Departmental policy forbids the instructor from withdrawing you from this class after the withdrawal date. It is your responsibility to verify that you have successfully withdrawn from the class before the Final Withdrawal Date. You are strongly encouraged to keep copies of paperwork should there be a problem in the computer records.

Incompletes

An incomplete (grade of "I") will only be given if extenuating circumstances, such as illness or death of a loved one, keep a student from completing the final examination. Incompletes must be requested in writing with documentation of the extenuating circumstances. If a grade of I is given, the final exam must be taken by a date set by the student and professor that is at least three weeks before the end of the 2009 Fall Semester.

Special Needs

Each ACC campus offers support services for students with documented physical or psychological disabilities. Students with disabilities must request reasonable accommodations through the Office for Students with Disabilities (RGC Rm. 150 / 223-3142) on the campus where they expect to take the majority of their classes. Students are encouraged to do this three weeks before the start of the semester. Students who are requesting accommodation must provide the professor with a Notice of Accommodation form at the beginning of the semester before any accommodations can be made. Both ACC and your professor are committed to making accommodations and adjustments for qualified students. All information about your medical condition or special needs is confidential.

Freedom of Expression, Scholastic Dishonesty, and Student Discipline- See Attachment 1

Studying

Science courses commonly require a different approach to studying than other courses. In this course you will be asked to conceptualize things in three dimensions, understand complex concepts, and learn a whole new vocabulary for describing your planet. You will improve your performance if you take hand-written notes from both the textbook and the lecture, answer the review questions in each chapter, and go over the summary, and key terms at the end of each assigned chapter. Many students find it useful to make flash cards for terms, their definitions, and significance in environmental geology. You may also find it beneficial to study in groups with your classmates. Many students underestimate the amount of time needed to do well in this course. At a minimum, you should expect to spend at least two hours outside of class studying for every hour you spend in class.

Classroom Etiquette

You are expected to be seated and ready for class on time. If you arrive late or need to leave early, please sit near the door. Please notify the professor if you have to arrive late or leave early on a regular basis. As common courtesy, do not interrupt the professor or classmates when they are speaking, do not carry on conversations during lectures, and turn off audible sounds on your cell phone or other electronic device before you come to class. Use of personal electronic devices, including laptop computers, is not allowed in the classroom. While in the classroom you are expected to focus on course content and not engage in electronic communication.

GEOL 1305 Course Schedule*

<u>Date</u>	<u>Topic</u>	<u>Chapter</u>
Mon. - June 1	Introduction, Earth Systems and Hazards	Preface, 1, 5
Tues. - June 2	Plate Tectonics and Earth Materials	2, 3
Wed. - June 3	Geologic Time and Introduction to Earthquakes	6, Appen. D
Thurs. - June 4	Earthquake Processes and Hazards	6
Mon. - June 8	Earthquake Mitigation and Safety, and Tsunamis	6
Tues. - June 9	Volcanic Processes and Hazards	7
Wed. - June 10	Volcanoes - Mitigation, Prediction and Safety Hydrologic Cycle and Streams - Hazard City Topic Choices Due	7, 8, 12
Thurs. - June 11	Flooding and Flood Control	8
Mon. - June 15	EXAM 1 (Preface, Chap 1-3, 5-7, Appen. D); Groundwater	12
Tues. - June 16	Water Pollution	13
Wed. - June 17	Water Pollution and Mass Wasting	13, 9
Thurs. - June 18	Mass Wasting and Subsidence	9
Mon. - June 22	Field Trip - Shoal Creek and Castle Hill	-
Tues. - June 23	Subsidence and Soils	9, 16
Wed. - June 24	Coastal Processes and Hazards	10
Thurs. - June 25	EXAM 2 (Chap.8- 9, 12-13, 16); Waste Management	20.2, 17
Mon. - June 29	Waste Management	17
Tues. - June 30	Mineral and Energy Resources	14, 15
Wed. - July 1	Energy Resources Hazard City Assignment Due	15
Thurs. - July 2	Climate Change	19
Mon. - July 6	Mitigation of Climate Change	19, 20.7
Tues. - July 7	FINAL EXAM (Chap. 10, 14-15, 17, 19, 20.2, 20.7 & review topics); course evaluation	-

*Schedule changes may occur during the semester. Any changes will be announced in class.

ACC Academic Policies and Services

Policies

Freedom of Expression

Each student is strongly encouraged to participate in class. In any classroom situation that includes discussion and critical thinking, there are bound to be many differing viewpoints. These differences enhance the learning experience and create an atmosphere where students and instructors alike will be encouraged to think and learn. On sensitive and volatile topics, students may sometimes disagree not only with each other but also with the instructor. It is expected that faculty and students will respect the views of others expressed in classroom discussions.

Scholastic Dishonesty

Acts prohibited by the College for which discipline may be administered include scholastic dishonesty, including but not limited to cheating on an exam or quiz, plagiarizing, and unauthorized collaboration with another in preparing outside work. Academic work submitted by students shall be the result of their thought, research, or self-expression. Academic work is defined as, but not limited to tests, quizzes, whether taken electronically or on paper; projects, either individual or group; classroom presentations, and homework.

Student Discipline

Students enrolled in this course are expected to comply with the provisions of this syllabus and the Student Code of Conduct. With the exception of scholastic dishonesty, violations of the Student Code of Conduct will be reported to the Rio Grande Campus Dean/Student Services for disciplinary action. Any student suspected of scholastic dishonesty will meet in private with the professor to discuss the alleged offense(s) and review the evidence that supports the charge. After conferring with the student, the professor will dismiss the allegation or assess an academic penalty. A student will be informed in writing if an academic penalty is assessed and he or she should consult the current Student Handbook for their rights and responsibilities.

Services

Student Handbook: <http://www.austincc.edu/handbook/>

Student Resources: http://www.austincc.edu/resources_students/

Rio Grande Campus Directory: <http://www.austincc.edu/rgc/directory.php>

Testing Center Guidelines: <http://www.austincc.edu/testctr/studentarea.php>

ACC Bookstore: <http://austincc.bkstore.com>