GEOL 1305 – ENVIRONMENTAL GEOLOGY

SECTION INFORMATION
Section 002, Synonym 30568
Lecture: Mon., Tues., Wed., & Thurs., 10:00 – 11:55 a.m., Room 2229, Cypress Creek Campus

INSTRUCTOR INFORMATION
Professor: Meredith Denton-Hedrick
Office Hours: Tuesday & Thursday 12:00-12:30 p.m. in CYP Adjunct Faculty Office (2204.4)
Tuesday & Thursday 1:20-1:50 p.m. in NRG Adjunct Faculty Office (Portable 4)
See me or email me to schedule a conference outside of regular office hours.
Voicemail: 223-1790 x26216
E-mail: mdentonh@austincc.edu (Email is the best and fastest way to reach me.)

COURSE DESCRIPTION
This course offers 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.

PREREQUISITES
Reading proficiency on Texas Success Initiative (TSI) testing or are TSI exempt; knowledge of high school and middle school mathematics is required.

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 at most colleges and universities.

COURSE OBJECTIVES
Upon successful completion of the course, students will be able to:
• describe the scientific method and how it is applied in the earth sciences; and
• explain the hydrologic cycle and plate tectonics and their relationship to natural hazards and earth resources; and
• explain how earth processes create hazards to life and property; and
• describe where earth resources occur, how they form, and the major environmental effects caused by their extraction, processing, and use; and
• describe the major sources of water, soil, and sediment pollution and methods for their management; and
• explain the causes and effects of global climate change.

STUDENT LEARNING OUTCOMES
Course-Level Student Learning Outcomes
Upon successful completion of the course, students will be able to:
• describe the scientific method as applied in the earth sciences; and
• explain the hydrologic cycle and theory of plate tectonics as related to natural hazards and earth resources; and
• describe common earth materials and their relationship to environmental hazards; and
• explain how earth processes create hazards to life and property; and
• describe the occurrence and formation of earth resources and significant environmental effects caused by their extraction, processing, and use; and
• describe the major sources of water, soil, and sediment pollution and methods for their management; and
• explain the causes and effects of global climate change.
Program-Level Student Learning Outcomes for Geology
Upon successful completion of the geology program, students will be able to:
• describe the scientific method and apply it in a geological context; and
• describe Earth’s major systems and explain how they interact; and
• identify common rocks, minerals, and fossils and interpret how they form; and
• describe and interpret the development of landforms and geologic structures; and
• describe the sedimentological, paleoclimatic, tectonic, and biological history of the Earth with a focus on North America; and
• construct and interpret geologic, stratigraphic, and topographic maps, cross-sections, and topographic profiles; and
• explain the plate tectonic theory and its relationship to earth processes, features, and landforms.

General Education Student Learning Outcomes
As a Core Curriculum course, students completing this course will demonstrate competence in:
• Critical Thinking
  ○ Gathering, analyzing, synthesizing, evaluating and applying information.
• Quantitative and Empirical Reasoning
  ○ Applying mathematical, logical and scientific principles and methods.

REQUIRED TEXTBOOK

INSTRUCTIONAL METHODOLOGY
This course will be taught in a lecture/discussion format illustrated with PowerPoint presentations, videos, maps, diagrams, digital photographs, and content on Web sites. Student learning will be assessed with in-class examinations, quizzes, and assigned exercises.

COURSE GRADE
Your final course grade will be calculated as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture examinations (2)</td>
<td>200</td>
</tr>
<tr>
<td>Pop quizzes (variable)</td>
<td></td>
</tr>
<tr>
<td>Assignments (approx. 6)</td>
<td>60</td>
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<tr>
<td>Comprehensive final exam</td>
<td>150</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>410 + pop quizzes</td>
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No extra credit will be given. The following scale will be used to determine your course grade:

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

EXAMINATIONS
Two examinations and a final exam will be given. All examinations will be in-class, closed-book tests. Questions will be drawn from lectures, handouts, reading assignments, and homework assignments. A study guide will be distributed before each examination. A final exam on the last day of class will be comprehensive. Exams may consist of multiple choice, matching, diagram labeling, fill-in-the-blank, and essay questions. *No exams will be given early.*

QUIZZES
Unannounced quizzes will be given. The intent of these quizzes is to ensure that students attend class and are prepared for class each day. Quizzes will usually be given at the beginning of the class period, and will consist of short answer, matching, or fill-in-the-blank type questions. Quizzes will usually cover the chapter from the previous class period and/or the chapter to be covered the day of the quiz.
HOMEWORK ASSIGNMENTS
Several homework assignments will be given during the semester. Unless you are notified otherwise in class, these assignments will be due one week from the day they are assigned. Some assignments will consist of questions about movies that we will watch in class; those assignments will be due the same day they are assigned.

COURSE POLICIES

Attendance/Participation
Attendance will be taken every class period. Students are expected to attend lectures and participate in class discussion, as tests and quizzes are derived from materials presented in lecture as well as from the text. You will learn more from attending the classes than if you just read the text. Regular and punctual class attendance is expected of all students. If attendance or compliance with other course policies is unsatisfactory, the instructor may withdraw students from the class.

Withdrawals
If you decide to drop this class, you must protect your academic record by withdrawing no later than Wednesday, August 7, 2013. It is your responsibility to verify that you have successfully withdrawn from the class before the final withdrawal date.

Missed Exams
Make up exams are only offered under extenuating circumstances. Arranging the make-up exam will be at the sole discretion of the instructor. Students must contact the instructor by email or by phone within 24 hours of missing an exam if they wish to take a makeup exam.

Missed Quizzes
Missed quizzes cannot be made up. If you know you have to miss class on a certain date, alert the professor ahead of time to avoid a zero on the quiz.

Late Work
Late work will not be accepted. You are responsible for any assignment that you miss. Check the Blackboard website or contact the professor or another student as soon as possible to get information on the assignment that you missed. Assignments are due at the beginning of the class period.

Blackboard
Students will be expected to access the Blackboard website for this course. All students have access to Blackboard via their student ID, but you will have to set up a password to gain access. Important class information will be posted on Blackboard, including lecture slides, copies of handouts, copies of homework assignments, etc. All students will be expected to routinely visit Blackboard; some class resources will only be available through Blackboard.

Classroom Etiquette
Please be seated and ready for class on time. Lectures start promptly. If you arrive late or need to leave early, please sit near the door. As common courtesy, please do not carry on conversations during lectures, and turn off audible sounds on your cell phone, pager, or computer before you come to class. Do not send text messages during class. Use of a laptop is acceptable, as long as its use is course-related. Students who are disturbing others will be asked to leave the classroom. Repeated offenses may result in the instructor dropping you from the class.

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 Campus Dean of 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. He or she should consult the Student Handbook for his/her rights and responsibilities.

**Academic Freedom**
Institutions of higher education are conducted for the common good. The common good depends upon a search for truth and upon free expression. In this course, the professor and students shall strive to protect free inquiry and the open exchange of facts, ideas, and opinions. Students are free to take exception to views offered in this course, and to reserve judgment about debatable issues. Grades will not be affected by personal views. With this freedom comes the responsibility of civility and a respect for a diversity of ideas and opinions. This means that students must take turns speaking, listen to others speak without interruption, and refrain from name-calling or other personal attacks.

**ACC Academic Policies and Services** ([http://www.austincc.edu/handbook/](http://www.austincc.edu/handbook/))

**Attendance/Class Participation:** Regular and punctual class and laboratory attendance is expected of all students. If attendance or compliance with other course policies is unsatisfactory, the instructor may withdraw students from the class.

**Withdrawal Policy:** It is the responsibility of each student to ensure that his or her name is removed from the roll should he or she decide to withdraw from the class. The instructor does, however, reserve the right to drop a student should he or she feel it is necessary. If a student decides to withdraw, he or she should also verify that the withdrawal is submitted before the Final Withdrawal Date. The student is also strongly encouraged to retain their copy of the withdrawal form for their records. Students who enroll for the third or subsequent time in a course taken since Fall, 2002, may be charged a higher tuition rate, for that course. State law permits students to withdraw from no more than six courses during their entire undergraduate career at Texas public colleges or universities. With certain exceptions, all course withdrawals automatically count towards this limit. Details regarding this policy can be found in the ACC college catalog.

**Incompletes:** An instructor may award a grade of “I” (Incomplete) if a student was unable to complete all of the objectives for the passing grade in a course. An incomplete grade cannot be carried beyond the established date in the following semester. The completion date is determined by the instructor but may not be later than the final deadline for withdrawal in the subsequent semester.

**Statement on Scholastic Dishonesty:** A student attending ACC assumes responsibility for conduct compatible with the mission of the college as an educational institution. Students have the responsibility to submit coursework that is the result of their own thought, research, or self-expression. Students must follow all instructions given by faculty or designated college representatives when taking examinations, placement assessments, tests, quizzes, and evaluations. Actions constituting scholastic dishonesty include, but are not limited to, plagiarism, cheating, fabrication, collusion, and falsifying documents. Penalties for scholastic dishonesty will depend upon the nature of the violation and may range from lowering a grade on one assignment to an “F” in the course and/or expulsion from the college. See the Student Standards of Conduct and Disciplinary Process and other policies at [http://www.austincc.edu/current/needtoknow](http://www.austincc.edu/current/needtoknow)

**Student Rights and Responsibilities:** Students at the college have the rights accorded by the U.S. Constitution to freedom of speech, peaceful assembly, petition, and association. These rights carry with them the responsibility to accord the same rights to others in the college community and not to interfere with or disrupt the educational process. Opportunity for students to examine and question pertinent data and assumptions of a given discipline, guided by the evidence of scholarly research, is appropriate in a learning environment. This concept is accompanied by an equally demanding concept of responsibility on the part of the student. As willing partners in learning, students must comply with college rules and procedures.

**Statement on Students with Disabilities:** Each ACC campus offers support services for students with documented disabilities. Students with disabilities who need classroom, academic or other accommodations must request them through the Office for Students with Disabilities (OSD). Students are encouraged to request accommodations when they register for courses or at least three weeks before the start of the semester, otherwise the provision of accommodations may be delayed. Students who have received approval for
accommodations from OSD for this course must provide the instructor with the 'Notice of Approved Accommodations' from OSD before accommodations will be provided. Arrangements for academic accommodations can only be made after the instructor receives the ‘Notice of Approved Accommodations’ from the student. Students with approved accommodations are encouraged to submit the ‘Notice of Approved Accommodations’ to the instructor at the beginning of the semester because a reasonable amount of time may be needed to prepare and arrange for the accommodations. Additional information about the Office for Students with Disabilities is available at http://www.austincc.edu/support/osd/

**Safety Statement:** Austin Community College is committed to providing a safe and healthy environment for study and work. You are expected to learn and comply with ACC environmental, health and safety procedures and agree to follow ACC safety policies. Additional information on these can be found at http://www.austincc.edu/ehs. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the Emergency Procedures poster and Campus Safety Plan map in each classroom. Additional information about emergency procedures and how to sign up for ACC Emergency Alerts to be notified in the event of a serious emergency can be found at: http://www.austincc.edu/emergency/ Please note, you are expected to conduct yourself professionally with respect and courtesy to all. Anyone who thoughtlessly or intentionally jeopardizes the health or safety of another individual will be dismissed from the day's activity, may be withdrawn from the class, and/or barred from attending future activities. You are expected to conduct yourself professionally with respect and courtesy to all. Anyone who thoughtlessly or intentionally jeopardizes the health or safety of another individual will be immediately dismissed from the day’s activity, may be withdrawn from the class, and/or barred from attending future activities.

**Use of ACC email:** All College e-mail communication to students will be sent solely to the student’s ACCmail account, with the expectation that such communications will be read in a timely fashion. ACC will send important information and will notify you of any college related emergencies using this account. Students should only expect to receive email communication from their instructor using this account. Likewise, students should use their ACCmail account when communicating with instructors and staff. Instructions for activating an ACCmail account can be found at http://www.austincc.edu/accmail/index.php

**Testing Center Policy:** Under certain circumstances, an instructor may have students take an examination in a testing center. Students using the Academic Testing Center must govern themselves according to the Student Guide for Use of ACC Testing Centers and should read the entire guide before going to take the exam. To request an exam, one must have an ACC Photo ID, the Course Abbreviation (e.g. GEOL), the Course Number (e.g. 1301), the Course Synonym (e.g. 03293), the Course Section (e.g. 002) and the Instructor's Name. Do NOT bring cell phones to the Testing Center. Having your cell phone in the testing room, regardless of whether it is on or off, will revoke your testing privileges for the remainder of the semester. ACC Testing Center policies can be found at http://www.austincc.edu/testctr/

**Student and Instructional Services:** ACC strives to provide exemplary support to its students and offers a broad variety of opportunities and services. Information on these services and support systems is available at: http://www.austincc.edu/s4/ Links to many student services and other information can be found at: http://www.austincc.edu/current/ ACC Learning Labs provide free tutoring services to all ACC students currently enrolled in the course to be tutored. The tutor schedule for each Learning Lab may be found at: http://www.austincc.edu/tutor/students/tutoring.php For help setting up your ACCeID, ACC Gmail, or ACC Blackboard, see a Learning Lab Technician at any ACC Learning Lab.

**OTHER HELPFUL INFORMATION**

**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 notes from both the textbook and the lecture
- answer the study questions in each chapter
- go over the chapter summary
- revisit fundamental concepts in each chapter
• review key terms at the end of each assigned chapter

Many students find it useful to make flash cards for terms and their definitions.

**Web Resources**

http://www.mygeoscienceplace.com
- Companion website for the textbook for reviewing concepts and terms. Also offers practice quizzes.

http://geology.com/geology-dictionary.shtml
- Excellent resource for reviewing key vocabulary terms.

**Student Services**

Resources for current students http://www.austincc.edu/current/
- Student handbook http://www.austincc.edu/handbook/
- Testing Center Policies http://www.austincc.edu/testctr/
- ACC Bookstore http://austincc.bncollege.com/
- Northridge campus directory http://www.austincc.edu/nrg/

**How to Get an A in this Class (or any Other)**

An A is supposed to indicate "outstanding scholarship." Something is "outstanding" because it is significantly better than what most people normally produce. This write-up is provided as a guide. Each person is different and has different ways of learning; this is what works for me. Also, take into account time available and need. For example, if you are doing well, don't bother recopying notes.

**Good Habits (Be active, not passive!)**

- Attend class.
- Read the material before class.
- Stick to business in the classroom. Socialize outside.
- Take notes so you have a record of what was discussed. Make a note of what slides were shown.
- Fill in the "holes" in your notes while the lecture is still fresh in your mind.
- Look up what you don't understand (see textbook glossary and/or index, or online resources).
- Write out definitions in notes so that they are handy when you are studying.
- Recopy notes (time-consuming but helpful), or type them into your computer.
- Expect to put in time. Good grades require at least 3 hours of "homework" per hour of class.
- Review what you learned in class within 24 hours of learning the information. Don't wait until the day before the test. Cramming doesn't lead to understanding.

**Studying for Tests**

- Stay current with class material.
- Have a comprehensive set of class notes.
- Look up what you don't understand, or ask your professor.
- Turn off your cell phone, television, and internet access (especially instant messaging).
- Don't study where you sleep. Do as much of your studying in the daytime as possible.
- Do ACTIVE, not passive studying.
- Study with a group of your classmates – as long as you're studying, not socializing.
- CONCENTRATE while studying. Staring at words isn't enough. Just reading isn't enough.
- THINK. QUESTION. MEMORIZE. WRITE. VERBALIZE.
- Make sure you can give definitions from memory for key vocabulary terms.
- Compile important factual information on "summary sheets".
- Use summary sheets to test yourself on definitions, formulas, numbers, etc.
- Redraw key diagrams. Try to do it from memory.
- Make use of the online supplemental information for your textbook.
<table>
<thead>
<tr>
<th>CLASS</th>
<th>DAY</th>
<th>DATE</th>
<th>TOPIC</th>
<th>CHAP.</th>
<th>HW</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mon</td>
<td>7/8</td>
<td>Introduction and Fundamental Concepts</td>
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<td>2</td>
<td>Tues</td>
<td>7/9</td>
<td>Structure of the Earth and Plate Tectonics</td>
<td>1, 2</td>
<td>due 7/11</td>
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<td>3</td>
<td>Wed</td>
<td>7/10</td>
<td>Plate Tectonics, Earth Materials</td>
<td>2, 3</td>
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<tr>
<td>4</td>
<td>Thurs</td>
<td>7/11</td>
<td>Earth Materials</td>
<td>3</td>
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<tr>
<td>5</td>
<td>Mon</td>
<td>7/15</td>
<td>Natural Hazards, Earthquakes</td>
<td>5, 6</td>
<td>due 7/17</td>
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<td>6</td>
<td>Tues</td>
<td>7/16</td>
<td>Earthquakes</td>
<td>6</td>
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<td>7</td>
<td>Wed</td>
<td>7/17</td>
<td>Tsunami, Volcanoes</td>
<td>7,8</td>
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<tr>
<td>8</td>
<td>Thurs</td>
<td>7/18</td>
<td>Volcanoes, Exam 1 (1-3, 5-7)</td>
<td>8</td>
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<tr>
<td>9</td>
<td>Mon</td>
<td>7/22</td>
<td>Rivers and Floods</td>
<td>9</td>
<td>due 7/24</td>
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<tr>
<td>10</td>
<td>Tues</td>
<td>7/23</td>
<td>Rivers and Floods, Flash Flood Alley</td>
<td>9</td>
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<tr>
<td>11</td>
<td>Wed</td>
<td>7/24</td>
<td>Mass Wasting</td>
<td>9, 10</td>
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<td>12</td>
<td>Thurs</td>
<td>7/25</td>
<td>Mass Wasting, Coastal Processes</td>
<td>10, 11</td>
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<tr>
<td>13</td>
<td>Mon</td>
<td>7/29</td>
<td>Water Resources</td>
<td>13</td>
<td>due 8/1</td>
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<td>14</td>
<td>Tues</td>
<td>7/30</td>
<td>Water Resources, Water Pollution</td>
<td>13, 14</td>
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<tr>
<td>15</td>
<td>Wed</td>
<td>7/31</td>
<td>Mineral Resources, Exam 2 (8-11, 13)</td>
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<td>16</td>
<td>Thurs</td>
<td>8/1</td>
<td>Mineral Resources, Energy Resources</td>
<td>15, 16</td>
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<td>17</td>
<td>Mon</td>
<td>8/5</td>
<td>Energy Resources, Waste Management</td>
<td>16, 19</td>
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<td>18</td>
<td>Tues</td>
<td>8/6</td>
<td>Waste Management</td>
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<tr>
<td>19</td>
<td>Wed</td>
<td>8/7</td>
<td>Climate Change</td>
<td>18</td>
<td>due 8/12</td>
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<tr>
<td>20</td>
<td>Thurs</td>
<td>8/8</td>
<td>Climate Change</td>
<td>18</td>
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<tr>
<td>21</td>
<td>Mon</td>
<td>8/12</td>
<td>Soils, Geology and the Future</td>
<td>17, 19</td>
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<tr>
<td>22</td>
<td>Tues</td>
<td>8/13</td>
<td>Final Exam (Ch. 14-19 &amp; comprehensive)</td>
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</table>

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