Instructor: Dr. Chris Barker  
Department: Geology  
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Phone: (936) 468-2340  
Office: Rm. 305, Miller Science  
Office Hours: Tues: 10-11 am, 2-5 pm; Wed: 9 am-12, 2-4 pm; Thurs: 10-11 am. Come by during office hours, or call or email to ask questions or schedule an appointment.

Class meeting time and place: Miller Science Building, Room 330; Lecture: MW 1-1:50 pm; Lab: Monday 2-4:30 pm.


OBJECTIVE: Engineering geology is a multidisciplinary field that combines geology and engineering. Geologic data and principals are used with engineering principals and techniques to study and work with rocks, soil and ground water. Understanding these concepts are essential for the proper location, design, construction, operation and maintenance of engineered structures. Engineering geology complements environmental geology and hydrogeology. Consists of lecture and lab.

GRADES:  
- LAB (40%)  
- LECTURE (60%): Two 1-hour exams and a Final exam.  
  - Test 1 lecture: 18 %  
  - Test 2 lecture: 18 %  
  - Final Exam lecture: 22 %  
  - Attend/Participation: 2 %  
  - TOTAL: 60 %

Approximate grade scale: 90–100 = A; 80–89 = B; 70–79 = C; 60–69 = D; 59 or less = F

IMPORTANT DATES:  
Lecture tests:  
- Test 1: Oct. 3, Wed. (or Fri, Oct 5)  
- Test 2: Nov. 14, Wed. (or Fri, Nov 16)  
- Final Exam (comprehensive): Mon., Dec. 10, 1 – 3:00 pm

To maximize learning opportunities, tests 1 and 2 may be given outside of the lecture time.

Most of the following topics will be covered, though the order, duration and depth of coverage may vary according to the needs of the class:

<table>
<thead>
<tr>
<th>Week, Topic &amp; Text Chapter</th>
<th>~ % of time</th>
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<tbody>
<tr>
<td>W1a: Earth Birth, Plate Tectonics (1)</td>
<td>10 %</td>
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<td>W1b: Minerals (2)</td>
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<tr>
<td>W2: Rocks (3, 4, 5, 6)</td>
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<td>W3: Soils/Soil Mechanics (4, 7)</td>
<td>5 %</td>
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<td>W4: Engin. Properties of Rocks (8)</td>
<td>5 %</td>
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<td>W5a: Construction Materials (9)</td>
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<td>W5b: Strat &amp; Geo Time (10)</td>
<td>5 %</td>
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<tr>
<td>W6: Structural Geo (11)</td>
<td>5 %</td>
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<tr>
<td>W7a: Rivers (12)</td>
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<td>W7b: Groundwater (13)</td>
<td>5 %</td>
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<td>W8a: Glaciers (14)</td>
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<td>W8b: Slope Stability (15)</td>
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<td>W9a: Coastal Processes (16)</td>
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<td>W9b: Deserts and Wind (17)</td>
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<td>W10: Earthquakes/Geophys. (18)</td>
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<td>W11: Subsurface Investig. (19)</td>
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<td>W12: Physiographic Provinces (20)</td>
<td>5 %</td>
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<tr>
<td>W13: Engineering Geol (21)</td>
<td>5 %</td>
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Make-up exams are given only for documented excused absences. See me immediately if you miss a test!
TEXT READING: Please read assigned sections from the textbook before coming to class. You are not responsible for everything in the text, but I want you to assimilate the main points; therefore, I may ask some test questions that come **directly from the book.** Most test questions, however, will come from the lecture. Reading the textbook will improve your understanding of everything presented in the lecture. The textbook covers topics in **much** greater detail than I am able to do in the limited amount of time we have in lecture.

You should expect to spend at least 6 hours per week reading the text and studying lecture notes in order to do well on tests.

EXAMS: Each exam will always include a multiple-choice section. Therefore, always bring a 50 question scantron (Form 882) to each test. Other parts of a test may include: matching; true/false questions; calculations; short answers; fill in the blanks; and/or short essay questions. The final exam will be comprehensive.

LAB: The lab gives you a chance for hands-on exercises and will use handouts that will be provided.

Tentative LAB SCHEDULE:

- Lab 1: Maps
- Lab 2: Minerals
- Lab 3: Ign. Rocks
- Lab 4: Sed. Rocks
- Lab 5: Meta. Rocks
- Lab 6: Engin. Properties of Rocks
- Lab 7: Soils 1 & 2
- Lab 8: Stratigraphy
- Lab 9: Streams
- Lab 10: Groundwater
- Lab 11: Landslides
- Lab 12: Quakes
- Lab FINAL EXAM – last week of classes

*Note: There will be no lab during the week of Thanksgiving*

**ATTENDANCE.** In the classroom I will present a significant amount of material that is **not** in the textbook, and since the tests will be primarily over the lecture material, it is very important to attend all lectures. **Therefore, I consider lecture attendance mandatory,** and will take your attendance into account when evaluating your grade at the end of the semester. In fact, attendance and participation in class counts for **2%** of your grade.

Regarding attendance, I have occasionally heard this ‘logic’ expressed: “Why should I come to class if I can get the lecture notes from someone else?” There are important reasons why you should always come to class. If you do not attend class, you miss the **context** in which the material was presented. You don’t hear the professor’s spoken comments about the material. Students who were in class will remember that information, but someone who just copies the notes misses all of that.

The result is that when you skip a class, you are **inevitably lowering** your own grade.

If you have missed a class and have an excused absence or a valid reason for missing, tell me about it after class on the next class day and I may excuse the absence!

**IMPORTANT: If you accumulate more than 4 unexcused lecture absences, your grade may be lowered to the next lower grade** (example: a C might become a D). **Also,** if you have more than 2 absences, then you start to lose part of the 2% of your grade listed as “Attendance”. If you have several absences, you lose **all** of that 2%.

TARDINESS. If you come late to class it is disruptive to the professor and to your classmates. Therefore, **please do not be late.** This means you need to anticipate the usual parking problems that are part of life at SFA (and most other universities). **Note: Two tardies count as one absence!**
INSTRUCTIONAL METHODS. Most of what I want you to know will be presented during classroom lectures. Please feel free to ask questions at any time. I like questions because they stimulate discussion and help clarify concepts for everyone.

ELECTRONIC DEVICES. Laptops or other computers, cell phones, iPods, iPads, cameras, camcorders, Blackberries, and all other electronic devices CANNOT BE USED DURING LECTURE OR LAB and must be turned off and put away. This is because we have had problems with students surfing the web, texting, facebooking, emailing, playing games, listening to music, etc., during class time!

Of course, all electronic devices must be turned off and put away during tests. Failure to observe this rule may result in an F for a test!

The Fine Print

COLLEGIATE AND UNIVERSITY POLICIES:

DISRUPTIVE BEHAVIOR. A studious atmosphere must be maintained in the classroom so that everyone can concentrate on the material being presented. Disruptive behavior, including but not limited to, whispering and talking, repeatedly making noises, using electronic devices such as cell phones, will not be tolerated if it disturbs your classmates or the professor. Here is the university’s statement on:

“Acceptable Student Behavior” Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy D-34.1). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate / inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.

Academic Integrity (A-9.1)
Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

Definition of Academic Dishonesty
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.

Please read the complete policy at http://www.sfasu.edu/policies/academic_integrity.asp

Withheld Grades Semester Grades Policy (A-54)
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C.

Students with Disabilities
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

Pedagogical Objectives for Engineering Geology:

Number of Credit Hours: Three
Course Prerequisites and/or Corequisites: GOL 131

Course Objective
The objective of this course is to teach students the principles and applications of engineering geology.

Student Learning Outcomes:
Goals for Knowledge – at the end of this course you should:
1. be able to converse with geologists/geophysicists and engineers (entire course)
2. be able to read geologic/geophysical reports (entire course)
3. know basic rock and soil types and the properties of these rocks/soils that an engineer may be concerned with.
4. understand surface geologic processes and how they affect engineering projects (e.g. weathering, streams, slope failure, ground water)
5. understand internal geologic processes (e.g. faults, earthquakes, volcanoes) and how they affect engineering projects
6. know how geophysics is used in engineering site investigation