Name: Dr. Wesley A. Brown  
Department: Geology  
Email: brownwa1@sfasu.edu  
Phone: (936) 468-2422  
Office: Miller Science, Room# 301B  
Office Hours: M-F 8:00 - 9:30 AM & T&R 2:00 – 3:00 PM  
Class meeting time: M&W 1:00 – 2:15 PM  
Class meeting place: Online (Zoom); Reserved Classroom: MS 330

Text and Materials:
Recommended: The Changing Earth, any edition, by Monroe and Wicander

Course Description:
Engineering geology is the application of geological data, techniques and principles to the study of rock and soil surficial materials, and ground water. This is essential for the proper location, planning, design, construction, operation and maintenance of engineering structures. Engineering geology complements environmental geology, or hydrogeology.

Topics to be covered:
Unit 1: Review of Engineering Properties of Rocks and Minerals  
1. Minerals and sedimentary rocks (Ch 2, Ch 5)  
2. Igneous and metamorphic rocks (Ch 3, Ch 6)  
3. Rocks weathering and soils (Ch 4)  
4. Elements of soil mechanics (Ch 7)

Unit 2: Stratigraphy, Structure and Evaluation of Construction Materials  
5. Engineering properties of rocks (Ch 8)  
6. Evaluating construction material (Ch 9)  
7. Stratigraphy and Structural Geology (Ch 10, Ch 11)  
8. Hydrogeology (Ch 12, Ch 13)

Unit 3: Geophysics, Slope Stability Subsurface Investigation  
9. Slope stability and ground subsidence (Ch 15)  
10. Earthquakes and geophysics (Ch 18)  
11. Subsurface investigations (Ch 19)  
12. Engineering geology: Highways, Dams, Tunnels, and Rock Blasting (Ch 21)
Tentative Course Schedule (GOL 410)

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<thead>
<tr>
<th>Week of</th>
<th>Lecture Topics</th>
<th>Reading Assgn</th>
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<tr>
<td>24-Aug</td>
<td>Introduction/ Minerals/Sedimentary Rocks</td>
<td>Ch 2, Ch5</td>
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<tr>
<td>31-Aug</td>
<td>Review of Rock Groups (Igneous &amp; Metamorphic)</td>
<td>Ch3, Ch6</td>
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<tr>
<td>7-Sep</td>
<td>Rock Weathering and Soils</td>
<td>Ch 4</td>
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<td>14-Sep</td>
<td>Elements of Soil Mechanics</td>
<td>Ch 7</td>
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<td>21-Sep</td>
<td>Review &amp; Exam 1</td>
<td>Ch 2 - 7</td>
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<td>28-Sep</td>
<td>Engineering Properties of Rocks</td>
<td>Ch 8</td>
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<tr>
<td>5-Oct</td>
<td>Evaluation of Construction Materials</td>
<td>Ch 9</td>
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<tr>
<td>12-Oct</td>
<td>Stratigraphy and Structural Geology</td>
<td>Ch 10 &amp; 11</td>
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<td>19-Oct</td>
<td>Hydrogeology</td>
<td>Ch 12 &amp; 13</td>
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<td>26-Oct</td>
<td>Review &amp; Exam 2</td>
<td>Ch 8 - 13</td>
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<td>2-Nov</td>
<td>Slope Stability and ground Subsidence</td>
<td>Ch 15</td>
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<tr>
<td>9-Nov</td>
<td>Earthquakes and Geophysics</td>
<td>Ch 18</td>
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<td>16-Nov</td>
<td>Subsurface Investigations</td>
<td>Ch 19</td>
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<td>23-Nov</td>
<td>Thanks giving</td>
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<tr>
<td>30-Nov</td>
<td>Eng. Geol : Highways, Dams, Tunnels and Rock Blasting</td>
<td>Ch 21</td>
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<tr>
<td>7-Dec</td>
<td>Exam 3 Final</td>
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Tentative Exam Schedule: (NB: Take a pencil and a scantron to each exam)
Lecture exam #1: Thursday, Sept. 23rd, 1:00 PM (25% of your course grade)
Lecture exam #2: Thursday, October 28th, 1:00 PM (25% of course grade)
Final exam: Mon, Dec 7th, 1:00 PM (25% of course grade)

Grading Policy:
1st Lecture Exam: 25%
2nd Lecture Exam: 25%
Final Exam (cumulative): 25%
Homework Assignments: 25%
Total: 100%

Course Grade: >90% = A; 80-89.9% = B; 70-79.9% = C; 60-69.9% = D; <60% = F.

Student Learning Outcomes:
Goals for Knowledge – at the end of this course you should:
1. be able to converse with a geologist/geophysicist (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 (chapters 2-7)
4. understand surface geologic processes and how they affect engineering studies (chapters 8-9, 11, 14-15)
5. understand internal geologic processes (e.g. faults, earthquakes, volcanoes) and how they affect engineering studies (chapters 10, 18)
6. know how geophysics is used in engineering site investigation (chapter 18)

Office Hours:
I have listed my scheduled office hours at the top of this syllabus. Please feel free to email or call to raise questions or concerns regarding this course. If you need to speak to me but cannot come to my office during the posted hours, I will make an appointment to meet with you at another time.

Lectures:
You are expected to be prepared for each lecture period by reading the material to be covered in lecture prior to attending class. This will help you to better comprehend the material given during the lecture. Questions are always welcome and I encourage you to ask. If you are confused about the material, I guarantee there is someone else with the same question. Do not be afraid to ask, I am always happy to clarify anything that is unclear.

Exams:
Each exam will always include a multiple-choice section. Therefore, always bring a 50 questions scantron (Form 882) to each test. Other sections may include: matching; true/false questions; calculations; short answers; fill in the blanks; and/or short essay questions. The final exam will be comprehensive. All exams will take place in room 330 unless otherwise stated. The use of cell phones and programmable calculators will not be permitted during exams. A review sheet for the upcoming exam may be issued during the week prior to the date of the exam.

Course Evaluation:
At the end of the semester you will be asked to evaluate this course. Evaluations will be done on-line and you will be reminded when the evaluation period starts. The course evaluation MUST be done before the final exam. Students who fail to complete their course evaluations may receive an “Incomplete” grade for the course.

Academic Integrity (4-9.1):
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.

In the hopes of deterring incidents of cheating and/or plagiarism this class employs a "zero tolerance" policy meaning that if a student commits cheating or plagiarism they receive a grade of F for the class.

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

**Add/Drop Policy:**
Students may add courses through the 2nd class day during the summer semesters and through the 4th class day during the fall or spring semesters. Academic Department Chairs may reconcile class schedules through the official reporting date. Students may drop classes through five working days past mid-semester or mid-session as applicable. A student will not be allowed to drop a course after these dates, unless he or she withdraws from the University. For information please visit: [http://www.sfasu.edu/upp/pap/academic_affairs/add_drop.html](http://www.sfasu.edu/upp/pap/academic_affairs/add_drop.html)

**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/.

COVID-19 MASK POLICY
Masks (cloth face coverings) must be worn over the nose and mouth at all times in this class and appropriate physical distancing must be observed. Students not wearing a mask and/or not observing appropriate physical distancing will be asked to leave the class. All incidents of not wearing a mask and/or not observing appropriate physical distancing will be reported to the Office of Student Rights and Responsibilities. Students who are reported for multiple infractions of not wearing a mask and/or not observing appropriate physical distancing may be subject to disciplinary actions.