Fundamentals of Earth Science
GEOL 1301-003
Spring 2024
E.L. Miller Science Building, Rm 234
T/R 11:00 - 10:50 AM

Name: Dr. Julie M. Bloxson
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Phone: (936) 468-2355
Office: E.L. Miller Science Building, Rm 309
Office Hours: T: 9:00 am – 11:00 am
               W: 11:00 am – 12:00 pm
               Th: 9:00 am – 11:00 am
               By apt also.
Department: Earth Sciences and Geologic Resources

Course Description
An introduction to the fundamental principles of Earth science. Topics include the Earth’s
structure and surface landforms; mineral and energy resources; geologic hazards such as volcanoes,
earthquakes and landslides; water resources and the unifying theory of plate tectonics. May not be
taken by geology majors. Lab fee required. No prerequisites. Two hours of lecture, plus two hours
of laboratory per week (enrolled separately).
Co-requisite: GEOL 1001 (Note: you do need your lab book the first day of lab).

Course Requirements
Overview:
• Four Tests: Given in class, consisting of multiple choice, true and false and fill in the
  blanks. You will need a long scantron form 882-E for each exam. These can be bought
  from the bookstore, or for free from the AARC.
• Extra Credit: Given at the discretion of the Instructor.

Fundamentals of Earth Science is an introduction to the study of the earth, including its natural
resources, structure, and natural processes. Students will learn the impacts of geology on society
such as earthquakes and volcanoes, and vice versa (anthropogenic effects), and touch on major
theories in earth science such as plate tectonics. This course will have four exams (three 50-minute
exams, plus a comprehensive final). There is a co-requisite weekly lab which will provide hands-on
experiences in earth science. You are expected to have at least browse the material and read the
major topics for the week outlined below, which will facilitate in content retention and aid in
classroom discussions.

Each exam will be primarily multiple choice, with potentially a few short answer questions, and will
cover the material from the previous exam (or start of classes for exam 1) through the date of the
exam. The final exam will be comprehensive, covering all material from the semester. Cell phones,
laptops, tablets, etc. are not permitted during an exam. Calculators may be useful during some of the exams. Your cellphone cannot be used as a calculator. The dates are noted in the course calendar, and are SET. The topics may fluctuate a bit, depending on what we are able to cover, but the dates will NOT change unless something catastrophic happens.

Please limit food in the classroom, phone calls (silence phones), texting, and other distracting behaviors. If you need to leave, please do so quietly. If you know you need to leave class early, please sit near the edge of the row and excuse yourself quietly.

**Grading Policy**

Exam (4 @100 pt each)  
400 points

Total (lecture)  
your total points/400 points * 100 = class%

Lecture will comprise of 2/3 of your final grade, while your lab grade will be 1/3:

\[ \frac{(\text{Class }\%)*2 + (\text{Lab }\%)}{3} = \text{Final Grade }\% \]

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100-90%</td>
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<tr>
<td>B</td>
<td>89-80%</td>
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<tr>
<td>C</td>
<td>79-70%</td>
</tr>
<tr>
<td>D</td>
<td>69-60%</td>
</tr>
<tr>
<td>F</td>
<td>59-0%</td>
</tr>
</tbody>
</table>

**Text and Materials**

We use an open source (i.e., FREE) textbook. You can download and keep a copy (which I recommend) on your computer, have a copy printed if you would like, or access it online through their website or our Brightspace website.

Required:  
Physical Geology (2nd Ed), Steven Earle. ISBN: 978-1-77420-028-5. Available at:  
[https://opentextbc.ca/physicalgeology2ed/](https://opentextbc.ca/physicalgeology2ed/)

If you would like a hard copy of a text book, look for a used copy online of:  

Or you can order a copy of the book everyone else is using:  
[https://opentextbook.docsol.sfu.ca/store/product/otb089-02/](https://opentextbook.docsol.sfu.ca/store/product/otb089-02/)

Please check your Email regularly! Materials will be posted on Brightspace, along with announcements, readings, and assignments. Messages will be sent via email.
Course Calendar
Topics try to coincide with the laboratory topics covered, up until the last third of the semester. We will try to stay on scheduled topic, although exam dates will be firm. Topics are subject to change.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Reading</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>23-Jan</td>
<td>1.1, 1.2, 1.3</td>
<td>Introduction to the class; what is geology</td>
</tr>
<tr>
<td>1</td>
<td>25-Jan</td>
<td>NO CLASS</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>30-Jan</td>
<td></td>
<td>What is science?</td>
</tr>
<tr>
<td>2</td>
<td>1-Feb</td>
<td>1.4, 1.5, 1.6, 22.1, 22.2, 22.3</td>
<td>Introduction to Geology</td>
</tr>
<tr>
<td>3</td>
<td>9-Feb</td>
<td>8</td>
<td>Geologic Time</td>
</tr>
<tr>
<td>3</td>
<td>8-Feb</td>
<td>Exam 1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>13-Feb</td>
<td>2.1, 2.2, 2.3</td>
<td>Minerals</td>
</tr>
<tr>
<td>4</td>
<td>15-Feb</td>
<td>2.5, 2.6</td>
<td>Minerals</td>
</tr>
<tr>
<td>5</td>
<td>20-Feb</td>
<td>3.1, 3.2, 3.3</td>
<td>Igneous Rocks</td>
</tr>
<tr>
<td>5</td>
<td>22-Feb</td>
<td>3.4, 3.5</td>
<td>Igneous Rocks</td>
</tr>
<tr>
<td>6</td>
<td>27-Feb</td>
<td>4.1, 4.2, 4.3</td>
<td>Volcanism</td>
</tr>
<tr>
<td>6</td>
<td>29-Feb</td>
<td>4.4, 4.5, Yellowstone, Hawaii</td>
<td>Volcanism</td>
</tr>
<tr>
<td>7</td>
<td>5-Mar</td>
<td>5.1, 5.2, 5.3, 5.4</td>
<td>Weathering and Erosion</td>
</tr>
<tr>
<td>7</td>
<td>7-Mar</td>
<td>6.1, 6.2, 6.3</td>
<td>Sedimentary Rocks</td>
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<tr>
<td>8</td>
<td>12-Mar</td>
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<tr>
<td>8</td>
<td>14-Mar</td>
<td>SPRING BREAK</td>
<td></td>
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<tr>
<td>9</td>
<td>19-Mar</td>
<td>6.4, 6.5</td>
<td>Sedimentary Rocks</td>
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<tr>
<td>9</td>
<td>21-Mar</td>
<td>Exam 2</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>26-Mar</td>
<td>7.1, 7.2, 7.3, 7.4</td>
<td>Metamorphic Rocks</td>
</tr>
<tr>
<td>10</td>
<td>28-Mar</td>
<td>7.5, 10.1-10.5</td>
<td>Metamorphic Rocks/Plate Tectonics</td>
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<tr>
<td>11</td>
<td>2-Apr</td>
<td>11.1, 11.2, 11.3</td>
<td>Earthquakes</td>
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<tr>
<td>11</td>
<td>4-Apr</td>
<td>11.4, 11.5</td>
<td>Earthquakes</td>
</tr>
<tr>
<td>12</td>
<td>9-Apr</td>
<td></td>
<td>Fossil Fuels</td>
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<tr>
<td>12</td>
<td>11-Apr</td>
<td>NO CLASS</td>
<td></td>
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<tr>
<td>13</td>
<td>16-Apr</td>
<td></td>
<td>Alternative Energy</td>
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<tr>
<td>13</td>
<td>18-Apr</td>
<td>Exam 3</td>
<td></td>
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<tr>
<td>14</td>
<td>23-Apr</td>
<td>19</td>
<td>Climate Change</td>
</tr>
<tr>
<td>14</td>
<td>25-Apr</td>
<td>19</td>
<td>Climate Change</td>
</tr>
<tr>
<td>15</td>
<td>30-Apr</td>
<td>20</td>
<td>Geologic Resources</td>
</tr>
<tr>
<td>15</td>
<td>2-May</td>
<td>20</td>
<td>Geologic Resources</td>
</tr>
<tr>
<td>16</td>
<td>7-May</td>
<td>FINAL - TUESDAY MAY 7TH @ 10:30 AM</td>
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NOTE: There are 150 asynchronous minutes that will be in the form of videos and readings administered through Brightspace.
Attendance Policy
Attendance is mandatory, and necessary in order to succeed in class.

To make-up an exam, only excused absences will be accepted (doctor’s note, sporting event, etc., with proper documentation). We will arrange a time and place for the make-up exam, which will be a different exam than the one given in class.

Program Learning Outcomes
There are no specific program learning outcomes for this major addressed in this course, as it is a general education core curriculum course and/or a service course.

Student Learning Outcomes
After successful completion of this course students will be able to:
SLO 1. Demonstrate an understanding of fundamental geologic concepts as it relates to Earth processes and landscape evolution through geologic time.
SLO 2. Use quantitative reasoning to interpret geologic data (tables, figures, graphs) from primary research, data assimilation and models to assess the differences in competing scientific theories associated with rock formation.
SLO 3. Demonstrate knowledge on the interdependence of science and technology and the influences geologic reasoning associated with identifiable and testable hypotheses of geologic processes.
SLO 4. Critically assess the interrelationships between geologic phenomena and communicate the resulting conclusions in oral, visual and written formats.
SLO 5. Demonstrate an understanding of the skills and attitudes necessary for effective teamwork in collaborative learning activities.

General Education Core Curriculum
The Texas Higher Education Coordinating Board has identified six core learning objectives: Critical Thinking Skills, Communication Skills, Empirical and Quantitative Skills, Teamwork, Personal Responsibility, and Social Responsibility. SFA is committed to the improvement of its general education core curriculum by regular assessment of student performance on these six objectives. By enrolling in Fundamentals of Earth Science you are also enrolling in a Core Curriculum Course that fulfills the Natural Sciences requirement. You will see this course on your D2L list.

The student is expected to develop the following core objectives established by the THECB.
CO 1. Critical Thinking Skills – creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information. (SLO 1-4)
CO 2. Communication Skills – effective development, interpretation and expression of ideas through written, oral and visual communication. (SLO 4-5)
CO 3. Empirical and Quantitative Skills – manipulation and analysis of numerical data or observable facts resulting in informed conclusions. (SLO 1-2,4)
CO 4. Teamwork – the ability to consider different points of view and to work effectively with others to support a shared purpose or goal. (SLO 3-5)

Credit Hours Justification
Meets for a minimum of 37.5 lecture contact hours during the semester, including the final exam. Students are required to complete assignments based on readings, periodic quizzes and exams over course content, and a final exam. Students will be required to complete in-class and out-of-class assignments that evaluate their comprehension of course materials. Successful completion of all elements for the course requires at least six additional hours of out-of-class work each week.

Academic Integrity
The Code of Student Conduct and Academic Integrity outlines the prohibited conduct by any student enrolled in a course at SFA. It is the responsibility of all members of all faculty, staff, and students to adhere to and uphold this policy.

Articles IV, VI, and VII of the new Code of Student Conduct and Academic Integrity outline the violations and procedures concerning academic conduct, including cheating, plagiarism, collusion, and misrepresentation. Cheating includes, but is not limited to: (1) Copying from the test paper (or other assignment) of another student, (2) Possession and/or use during a test of materials that are not authorized by the person giving the test, (3) Using, obtaining, or attempting to obtain by any means the whole or any part of a non-administered test, test key, homework solution, or computer program, or using a test that has been administered in prior classes or semesters without permission of the Faculty member, (4) Substituting for another person, or permitting another person to substitute for one’s self, to take a test, (5) Falsifying research data, laboratory reports, and/or other records or academic work offered for credit, (6) Using any sort of unauthorized resources or technology in completion of educational activities.

Plagiarism is the appropriation of material that is attributable in whole or in part to another source or the use of one’s own previous work in another context without citing that it was used previously, without any indication of the original source, including words, ideas, illustrations, structure, computer code, and other expression or media, and presenting that material as one’s own academic work being offered for credit or in conjunction with a program course or degree requirements.

Collusion is the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on academic dishonesty, including disclosing and/or distributing the contents of an exam.

Misrepresentation is providing false grades or résumés; providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment for the purpose of obtaining an academic or financial benefit for oneself or another individual or to injure another student academically or financially.
**Withheld Grades - Semester Grades Policy 5.5**
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. For additional information, go to [http://www.sfasu.edu/policies/course-grades-5.5.pdf](http://www.sfasu.edu/policies/course-grades-5.5.pdf).

**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/](http://www.sfasu.edu/disabilityservices/).

**Mental Health and Wellness**
SFA values students’ mental health and the role it plays in academic and overall student success. SFA provides a variety of resources to support students’ mental health and wellness. Many of these resources are free, and all of them are confidential.

On-campus Resources:
**The Dean of Students Office**
Location: Rusk Building, 3rd floor lobby  
[www.sfasu.edu/deanofstudents](http://www.sfasu.edu/deanofstudents)  
936.468.7249  
dos@sfasu.edu

**SFA Human Services Counseling Clinic**
Location: Human Services, Room 202  
[www.sfasu.edu/humanservices/139.asp](http://www.sfasu.edu/humanservices/139.asp)  
936.468.1041

**The Health and Wellness Hub “The Hub”**
Location: corner of E. College and Raguet St.  
To support the health and well-being of every Lumberjack, the Health and Wellness Hub offers comprehensive services that treat the whole person – mind, body and spirit. Services include:

- Health Services
- Counseling Services
- Student Outreach and Support
- Food Pantry
- Wellness Coaching
- Alcohol and Other Drug Education
Crisis Resources:

- Burke 24-hour crisis line: 1.800.392.8343
- National Suicide Crisis Prevention: 9-8-8
- Suicide Prevention Lifeline: 1.800.273.TALK (8255)
- johCrisis Text Line: Text HELLO to 741-741