CoSM Class Syllabus / Policy

2019 / Fall Semester
GOL 101.001
Fundamentals of Earth Science

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Office: E.L. Miller Science, Room 310
Office Hours: MW: 10:00 – 12:00; 1:00 – 4:00; or by appointment

Class meeting time and place: MW: 9:00-9:50, Room 323 Miller Science

Please feel free to stop by any time to ask questions, discuss any problems you may be having with the material or to help facilitate further understanding. If these hours conflict with your schedule, please call or email to make an appointment.

Text and Materials:
• Open source text: An Introduction to Geology written by Chris Johnson, Matthew D. Affolter, Paul Inkenbrandt, Cam Mosher from Salt Lake Community College http://opengeology.org/textbook/
• 4 scantrons (Form 882)

Course Description:
Fundamentals of Earth Science (GOL 101) Three semester hours, two hours lecture, two hours laboratory per week. 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. Required lab fee. No prerequisites

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

General Education Core Curriculum Objectives/Outcomes:
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 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)

**Student Learning Outcomes for Lecture and Lab:**
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. (Critical Thinking, Empirical and Quantitative Skills)

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. (Critical Thinking, Empirical and Quantitative Skills)

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. (Critical Thinking, Teamwork)

SLO 4. Critically assess the interrelationships between geologic phenomenons and communicate the resulting conclusions in visual and written formats. (Critical Thinking, Communication, Empirical and Quantitative Skills, Teamwork)

SLO 5. Demonstrate an understanding of the skills and attitudes necessary for effective teamwork in collaborative learning activities. (Communication, Teamwork)

**Course Requirements:**
GOL101 (Fundamentals of Earth Science) is an introduction to the study of the earth’s structure and natural processes. In this course, students will be introduced to and apply the scientific method to evaluate hypotheses regarding the earth’s structure, the distribution of natural resources, the immediate and long term impact of geologic hazards, and anthropogenic influence on the natural world.

Fundamentals of Earth Science is a **3-credit hour course** and has a co-requisite lab where students will gain hands-on experience with earth materials, gathering and analyzing data, communicating their findings and working as a team to explain scientific processes.

**Time:**
The **U.S. Department of Education Definition of the Credit Hour:** a credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours out of class student work each week for approximately fifteen weeks for one semester of credit.
GOL 101 - Fundamentals of Earth Science meets for a minimum of 25 lecture contact hours during the semester, including the final exam. Grades for lecture and laboratory are combined into a composite grade for the course. 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 assignments that evaluate their comprehension of earth materials and processes. Successful completion of all elements for the course requires at least six additional hours of out-of-class work each week.

**Grading Policy:**
Lecture counts 2/3 (66.7%) of the course grade.
- Each exam counts 15% each;
- Outside activities, discussion posts count 6.7%;
- Lab counts 1/3 (33.3%) of the final course grade.
- Total Points: 33.3% (Lab) + 66.7% (Lecture) = 100%
- Grade Scale: 90-100 + A, 80-89 + B, 70-79 + C, 60-69 + D, < 60 = F

All lecture exams will vary but may include any or all of the following sections: 1) multiple choice questions; 2) true / false questions; 3) fill in the blank questions; 4) short answer questions; 5) figure illustration; 6) short essay questions. All exams will take place in room 323 unless otherwise stated in class.

The exams will cover questions from lecture, assigned reading material and activities conducted in class and as outside assignments. You will need a Scantron (Form 882) and a number 2 pencil for the exams. The essay questions are part of the test and are sometimes extra credit. When answering the essay questions, I expect you to use complete sentences, correct grammar and spelling. The final exam will be given at the University’s scheduled time.

**Make up exams, regardless of the reason for missing the exam, will be given during dead week on Wednesday, December 4 during our regularly scheduled class time.** No outside work or extra credit will be assigned to help improve your grade, so come prepared for the exams. It is imperative that you attend all lectures, pay attention in class, take detailed notes and use those notes to study. In other words – get your money’s worth!

Grades from the lecture and lab will be combined, with the lab counting 1/3 of the grade. You will receive one grade for the entire course, assigned by your lecture instructor.
# Tentative Schedule

<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
<th>Reading (sections)</th>
<th>Supplementary Material</th>
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<tr>
<td>August 26</td>
<td>Course Information</td>
<td>Syllabus</td>
<td>Student Questionnaire</td>
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<tr>
<td>August 28</td>
<td>Understanding Science</td>
<td>1.1 – 1.4, 1.6</td>
<td>The Scientific Method</td>
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<tr>
<td>Sept 2</td>
<td>Origin of our Solar System</td>
<td>8.1 – 8.2</td>
<td>Solar System Activity</td>
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<td>Sept 4</td>
<td>Earth in Context</td>
<td>1.5, 2.2</td>
<td>Earth’s Structure Activity</td>
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<td>Sept 9</td>
<td>How old is Earth?</td>
<td>7.1 – 7.4</td>
<td>Geologic Time Activity</td>
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<td>Sept 11</td>
<td>Introduction to Earth History</td>
<td>8.3 – 8.8</td>
<td>Geologic Time Scale Activity</td>
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<tr>
<td>Sept 16</td>
<td>Exam 1</td>
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<td>Sept 18</td>
<td>Plate Tectonics</td>
<td>2.1 – 2.7</td>
<td>Plate Boundary Activity</td>
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<td>Sept 23</td>
<td>Atoms &amp; Minerals</td>
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<td>Using Physical Properties</td>
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<td>Sept 25</td>
<td>Mineral Resources</td>
<td>3.3 – 3.4</td>
<td>Minerals as Resources</td>
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<td>Sept 30</td>
<td>Igneous Rocks &amp; Volcanoes</td>
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<td>Igneous Textures</td>
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<td>Oct 2</td>
<td>Weathering &amp; Erosion</td>
<td>5.1 – 5.2</td>
<td>Sediment Analysis</td>
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<td>Oct 7</td>
<td>Sedimentary Rocks</td>
<td>5.3 – 5.5</td>
<td>Depositional Environments</td>
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<td>Oct 9</td>
<td>Metamorphic Rocks</td>
<td>6.1 – 6.4</td>
<td>Campus Scavenger Hunt</td>
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<td>Oct 14</td>
<td>Exam 2</td>
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<td>Oct 16</td>
<td>Natural Resources</td>
<td>External Resources</td>
<td>Resource Characterization</td>
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<td>Oct 21</td>
<td>Fossil Fuels</td>
<td>16.2</td>
<td>Coal Mining and Electricity</td>
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<td>Oct 23</td>
<td>Mining &amp; Excavation</td>
<td>16.1, 16.3</td>
<td>USGS Mineral Data Activity</td>
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<td>Oct 28</td>
<td>Water Resources</td>
<td>11.1 – 11.9,</td>
<td>LaNana Creek Mapping</td>
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<td>Oct 30</td>
<td>Soil Resources</td>
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<td>Nov 4</td>
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<td>Nov 6-10</td>
<td>Laboratory Field Trip</td>
<td>Central Arkansas</td>
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<td>Nov 11</td>
<td>Earthquakes</td>
<td>9.6 – 9.7</td>
<td>Earthquake Modeling Activity</td>
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<td>Nov 13</td>
<td>Geohazards</td>
<td>9.8 – 9.9, 10.1 – 10.4</td>
<td>USGS Monitoring Systems</td>
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<td>Nov 18</td>
<td>Alternative Energy</td>
<td>External Resources</td>
<td>Our Energy Future Activity</td>
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<td>Nov 20</td>
<td>Populations &amp; Resources</td>
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<td>Resources for the 21st Century</td>
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<td>Nov 25-27</td>
<td>Thanksgiving Holidays</td>
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<td>Dec 2</td>
<td>Field Trip Reports</td>
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<td>Dec 4</td>
<td>Make up Exams</td>
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<td>Dec 9</td>
<td>Exam 4</td>
<td>8:00 – 10:00 a.m.</td>
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*Topics may not be presented in the above order, but notes will be posted before lecture on the d2l webpage for the class. Reading pages are based on An Introduction to Geology, http://opengeology.org/textbook/.

**Tentative Examination Schedule:**

Exam 1: Monday, September 16, 2019  
(Subject to change)  
Exam 2: Monday, October 14, 2019  
Exam 3: Monday, November 4, 2019  
Final Exam: Monday, December 9, 2019

- Exact dates and times will be announced in class and posted on d2l at least one week in advance.
- All make up exams will be given on Wednesday, December 4, 2019, during class time.
Cell phones, calculators, and other electronic devices are NOT permitted during exams. If you are using them in an exam, it will be assumed that you are cheating and you will receive a grade of “0” on that exam.

Attendance Policy:

- Daily attendance will be taken for university accounting purposes. Success in this course will reflect the level effort you put into the course.
- Be prepared for lectures by reading the material to be covered prior to attending class. Questions are encouraged and welcome – do not hesitate to ask.
- No electronic devices are needed during lectures for this class, including cell phones and calculators. Please turn them off and do not use them in class. Ringing phones and beeping electronics disturb others in the class and interrupt lectures. If you interrupt class with your personal electronic devices, you will be asked to leave for the day. You are here to learn, not correspond with your friends.
- If you are late to class, please seat yourself quietly. Try not to be late because it interrupts others in the class. If you need to use the restroom or become ill, please excuse yourself from the lecture quietly.
- If you need to study for another class, do it elsewhere. The classroom is not the place to sleep either. Basically, refrain from activities in lectures that will distract or disturb the other students in the room, because you are all paying for the class and most people want to get what they are paying for.

Classroom Etiquette:

- Ball caps and hats should be removed while in the classroom.
- Pants should be worn as they were designed. Wear appropriate clothing.
- Headphones, earbuds, or other auditory devices will not be allowed during lecture.
- No tobacco products, electronic cigarettes, or vapor products are allowed.
- Do not distract other students or the instructor.

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/.