1323 - GEOL 4, PHYSICAL GEOLOGY with LAB – winter 2018

Professor: Dr. Alessandro Grippo, Ph.D.

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Class Hours: Monday, Tuesday, Wednesday and Thursday, 8:00 - 10:05, DH 128
Lab Hours: Monday, Tuesday, Wednesday and Thursday, 10:15 - 12:20, DH 128
Office Hours: Monday, Tuesday, Wednesday and Thursday, 12:25 - 12:40, DH 120

Course description, objectives, content
This course is an introduction to geologic processes that have shaped the Earth. Lecture topics include formation of the Earth, plate tectonics, rocks, minerals, earthquakes, geologic structures, geologic time, coastal processes, and groundwater. Laboratory exercises expand this information by dealing with rock and mineral identification, topographic and geologic map interpretation, and the interpretation of aerial photographs. Upon completion of this course, the student will have a good understanding of the processes that form major features on Earth.

Please be aware that this course requires constant study and attention. This is a very intensive class, and definitely not an "easy" one. If you do not study daily and start lagging behind, it will be extremely difficult for you to make up for the lost time.

We will use the metric system and work with concepts from math, physics, chemistry, and biology. If you do not remember these basics, I would recommend that you review them during the first week of class, while the workload is still relatively low. If you are a non-native English speaker, be aware that the class will use a lot of technical and scientific terminology.

Student Learning Outcomes
1. Students will identify the major features on Earth and understand the geological processes that formed them
2. Students will recognize the Earth is a dynamic planet shaped by physical agents of change.

Textbooks
1 - Class Textbook: Plummer and Carlson, Physical Geology, 15th edition (or more recent), McGraw-Hill. Most of the concepts explained in class will be found on the textbook (others will be posted on my web page). I would strongly recommend that you get your own copy of the 15th edition, the official one, either new or used. Older editions do not always present materials in the same order or with the same emphasis. If you decide to buy an older edition it will be your responsibility to locate materials within the textbook. You can get more information about the textbook on my web page.
2 - Lab Textbook: Busch, Laboratory Manual in Physical Geology, 11th edition, Pearson/Prentice Hall. I would strongly recommend that you work with a brand new copy of the 11th edition only, because some of the pages on this book are used for exercises and turned in to the instructor at the end of a lab. So, used copied of this book usually present missing pages or have answers already written in. Older editions of this book are also not usable because they would present substantially different materials and assignments.

Required Class Materials
Lecture: students should always have a notebook, pens, pencils, an eraser when coming to lecture.
Labs: students should always carry, in addition to the above materials, a cm-ruler, at least a couple of colored pencils, a glass square and, of course, their lab manual.
Exams: the only things you need to bring to class on a test day are a pencil, an eraser, and a Scan-Tron model 882-E. Absolutely no calculators, tablets, computers, electronic translators, mp3 readers, earphones or any electronic device will be allowed. You can not, at any time, tape, record, take pictures or take videos of lectures and labs, or of persons in the classrooms. I will authorize pictures for class purposes only on specific occasions. It is illegal to post any of these in any form on social networks or any other media.

Recommended Computer Skills and Technology Requirement
This class will not be using Canvas, but you will still need access to a computer to work with some of the resources I made available on my website. The web site is fully accessible from both Pc- and Mac-based operative systems, and is optimized for Firefox. You can access all PCs in the classroom with your college userID.
Methods of Presentation
Lectures will cover materials that students can find in the textbook in use, materials that are available on my website and, when appropriate, materials that are related to the studied topic and appear in contemporary scientific literature. Integration between these components is maximized when students are involved in the life and activities of the class. Students are strongly encouraged to take notes at all times.

Academic integrity and policies
The academic honesty policy of Santa Monica College will be strictly enforced.

Grading System
The final grade will be assigned based on four exams, a series of labs and quizzes, and participation. In order to stand a chance to pass the class you will have to take ALL four exams.

Please note that if you are not coming to class, or do not participate to the class, or you have a failing lab and/or exams record, I will drop you from the class. This will happen also in case you are an international student who needs to maintain a minimum number of units. You must take the class seriously in order to succeed.

Exams - You will be tested on the materials covered during lectures, labs, in assigned readings (and videos when pertinent). The exams will include a mix of multiple choice, short essay, true-false, figure and map interpretation, yes/no, and short-answer questions. The exams will include questions from BOTH lecture and lab. Sample questions taken from actual exams can be found on my web page. The first exams will be non-cumulative but the final exam, while still preserving the same format of the previous two, will also include some materials from the chapters covered in earlier tests (in the form of different questions). Extra-credit points will be built in the exams. That will be the ONLY source of extra-credit.

There will be four (4) exams which, combined together, will constitute 50% of the grade. The time allowed for an exam is 90 minutes. If you miss any single exam, its maximum score will be subtracted from your grade, and you will likely get an F as class grade. Exams are closed-books; no texts, notes, calculators or dictionaries of any sort will be allowed; absolutely no cell phones, iPods, iPads, blackberries, headphones, Bluetooth or any other kind of electronic device are allowed during a test; if you have a cell phone and it happens to ring during a test, you would not be allowed to finish the test. You can not wear a hood or hat covering your ears in class. During a test it will only be you, pencil, eraser and Scan-Tron.

On the day of the exam, always remember to bring a Scan-Tron Form no. 882-E, a no. 2 pencil and an eraser. Instructor or the Department can NOT provide a Scan-Tron for you. You will not be allowed to take the exam without a Scan-Tron. On the Scan-Tron, it is your personal responsibility to erase completely your mark if you want to change an answer. I will NOT change a grade because the machine could not read a double mark or a badly erased one. Be sure of your answer before you mark your Scan-Tron. No exceptions.

Labs - As a rule, there will be a lab on every day the class meets, with possible exceptions that will be detailed in class; occasionally, we will be working on more than one lab during the same day. Labs will count for 40% of the grade. While occasionally a maximum of two persons can work together, lab work is strictly individual and not group work. If a student is found copying a lab rather than working personally on it, she/he will get a 0 (zero) on that lab. Please note: it is important that you work on all of your labs: if you miss a lab and you do not make it up, the relative score will be subtracted from your grade. You can make up a lab for full score only if you have a doctor's note, a jury duty note, a police note or any other official document that can justify your absence. If you cannot provide any evidence, you can still make up the lab for practice and to prevent points from being subtracted. Individual labs will be graded on a 0-20 scale.

Homework / Home Assignments – As a general rule, there will be no homework; exceptions could be made in order to strengthen certain skills or reinforce a few concepts. The relative score will be integrated in the labs score. In that case, homework must be typewritten and should be turned in at due time, no exceptions. Late homework will be accepted only as a partial fulfillment of class requirements but WILL NOT be counted towards the final grade. E-mailed assignments will NOT be accepted. Again, if you miss any assignment, its score will be subtracted from your grade.

Participation - Participation constitutes 10% of the final grade. Participation does not mean simply attending class regularly and on time but rather constitutes a general assessment of your effort and
involvement in the classroom. Every student starts with a pool of 100 points for participation. Late arrivals, leaving class before the scheduled time, not being involved in class labs and activities will result in points being subtracted from Participation. Eating and drinking are not allowed, and **cellular phones, or any other kind of electronic device must be turned OFF** during class. If you are seen texting, instant messaging, or performing ANY other activity on an electronic device, it means you are not participating to the class and possibly disturbing your fellow students and disrupting the class. In that case, points will be taken off from your pool. You cannot tape or record any segment of a class, lab, or video, nor take pictures or videos at any time. Here is language from California Education Code, Section 78907: “The use by any person, including a student, of any electronic listening or recording device in any classroom without the prior consent of the instructor is prohibited, except as necessary to provide reasonable auxiliary aids and academic adjustments to disabled students. Any person, other than a student, who willfully violates this section shall be guilty of a misdemeanor. Any student violating this section shall be subject to appropriate disciplinary action.” Disruptive behavior will not be tolerated. See "Tips on how to succeed in this class"

**Method of Evaluation** - The final score is out of 1000 points (from assignments, exams, labs, A&P)

- Four exams will count for 50% of the final grade 500 points
- Lab assignments and quizzes will count for 40% of the final grade 400 points
- Participation is worth 10% of the final grade 100 points
- 1000 points

**Grading scale:**

<table>
<thead>
<tr>
<th>FINAL GRADE:</th>
<th>900 - 1000 points</th>
<th>A: 90 - 100 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>B: 800 - 899 points</td>
<td>B: 80 - 89.9 points</td>
<td></td>
</tr>
<tr>
<td>C: 690 - 799 points</td>
<td>C: 69 - 79.9 points</td>
<td></td>
</tr>
<tr>
<td>D: 580 - 689 points</td>
<td>D: 58 - 68.9 points</td>
<td></td>
</tr>
<tr>
<td>F: 579 points or less</td>
<td>F: 57.9 or less</td>
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**Make up exams, quizzes and homework**

As a policy, there will not be make-up exams or labs unless there is a medical or legal reason; in all cases, a note from a doctor, a hospital, a court, or the police is required. If you know that you will be missing a class for a religious holiday it is YOUR responsibility to let me know as soon as possible. Please, do not abuse these possibilities. All make-up tests will be in a different format, and will consist in a series of short essay questions.

**Students with disabilities**

I encourage students requesting disability-related accommodations to contact Disabled Student Services as soon as possible. I will work with you and the Center for Students with Disabilities to provide appropriate and reasonable accommodations. An early notification of your request for test-taking and/or other accommodations is necessary to ensure that your disability related needs are addressed appropriately; testing accommodations cannot be applied retroactively. The DSPS office is located in the Admissions/Student Services Complex, Room 101, and the phone numbers are (310) 434-4265 and (310) 434-4273 (TDD).

**Emergency Preparedness**

The safety of students at SMC is a priority. Please note that emergency procedures are posted in this classroom and every classroom. Also, procedures for various emergencies are delineated on the SMC website: [http://www.smc.edu/StudentServices/EmergencyPreparedness/Pages/Emergency-Preparedness.aspx](http://www.smc.edu/StudentServices/EmergencyPreparedness/Pages/Emergency-Preparedness.aspx)

Take time to familiarize yourself with these procedures now, when knowledge of what to do is the most effective

**Tips on how to succeed in this class**

1. The first and most important point is: if you do not understand something, ask questions, ask me to repeat. You are here to learn and the professor is there to help you in this process.
2. If you want to socialize, sleep, read books, surf the net: **do it outside**. Time spent in class is used to learn about the subject. If you disrupt the class by talking, sleeping, text-messaging, arriving late or leaving early, you would be disturbing your fellow students and the linearity of the class, and that is unacceptable behavior.
3. Do not use class time to study or prepare for other classes. You will get points off after the first warning. Also, class time should be spent taking notes from the current lecture and NOT copying notes taken by a fellow student during my previous lecture. Use the bookstore's low-cost service to make copies of notes.
4. Give yourself adequate study time per week for each one unit of a course. Review notes as soon as possible after lecture in order to finish incomplete diagrams and sentences while you still remember what they mean.

5. If you are having difficulties with the course, ask me for help or advice early in the semester. Do not coast through most of the course and then, with a week or two remaining in the term, ask me what you can do to improve your grade. I strongly urge you to seek help if your first exam grade indicates you are doing poorly.

6. An ethical note: looking at a fellow student’s paper during an exam is cheating; using crib notes is cheating. Consequences of cheating will be an automatic "F" and a report filed with the Office of the Vice President for Student Affairs and Dean of Students.

7. No eating or reading during class. No listening to headsets or web surfing of any sort. Stay alert.

8. Be sure your cell phone or pager alert tone or any electronic device is OFF during class.

9. Do not be late to class. Arriving after class has started is disturbing both to me and to other students.

10. Coming to class is essential for passing the class. Historically, those who cut class, fail the class.

**Biographical Sketch of Alessandro Grippo, Ph. D.**

Dr. Grippo is an Associate Professor of Geology in the Department of Earth Sciences, teaching at SMC since 2001. He has taught general education courses in Physical Geology, Oceanography, Environmental Geology, Earth History/Historical Geology and Field Geology; senior level and graduate classes in Sedimentology, Stratigraphy, and Field Geology; and an advanced, 500-level seminar in Stratigraphy, all at different colleges in the greater Los Angeles area. He has presented his work at international meetings in the US, UK, Italy, France and Canada. His research interests as a scientist include stratigraphy and sedimentology, oceanography, geomorphology, regional geology and global and climate change. In particular he is doing research on how to extract and process information about environmental change and ancient climates from the sedimentary rock record. Between his M.S and his Ph. D. he has been working in the oil industry as exploration and well-site geologist. During his years at SMC he was also a NASA-JPL faculty fellow and he is currently a field instructor at the Desert Institute of Joshua Tree National Park.

**Tentative schedule of lessons**

(if necessary, variations will be detailed in class)

<table>
<thead>
<tr>
<th>Week</th>
<th>(week of)</th>
<th>Topic</th>
<th>Book Chapters</th>
<th>Exams</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>January 1</td>
<td>Intro and Plate Tectonics concepts</td>
<td>1 and 19</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>January 1</td>
<td>Atoms, Elements and Minerals</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>January 1</td>
<td>Igneous Rocks</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>January 8</td>
<td>Volcanism and extrusive rocks</td>
<td>4</td>
<td>EXAM 1 (Thursday, January 11)</td>
</tr>
<tr>
<td>2</td>
<td>January 8</td>
<td>Weathering and soil</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>January 15</td>
<td>Sediments and Sedimentary Rocks</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>January 15</td>
<td>Metamorphism</td>
<td>7</td>
<td>no class on Monday, July 15, 2018</td>
</tr>
<tr>
<td>3</td>
<td>January 15</td>
<td>Time and Geology</td>
<td>8</td>
<td>(Martin Luther King, Jr. Day)</td>
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<tr>
<td>3</td>
<td>January 15</td>
<td>Mass Wasting</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>January 22</td>
<td>Streams and Floods</td>
<td>10</td>
<td>EXAM 2 (Monday, January 22)</td>
</tr>
<tr>
<td>4</td>
<td>January 22</td>
<td>Ground Water</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>January 22</td>
<td>Glaciers and Glaciations</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>January 29</td>
<td>Deserts and Wind Action</td>
<td>13</td>
<td>EXAM 3 (Monday, January 29)</td>
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<tr>
<td>5</td>
<td>January 29</td>
<td>Waves, beaches and Coasts</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>January 29</td>
<td>Geologic Structures</td>
<td>15</td>
<td></td>
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<tr>
<td>6</td>
<td>February 5</td>
<td>Earthquakes</td>
<td>16</td>
<td>EXAM 4</td>
</tr>
<tr>
<td>6</td>
<td>February 5</td>
<td>Plate Tectonics</td>
<td>19</td>
<td></td>
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</tbody>
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(Exam 4, part 1: cumulative exam, Monday, February 5)
(Exam 4, part 2: non-cumulative exam, Thursday, February 8)