

# Geology 100 (4 credits): General Geology

Fall 2012

**Instructor: Kevin Marty**

**Website:** [www.imperial.edu/kevin.marty](http://www.imperial.edu/kevin.marty)

**Office Hours:** M,W,Th from 12-1 pm and T from 5-6 pm. Office hours held in Room 2776, new science building.

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**Fall 2011 Geology 100 courses:** CRN 10088 on M,W from 1:30-4:40 pm; CRN 10089 on T,Th from 1:30-4:40 pm.

**Class Text Book:** *Exploring Geology*, 2nd edition, by Stephen J. Reynolds (and others); ISBN: 978-0-07-337668-4

**Class Lab Book:** Lab Manual in Physical Geology, by Busch/Tasa, 8<sup>th</sup> Edition

see [Laboratory Manual in Physical Geology](#) student website; [ARIS website](#) (for textbook)

**"You will need your textbook/lab manual immediately!"**

**Course Description:** This course is designed as an introduction to Earth's physical processes, structures and composition, and includes coverage of Earth's internal processes, such as those that cause earthquakes, volcanoes and mountain building; surface processes, such as rivers and waves, wind, glaciers and the landforms that result from these processes; the nature and origin of rocks and minerals that form the Earth's crust; and structures related to folding and faulting, will be studied.

The physical geology lab course is designed to cover the same (or related) geologic topics that are presented in the lecture portion of the course (simultaneously), to help the student gain a better understanding of the lecture material through hands-on applications in the lab.

**Course Objective:** By the end of this course, students will gain a better understanding and appreciation of their physical environment and the knowledge of how to link observable geologic features to Earth's physical processes. Students will gain an understanding of geologic concepts, the skills and ability to apply basic geologic observation and field methods, and an understanding of the practical application of geology to their lives

Week: 2012	Lecture Coverage (1st meeting of week)	Lab Coverage (2nd meeting of week)
Aug 20-24	<p>NO Lecture today; cover class syllabus and objectives, including lab procedures.</p> <p><b>**Assign: Read Chapter 1</b></p>	<p>Video: "Mystery of the Megaflood" (write up due in two weeks)</p>
Aug 27-31	<p>Lecture: <a href="#">Chapter 1</a> The Nature of Geology (PowerPoints)</p> <p><b>**Assign: Read Chapter 2</b></p>	<p><u>M,W class: lecture over Chapter 2 today and Lab Activity (below) because no class next Monday!</u></p> <p><u>In Class Lab Activity: Handout on the seasons (due during class period)</u></p>
Sept 3-7 (no class Monday, Sept 3-Labor Day)	<p>Lecture: <a href="#">Chapter 2</a> Investigating Geologic Questions (PowerPoints)</p> <p><b>**Assign: Read Chapter 3</b></p> <p>Due: <b>Mystery of the Megaflood</b> write up (to be posted in Blackboard by 11:59 pm on Sunday night, Sept 9).</p>	<p><u>In Class Lab Activity: Read and complete Topographic Maps lab (Lab 9): BRING YOUR LAB MANUALS...most of the labs are from the manual...</u></p>
Sept 10-14	<p>Lecture: <a href="#">Chapter 3</a> Plate Tectonics (PowerPoints)</p> <p><b>**Assign: Read Chapter 12</b></p>	<p><u>Lab Activity: Read Lab 2 and complete Plate Tectonics Lab (lab two)</u></p>
Sept 17-21	<p>Lecture: <a href="#">Chapter 12</a> Earthquakes and Earth's Interior (PowerPoints)</p> <p><b>**Assign: Read Chapter 4</b></p> <p><a href="#">Click Here</a> for example test question</p>	<p><u>Lab Activity: Read lab 16 and complete Earthquake Hazards and Human Risks lab (lab 16)</u></p>
Sept 24-28	<p><b>****Test 1 over Chapters 1-3, 12****</b></p> <p>Lecture: <a href="#">Chapter 4</a> Earth Materials</p> <p><b>**Assign: Read Chapter 5</b></p>	<p><u>Lab Activity: Read Lab 3 and complete Minerals Lab (lab three)</u></p>
Oct 1-5	<p>Lecture: <a href="#">Chapter 5</a> Igneous</p>	<p><u>Lab Activity: Read Lab 4 and</u></p>

	<p>Environments (PowerPoints)</p> <p><b>**Assign: Read Chapter 6</b></p>	<p><u><a href="#">complete Rock Cycle Lab (lab four)</a></u></p>
Oct 8-12	<p>Lecture: <u><a href="#">Chapter 6</a></u> Volcanoes and Volcanic Hazards (PowerPoints)</p> <p><b>**Assign: Read Chapter 7; Student Lectures next week over this chapter! We will break up in groups for this lecture that you will present next week.</b></p>	<p><u><a href="#">Lab Activity: Read Lab 5 and complete Igneous Rocks and Volcanic Hazards (lab five)</a></u></p>
Oct 15-19	<p>Lecture: <u><a href="#">Chapter 7</a></u> Sedimentary Environments (PowerPoints)</p> <p><b>**Assign: Read Chapter 8</b></p>	<p><u><a href="#">Lab Activity: Read Lab 6 and complete Sedimentary Rocks, Processes and Environments lab (lab six)</a></u></p>
Oct 22-26	<p><b>***Test 2 over Chapters 4-7***</b></p> <p>Lecture: <u><a href="#">Chapter 8</a></u> Deformation and Metamorphism</p> <p><b>**Assign: Read Chapter 9</b></p>	<p><u><a href="#">Lab Activity: Read Lab 7 and complete Metamorphic Rocks, Processes and Resources lab (lab seven)</a></u></p>
Oct 29-Nov 2	<p><b>REVIEW FOR FIRST LAB PRACTICUM</b></p>	<p><b>***Minerals, Rocks and the Rock Cycle Lab Practicum I (100 pts)*** (This test covers topographic maps, plate tectonics, minerals, all rock types and the rock cycle labs...these are labs 9 and 2-7); This lab practicum will be taken in class this week during lab period and it is open note.</b></p> <p><b>***Earthquake/Plate Tectonic Take Home Lab Practicum II (60 points)*** This</b></p>

		practicum covers earthquakes and Plate Tectonics...unlike Lab Practicum I above, this is a take home lab. Click <a href="#">HERE</a> for this take home practicum (due Dec 3).
Nov 5-9	Lecture: <a href="#">Chapter 9</a> Geologic Time (PowerPoints)  **Assign: Read Chapter 10	<u>M,W class lecture over Chapter 10 and lab activity below because no class next Monday!</u>  <u>Lab Activity: Read Lab 8 and complete Geologic Time lab (lab eight)</u>
Nov 12-16 (no class Monday, Nov 12-Vet Day)	Lecture: <a href="#">Chapter 10</a> The seafloor and Continental Margins (PowerPoints)  **Assign: Read Chapter 14	<b>Field Trip to Salton Sea Area</b>  <b>this trip is required</b>
Nov 19-23 (Thanksgiving Holiday Th-Sat)	Lecture: <a href="#">Chapter 14</a> Shorelines, Glaciers and Changing Sea Levels	<b>Wednesday:</b> Time to work on Lab Practicum (take-home lab) in class; instructor will answer (limited) questions; both classes invited since no class on Th and F.
Nov 26-30	<b>****Test 3 over Chapters 8-10 and 14****</b>	<u>Lab Activity: Student Choice: Lab Activity over Glaciers (Ch 13) or Deserts (Ch 14)</u>
Dec 3-7 (Final's Week)	<b>***Due: Take Home Lab Practicum II (60 pts)***</b>  <b>Have a great break!!</b>	

**Please Note:** Not all chapters in the text book are assigned and not all chapters (that are assigned) will be covered in their entirety; furthermore, as the class progresses, assignments may be altered. There may be reading, homework or in-class assignments to replace or supplement the text material (so it is important to show up to class; *you are responsible* for knowing any changes made that will be announced during class hours. Please find out from me or a classmate

if any changes were made, including new assignments or a change in due dates, etc). It is important to attend class regularly! Always!

**Lecture Tests:** Three lecture tests will be given throughout the semester (see syllabus table for test dates). You will be tested over material from your textbook that we will cover in class (during lecture periods). PowerPoints for the lectures are available by clicking on the chapter links in the syllabus table. If you read the chapters (and show up for lectures) and understand assigned Investigation Worksheets (IWs; see below) and assigned sketches; and ask questions on concepts you don't understand (from the Powerpoint lectures), you should do well on the tests. The tests will consist of approximately 50 multiple choice questions from the chapters/lectures and possibly 2 or 3 short answer questions from your IWs, sketches, videos and/or other material covered in class; the tests are worth approximately 50-55 points each. Lecture tests are NOT open note.

**Lab Practicums:** There are two lab practicums scheduled, one during the middle and the other during the end of the semester (you will be tested over your lab material). Your lab notebook and lab book may be used during the lab practicums. The test will present problems similar to your weekly lab assignments. You will work in groups during your labs, but make sure to understand the weekly labs to do well on the practicums (which will be done on your own). The first lab practicum will be administered in class; the second lab practicum will be a take-home exercise.

**Please Note:** tests and the lab practicum must be taken on the scheduled day cannot be made up.

**Lecture Assignments, Investigation Worksheets (IWs):** The *lecture assignments* and *IWs* are short write-ups, sketches, concept maps, worksheets, etc., that will be assigned and **completed in class** following a lecture and/or video. These short assignments are designed to assess your understanding of important concepts covered in class. There will also be one student lecture assignment where the class will break up into groups and prepare a lecture over various aspects of the chapter on Sedimentary Environments and Rocks (chapter 7); this will be discussed and assigned during class.

**Blackboard:** We will be using blackboard to enhance this course. You will have several posts due through blackboard and can obtain your syllabus, announcements, current grade and other information through this system. This is new to me also, I am learning blackboard so we will discuss this in class as the semester moves on, and new posts will be added during the semester.

**Lab Work:** we will use assignments from your lab book. In most cases (mentioned above) you will be able to work with a group during the lab classes. Labs are usually due on the same day. The lab work (along with the lab practicums) are a significant part of your grade, and involves showing up, participating and completing the work (demonstrating knowledge of the topics covered). Do not miss lab days, there is no time for make up labs. The labs will help you prepare for the lab practicums and you will receive credit for completing your lab assignments. It is important to bring your lab books with you to every designated lab period, and to keep them organized and updated!

**Field Trip:** There is one required field trip during this course (to be discussed in class). There may also be an extra credit (optional) hike.

**Grading:** All work (e.g., tests, labs, assignments) will be weighted equally. **There is approximately 460 total points possible in this course: 310 pts from Tests/Practicums/Possible Quizzes (~70% of your grade); 50 from weekly Labs (~10%); 100 from Investigation Worksheets/Sketches/Field Trip/Student Lecture/Blackboard Posts (~20%).** Therefore, I will add up your total points and divide that by the total possible to determine where you are percentage-wise to the total points possible. The grading scale is as follows: **90-100%=A; 89-79%=B; 78-68%=C; 67-57%=D.**

**Attendance:** Regular class attendance is important for students to accomplish the work necessary to successfully complete this course. You are responsible for all material presented in class even if you miss for a legitimate reason (e.g., illness, family emergency, etc.). Please notify me in advance if you cannot attend, and arrange to get class notes from another student. In-class assignments, as well as scheduled quizzes, labs and field trips cannot be made up if missed (except by legitimate reasons, which are few). With this being said, students are expected to attend every class session. Any student who misses the first class will be dropped. Students may be dropped at instructor discretion if they miss more than a week of class hours continuously.

**Cell Phones:** use not allowed while you are in the classroom. If an emergency comes up, please step out of the room to use your cell phone (and not disrupt the class). If you use your cell phone for any reason in the classroom during class hours you will be asked to leave the room (and not come back that day).

**Computers:** Computer use not allowed during lectures. Computer use is allowed in the classroom when you are working in groups or during breaks, etc., but not while the lecture is going on.

**Disruptive Students:** Most of you are here to learn, but some students are not serious. To preserve a productive learning environment, students who disrupt or interfere with a class may be sent out of the room and told to meet with Sergio Lopez, Dean of Student Affairs and Campus Disciplinary Officer, before returning to continue with coursework. Mr. Lopez will follow disciplinary procedures as outlined in the General Catalog.

**Cheating and Plagiarism:** IVC expects honesty and integrity from all students. A student found to have cheated on any assignment or plagiarized will receive a zero for the assignment and sent to Disciplinary Officer Sergio Lopez. A second occurrence of cheating or plagiarism may result in dismissal from class and expulsion from IVC as outlined in the General Catalog.

**Disabled Student Programs and Services:** Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Programs and Services (DSP&S) office as soon as possible. DSP&S is located in room 2117 of the Health Sciences Building, phone (760) 355-6312. **Please let me know if you have a disability and need special arrangements in class.**

## **SEMESTER TASK SUMMARY:**

Three Lecture Tests: 150 pts (30%)

In class Lecture Assignments/Student Lecture/Field Trip/Posts: 100 pts (10%)

\*Lab Practicum 1: 100 pts (20%)

\*Lab Practicum 2: 60 pts (10%)

\*Weekly Lab Participation: 50 pts (10%)

460 Total Points

### **Student Learning Outcomes (SLOs):**

**Institutional Student Learning Outcomes: ISLO 1= communication skills; ISLO 2= critical thinking skills; ISLO 3= personal responsibility; ISLO 4= information literacy; ISLO 5= global awareness.**

**Course Student Learning Outcome: ISLO 5: global awareness (data collected and assessed through lab practicum II).**

### **Table of Links**

<i>Earthquake and Volcano Monitoring Data</i> <a href="#">Click here</a> for requirements (note: not required this semester)	<b>Earthquake Take Home Lab Practicum: <a href="#">Click HERE</a></b>	Earthquake Notification Service (ENS) at the USGS website...link: <a href="https://sslearnquake.usgs.gov/ens/">https://sslearnquake.usgs.gov/ens/</a> ;
	<a href="#">Earthquake Links</a>	<a href="#">What to know by Chapter</a>
Seismological Exercises (not applicable this semester)	Volcanological Exercises (not applicable this semester)	Google Earth is available as a free download by clicking <a href="#">this link</a> , and then searching under "Downloads".

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