Basic Course Information

Semester	**Spring 2015**	Instructor Name	**Kevin Marty**
Course Title & #	**Geology 110**	Email	**kevin.marty@imperial.edu**
CRN #	**20223**	Webpage (optional)	
Room	**2733**	Office	**2776**
Class Dates	**Feb 17-June 12**	Office Hours	**5-6 pm M,W,Th and 12:15-1:15 pm Tues, Room 2776**
Class Days	**Thursday**	Office Phone #	**760-355-5761**
Class Times Units	**10:15-1:20 pm** **3**	Office contact if student will be out or emergency	**Ofelia Duarte (Science Dept) at 760-355-6155**

Course Description

This introductory earth and space science course covers basic principles from the fields of geology, astronomy, oceanography, and meteorology. Minerals and rocks, natural processes acting at the earth's surface and within the Earth, plate tectonics, geologic time and dating, composition and motions of the Earth, solar system, phases of the moon, origin and life cycles of stars, galaxies, water movements, ocean floor, weather and climate, along with other related topics will be studied. (C-ID GEOL 120) (CSU, UC)
(more)

The Earth System is diverse and dynamic, featuring volcanoes, earthquakes, tsunamis, landslides, floods, hurricanes, tornadoes, and so on. As citizens, we want to understand what is going on in our natural world and which aspects directly affect us or are most interesting. Understanding past events helps us comprehend what has happened and begin to predict future events. With the Earth System (it's components being the Atmosphere, Hydrosphere-including ice, Biosphere, Geosphere and influences from Space or the Exosphere), we examine past events and current natural processes to understand how this past and these processes affect humans. We will examine Space, the evolution of the Solar System and how space affects Earth's systems.

Accordingly, this course looks at the processes and materials composing Earth's physical environment, for example, its landscapes, interior, air and water, and explores topics such as natural hazards and disasters, fossils, energy resources, and much more. This course also explores topics related to space, such as the evolution of stars and our solar system, and examines evidence of past impacts and the threat of impacts with space objects today. To do so, we will learn some underlying principles of the natural world, from small things like the very building blocks of matter (atoms), to large things, like the cause and effect of regional forces that build mountains (e.g., the Himalayas) and make new oceans (e.g., the Red Sea). These processes are active today on Earth, whether driven by the Sun or Earth's internal heat, and as mentioned above can culminate in earthquakes, volcanoes, landslides, ocean currents and hurricanes, all of which obviously affect humans.

This class meets weekly and is taught using a hybrid approach, partly as a normal lecture in the classroom during our normal meeting time, and partly as an online course, which you do on your own outside of class. During this time outside of class, you are required to complete online modules and other possible assignments for that week including discussion posts.

Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. Gain critical thinking skills while working on and completing weekly homework assignments which include applying methods such as Venn diagrams, rubrics, and concept maps. (ILO2)
2. Gain awareness of geological events, weather and climate patterns and oceanic circulation on a global scale and understand/evaluate why events/features occur where they do. Assessment done through various homework assignments. (ILO5)
3. Gain knowledge of geological, meteorological, astronomical and oceanic features and processes through lectures, research papers, exams and presentations. Ties to all objectives. (ILO4)

Course Objectives

Upon satisfactory completion of the course, students will be able to:

1. Demonstrate a basic understanding of the nature of matter, and describe the movement of matter and energy though the natural processes on Earth.
2. Explain the character of the sediments, rocks, and minerals of which they are composed, and relate this to the rock cycle.
3. Identify and explain the major subdivisions of Earth and processes acting deep inside Earth that effect the environment at the Earth's surface.
4. Describe the time frame within which natural processes function, and learn ways geologists use to decipher Earth's history.
5. Demonstrate an understanding of the theory of plate tectonics and relate this to earthquakes, volcanoes, mountain building and the evolution of the physical world over million of years.
6. Identify the cause and effect of earthquakes and how they are measured, and the effect on people.
7. Characterize volcanic activity and identify its natural causes and impact on the environment.
8. Identify landscapes and source of sediments on the sea floor, and show the relationship between geology and ecology of the oceans.
9. Demonstrate knowledge of the dynamics of the sea by understanding near surface and deep sea circulation patterns and interaction with the atmosphere, and the composition and properties of sea water.
10. Identify the processes that effect sea level and shape the shoreline, and understand coastal environments.
11. Describe the composition and structure of the atmosphere, and examine atmospheric circulation, weather systems and storms, along with modern and past climates.
12. Describe the connection among ecology, climate and geology, and understand the character of the land surface and the agents that shape the landscape.
13. Explain the weathering process and the products of weathering.
14. Explain mass wasting and ways to avoid and prevent it.
15. Demonstrate a knowledge and understating of the role of water and wind in earth systems. Processes such as runoff, erosion, deflation and features such as stream, groundwater, and dune systems will be examined.
16. Explain the formation of glacier ice, the ways ice and ice deposits shape the landscape, and the connection between glaciers and other parts of Earth's systems.
17. Demonstrate a knowledge and understanding of the sun, the moon, the planets and other characteristics of the solar system and beyond.

Textbooks & Other Resources or Links

1) McConnell, D., and others. The Good Earth (Third/e). New York McGraw-Hill. E-Book through McGraw-Hill site (i.e., students will be set up at the IVC Bookstore with their McGraw Hill code to access the book and other features of McGraw-Hill website).

Three scientific themes are emphasized throughout the text: 1) scientific literacy; 2) Earth Science and the human experience; and, 3) the science of global change. This book will help you learn earth science concepts and processes on your own and complement what we do in class.

The Key Concepts and Terms List is your guide to what is important (found at the back of your class handbook). Required reading is listed in the right column of the Lecture Schedule later on in this document. If you revisit the chapter corresponding to the most recently finished lecture after we cover that topic, the material will be best retained.

Checkpoints are found on nearly every page in each chapter. These checkpoints consist of a wide variety of learning methods from construction of Venn Diagrams to filling in rubrics and constructing concept maps. Some of these will be completed in class and others assigned as weekly homework questions found in your class handbook and on lecture slides, and are a key component to doing well on Exams.

Course Requirements and Instructional Methods

Course Philosophy and Teaching Method: The subject of Earth Science is as vast and diverse as the natural world around us. Together, we will explore and visualize this dynamic world in a number of ways; in no way will it be a static collection of facts. Accordingly, we will concentrate on understanding natural processes and how we explore and learn things about our planet, rather than terms and factual trivia. We will concentrate on active, inquiry-based learning and will learn how to observe, think about, and understand our place in the natural environment. The critical inquiry and observational skills that we cultivate this semester should be useful in any profession, since they give you an appreciation of how earth science processes in our natural world impact our environment and society.

Class time will not simply consist of me repeating via lecture everything that is in the book! It is your responsibility and obligation to complete the required readings prior to quizzes. Class time may be used for working on lecture assignments, clarifying written materials, introducing new material, small-group activities, discussions, independent work projects, and/or identifying and applying principles and concepts, including in-class demonstrations.

Course Expectations: My role in this class is to provide a framework that includes theory, best practices, activities, and assignments for you to utilize in the development of your knowledge, understanding, and skills. I care very much how and what you learn in this class, but I believe that you are responsible for participating in learning from the activities provided. This class requires significant outside preparation and reading. It will be impossible to cover all issues in the textbook during class time. This is partly why we use a hybrid approach in this course.

Course Grading Based on Course Objectives

Grades:

In this course, your grade will be based on points that you earn. There are approximately 980 possible points, which are written out below:

Point Distribution Summary*	Points
Mid-term and Final Exams (2 @ 50 pts each)	~100
LearnSmart (12 @ 15 pts each)	~180
Class Handbook Mid-term and Final Check (2 @~10 pts each)	~20
Weekly initial and response discussion boards (12@ ~15 points each); blackboard	~180
Course Project: Disaster Tracking, Summary and Research Paper	~150
Weekly Tests	~350
Total Points Possible	~980

In-Class Exams (concept maps, sketches):
There are 2 total tests over six chapters each. Each of the 2 in-class exams is worth 50 points, for a semester total of 100 points. In advance of each in-class exam, you will be given a list of 10-15 possible concept-sketch/map/diagrams/rubric-type questions (see Class Handbook below), and several of these will be on the exam. These possible questions will be developed from the checkpoints and learning sketches you complete in class. You can make up exams only if you have a note from a doctor, a letter from the university regarding some university-sponsored activity, a copy of a jury summons, a police report, or some other document that can be verified. This legitimate proof for why you cannot attend class that day must be provided to the instructor as far in advance of the exam as possible.

In-Class Assignments (Class Handbook):
Throughout each chapter are "Checkpoints," which consist of a wide variety of learning methods. Some of these checkpoints along with lecture sketches and lab exercises have been assimilated and linked to each lesson, **AND ASSEMBLED IN YOUR CLASS HANDBOOK**

WHICH IS A REQUIREMENT FOR THIS CLASS. The handbook problems are printable from the website for extra copies of a problem if needed, but your Class Handbooks are required to be finished and submitted during the Mid-term and Final exams. You are assigned several of these checkpoints/sketches/exercises as part of your weekly homework assignments. You are expected to complete all of you checkpoints/sketches/exercises prior to Mid-term and Final exams. I will collect your Class Handbooks at the beginning of each exam to check that you have worked on your associated assignments for each test (for example, during the Mid-term test which covers chapter's 1-6, I will check assigned checkpoints/sketches for chapter's 1-6). These notebooks will be worth approximately 10 points (so complete all of the assignments to the best of your ability for full credit), for a total of ~20 points (both handbooks at Mid-term and Final).

Modules:
There will be a few modules required during the semester. These modules are generally associated with your Discussion Boards and help you formulate a response to a Discussion Board question. One or two of the modules may have an assignment attached to it (such as the Season's module) to assure you work through the Season's interactive prior to posting your discussion.

Discussion Boards:
Discussions are ways to present your viewpoint or what you have learned about a topic to the class; and to respond to your classmate's posts. Initial Discussions are due on Day 3 of each week (your original post) and response discussion posts (respond to a minimum of one of your classmates posts) are due on Day 7 of each week. Discussions are completed through Blackboard and are generally worth 15 points each week (Initial plus Response posts).

Course Project: Natural Disaster Tracking Journal, Summary and Research Paper
The course project requires that you track natural disasters on a weekly basis, submit a summary of your disasters near the end of the semester and a 3 page research paper (also at the end of the semester) based on your tracking. This project is worth approximately 150 pts (see "Lessons/Course Project" button on Blackboard for more).

LearnSmart and Weekly Tests:
Working through the LearnSmart assignments and taking your weekly tests are a significant part of your grade. LearnSmart will be accessed through Blackboard where you will be taken to the McGraw Hill website to answer various types of questions based on your ebook reading (the book and sections to visit to answer each question is highlighted in the book). This assignment will take approximately 1 hour to complete each week and is due by Day 5. Then, on Day 6, your test will open and test you on what you learned (test questions are pulled from your LearnSmart assignment). Tests will close on Day 7 at 11:59 pm.

Field Trip:
Field Trip at end of year, details will be worked out later.

Due Dates:

The above assignments have specifically defined due dates as noted in the Lecture Schedule later on in this syllabus. It is your responsibility to consult the Lecture Schedule for all due dates. The instructor will not assume the responsibility of reminding you that an assignment is due or that an exam will be given.

Score/Grade Posting:

All scores will be posted on Blackboard. You have 7 days after a score has been posted to dispute an entry. After the 7-day period, the score stands as entered. Do not wait until the end of the semester to check your scores. Grades are not assigned by a "curve", where a certain percent is assigned "A", "B", etc. Instead, you are competing against my expectations, not your classmates, and there is no predetermined percentage of "A", "B", and "C". The exact division between letter grades will not be determined until the final points are totaled, but the grade breaks will not be raised above typical values (e.g., the A-B grade break will be 90% or lower, etc.). No items are weighted—your grade is based solely on total points received.

Dates for Withdrawals:
There is a course withdrawal deadline—check the college calendar to find the course withdrawal deadline for this semester. The course withdrawal deadline is a no-tolerance policy. When the withdrawal period ends, students only have one option – a grade of F for the course.

Incomplete Grade:
A mark of "I" is given only when a student who is otherwise doing acceptable work is unable to complete a course because of an illness or other situation beyond the student's control. The student is required to arrange for the completion of the course requirements with the instructor. The university does not allow instructors to assign a grade of "I" simply because a student has quit attending classes and/or completing assignments.

Attendance

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See General Catalog for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.

Classroom Etiquette

Class Disruptions:
These disruptions are defined as activities that distract the instructor or other students from the course content. Such activities include talking or whispering, cell phones ringing, tardiness or

whispering about another tardy student, noisily preparing to leave the class prior to the end of the period, etc. Disruptive students will be asked to leave the class. Students who disrupt or interfere with a class repeatedly may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. Disciplinary procedures will be followed as outlined in the General Catalog.

Audio/Visual Recording:
Neither audio nor video recording will be permitted except under special circumstances prescribed by the DSPS. You are also not allowed to use the camera in your phone to record pictures or video, without expressed consent of the instructor.

Cellular Telephones/Text Messaging/Pagers:
Please turn off all cellular telephones and pagers during class time – this includes text messaging. If your work situation requires that you be on call, please notify the instructor prior to class. Text messaging is not permitted in this class.

Use of Laptops In the Classroom:
You are not permitted to use laptops in class during lectures or during work on lecture assignments/checkpoints/exercises from your class handbook (one exception is if you are using an electronic book for class, then you are permitted to use your laptop only during work out of the class handbook). You may use your laptop during breaks only as long as you are not disturbing your neighbors. If you use your laptop during lecture you will lose all in-class points for the day; and if you continue to use your laptop during unauthorized times or are disrupting other students you will be asked to leave the classroom. If it is essential that you use your laptop to take notes during lectures please see me about this and we can possibly work something out.

Food and Drink:
Food and drink are prohibited in all classrooms. Water bottles with lids/caps are the only exception. Additional restrictions will apply in labs. Please comply as directed.

Children in the Classroom:
Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.

Academic Honesty

- Plagiarism is taking and presenting as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to 'cite a source' correctly, you must ask for help.
- Cheating is defined as fraud, deceit, or dishonesty in an academic assignment, or using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.
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- Anyone caught cheating or will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or

disciplinary action. Please refer to the General School Catalog for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to, the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment; (c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment; (e) using a commercial term paper service.

Additional Help – Discretionary Section and Language

Help Along The Way: Many students enter this class with a bit of anxiety. Other students may have various disabilities, including test anxiety, which may make traditional classroom environments very difficult. Don't worry, almost all such students before you have passed this course – many with very high grades! The success of many of these students, though, was in part because they attended class regularly, took advantage of my office hours, or obtained help from their peers. If you are having difficulty understanding the course work, please contact me immediately. Also, the college has learning centers, disability resource centers, and counseling centers to address the various needs of students. (see examples next):

- Blackboard support center: http://bbcrm.edusupportcenter.com/ics/support/default.asp?deptID=8543
- Learning Labs: There are several 'labs' on campus to assist you through the use of computers, tutors, or a combination. Please consult your college map for the Math Lab, Reading & Writing Lab, and Study Skills Center (library). Please speak to the instructor about labs unique to your specific program.
- Library Services: There is more to our library than just books. You have access to tutors in the Study Skills Center, study rooms for small groups, and online access to a wealth of resources.

Disabled Student Programs and Services (DSPS)

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. The DSP&S office is located in Building 2100, telephone 760-355-6313, if you feel you need to be evaluated for educational accommodations.

Student Counseling and Health Services

Students have counseling and health services available, provided by the pre-paid Student Health Fee. We now also have a fulltime mental health counselor. For information see http://www.imperial.edu/students/student-health-center/. The IVC Student Health Center is located in the Health Science building in Room 2109, telephone 760-355-6310.

Student Rights and Responsibilities

Students have the right to experience a positive learning environment and due process. For further information regarding student rights and responsibilities, please refer to the IVC General Catalog available online at http://www.imperial.edu/index.php?option=com_docman&task=doc_download&gid=4516&Itemid=762

Information Literacy

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. Students can access tutorials at http://www.imperial.edu/courses-and-programs/divisions/arts-and-letters/library-department/info-lit-tutorials/

Anticipated Class Schedule / Calendar

Lecture/Assignment Schedule for Geol 110: Earth and Space Science, Spring 2015

*All due dates and distribution of grade points is subject to change according to class needs.

**NOTE: for purposes of this class, the week begins on Mondays at 12:01 am and ends on Sundays at 11:59 pm. Day 1 is Monday and Day 7 is Sunday (and, for example, Day 4 is Thursday) each week.

Week of	Topic/Lecture/Test	Readings
Feb 16-Mar 1 (this lesson over two-week period: Week 1 Feb 16-Feb 22; Week 2 Feb 23-Mar 1)	Lesson 1: **Introduction to course and Scientific Method** Introductory Post Due Day 7, Week 1 Initial Discussion Post Due Day 7, Week 1 Response Post Due Day 3, Week 2 LearnSmart Assignment Due Day 5, Week 2 Test over Chapter 1 Due Day 7, Week 2 Complete Checkpoints/Sketches for Lesson 1	Chapter 1
Mar 2-Mar 8	Lesson 2: **Earth in Space** Initial Discussion Post Due Day 3 Response Post Due Day 7 LearnSmart Assignment due Day 5 Test over Chapter 2 due Day 7 Journal Post due Day 6 Complete Checkpoints/Sketches for Lesson 2	Chapter 2
Mar 9-Mar 15	Lesson 3: **Near Earth Objects** Initial Discussion Post Due Day 3 Response Post Due Day 7 LearnSmart Assignment due Day 5 Test over Chapter 3 due Day 7 Journal Post due Day 6 Complete Checkpoints/Sketches for Lesson 3	Chapter 3
Mar 16-Mar 22	Lesson 4: **Plate Tectonics** Initial Discussion Post Due Day 3 Response Post Due Day 7 LearnSmart Assignment due Day 5 Test over Chapter 4 due Day 7 Journal Post due Day 6 Complete Checkpoints/Sketches for Lesson 4	Chapter 4

Mar 23-Mar 29	Lesson 5: **Earthquakes** Initial Discussion Post Due Day 3 Response Post Due Day 7 LearnSmart Assignment due Day 5 Test over Chapter 5 due Day 7 Journal Post due Day 6 Complete Checkpoints/Sketches for Lesson 5	Chapter 5
Mar 30-Apr 5	Lesson 6: **Volcanoes** Initial Discussion Post Due Day 3 Response Post Due Day 7 LearnSmart Assignment due Day 5 Test over Chapter 6 due Day 7 Journal Post due Day 6 Complete Checkpoints/Sketches for Lesson 6	Chapter 6
Apr 2	**Mid-term Exam April 2 from 10:15-1:20 pm in room 2733 and Class Handbook Due Chapter's 1-6; Mid-term test over questions from Handbook.**	TEST
Apr 6-Apr 12	**SPRING BREAK**	SPRING BREAK
Apr 13-Apr 19	Lesson 7: **Rocks and Minerals** Initial Discussion Post Due Day 3 Response Post Due Day 7 LearnSmart Assignment due Day 5 Test over Chapter 7 due Day 7 Journal Post due Day 6 Complete Checkpoints/Sketches for Lesson 7	Chapter 7
Apr 20-Apr 26	Lesson 8: **Geologic Time** Initial Discussion Post Due Day 3 Response Post Due Day 7 LearnSmart Assignment due Day 5 Test over Chapter 8 due Day 7 Journal Post due Day 6 Complete Checkpoints/Sketches for Lesson 8	Chapter 8
Apr 27-May 3	Lesson 9: **Oceans and Coastlines** Initial Discussion Post Due Day 3 Response Post Due Day 7 LearnSmart Assignment due Day 5 Test over Chapter 13 due Day 7 Journal Post due Day 6 Complete Checkpoints/Sketches for Lesson 9	Chapter 13

May 4-May 10	Lesson 10: **The Atmosphere** Initial Discussion Post Due Day 3 Response Post Due Day 7 LearnSmart Assignment due Day 5 Test over Chapter 14 due Day 7 Journal Post due Day 6 Complete Checkpoints/Sketches for Lesson 10	Chapter 14
May 11-May 17	Lesson 11: **Weather Systems** Initial Discussion Post Due Day 3 Response Post Due Day 7 LearnSmart Assignment due Day 5 Test over Chapter 15 due Day 7 Journal Post due Day 6 Complete Checkpoints/Sketches for Lesson 11	Chapter 15
May 18-May 24	Lesson 12: **Climate and Climate Change** Initial Discussion Post Due Day 3 Response Post Due Day 7 LearnSmart Assignment due Day 5 Test over Chapter 16, 17 (partial) due Day 7 Journal Post due Day 6 Complete Checkpoints/Sketches for Lesson 12	Chapter 16, 17 (partial)
May 25-May 31	**Final Exam on May 28 from 10:15-1:20 pm in room 2733; Class Notebooks Due Chapter's 7,8,13-15 and possibly 16,17 (partial coverage)**	
Jun 1-Jun 7	Field Trip: Salton Sea	Field Trip
Jun 8-Jun 14	**Course Project Due: June 8 (through Blackboard)**	Break