

Basic Course Information

Semester	Spring 2020	Instructor Name	Steven Williams
Course Title & #	GEOL 110 – Earth and Space Science	Email	steven.williams@imperial.edu
CRN #	20061	Webpage (optional)	
Classroom	2733	Office #	NA
Class Dates	2/17/20 to 6/12/20	Office Hours	6:00 to 6:30pm Wednesdays – Room 2733 and by email Tuesdays from 3:30 to 4:00pm.
Class Days	Wednesday	Office Phone #	NA
Class Times	6:30 to 9:40 pm	Emergency Contact:	Ofelia Duarte (Science Dept) at 760-355-6155
Units:	3.0		

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.

The Earth is diverse and dynamic, featuring volcanoes, earthquakes, tsunamis, landslides, floods, weather, climate, hurricanes, tornadoes, and so on. In order to understand what is going on in our natural world and which aspects directly affect us, we need to study past events in the earth's history to help us comprehend what has happened and begin to predict future events. 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 and make new oceans. 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 once a week 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 quizzes and other possible assignments for that week. There are online materials to help you complete the investigations and to prepare you for online quizzes, but the book is your best resource.

Coarse Prerequisite(s) and/or Corequisite(s)

None

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 through 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 millions 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

The Good Earth (3rd edition) by McConnell, D., (2014). New York McGraw-Hill. ISBN: 9780077359874

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 (posted on Canvas). 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 assigned as weekly homework questions found in your class handbook and on lecture slides, and are a key component to doing well on the 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. 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, videos, independent work projects.

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. We will not have enough time to cover everything there is to know about the earth system in one semester. 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.

Out of Class Assignments: The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement.

Course Grading Based on Course Objectives

Grading: Your grade for this course will be comprised of chapter questions, exams, written papers, and other class assignments.

- In-Class Assignments. In-class assignments will occur throughout the semester for various chapters. These assignments usually will be part of an activity that will reinforce what we have been covering in class, such as plotting location and size of earthquakes, evaluating asteroid impacts, etc. The in-class assignments will be due at the end of the class. Make sure to attend class or you will miss out on these activities, points that cannot be made up. There may be unannounced short assignments presented (in class) that will generally cover the practical application of course studies to our life (and hopefully answer the question: why do we need to know this?); or on recent events related to earth and space science. ***Another reason to show up for class as these cannot be made up!***
- Online Quizzes: Quizzes for every chapter that we cover will be posted on Canvas. The quizzes will cover information from the textbook and from any online materials. Each of the online quizzes will be worth between 10 and 20 points. See the *Quiz Schedule* at the end of this syllabus for due dates. You can use your textbook or your notes to answer these quizzes, but not another person. Each quiz will have a time limit of 45 minutes (and two attempts), which will not be enough to look up every answer from scratch during a quiz. In other words, you will need to read the textbook, view online materials, and study your notes *before* beginning the time-limited online quiz. Quizzes close on Wednesday night at 11:59pm of each week. ***No late or make-up quizzes.***

- Out of Class Assignments. We will have various out of class assignments will occur throughout the semester for various chapters. These assignments usually will include online research on the current topic we are covering in class.
- Exams: Exams will be given after we have covered several similar chapters. Exams will be worth 100 points each. Exams will cover material presented in the class, textbook, homework, quizzes, and class discussion. Exams must be taken on the scheduled day. **There will be three (3) exams during the semester, each of which will cover several chapters. Only two exams will be included in your final grade, so if you miss one of the exams, you can drop the missed exam.** You can make up exams only if you have a note from a doctor, a letter from the college regarding your participation in a college-sponsored activity, a copy of a jury summons, etc. 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 order to determine a time to make up the exam.
- Research Paper: A research paper on a topic covered in this class (earthquakes, volcanoes, geologic processes, climate, or other related topic) is required for this class. The research paper is due the last day of class. The research paper will be assigned about midway through the semester and will be due the final day of class. The research paper will be worth 100 points. You must submit one research paper. These reports must be at least 5 pages, double spaced, typewritten, with properly referenced and appropriate visual attachments (such as maps and diagrams) if needed. ***This work must be done on your own.*** We will go over proper scientific referencing procedures and presentation in class.
- Attendance: Attendance will be taken every class.

Due Dates: The above assignments have specifically defined due dates as noted in the Course Schedule and Quiz Schedule later on in this syllabus. It is your responsibility to consult the Lecture Schedule and Quiz 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 work will be weighted equally, that is, I will add up all your scores and determine the percentage from the total points possible. Exams will be curved based on the overall performance of the class. The grading scale is as follows:

A = 88 – 100%
B = 75 – 87.9%
C = 60 – 74.9%
D = 50 – 59.9%
F = <49.9%

I want to emphasize, it is important to show up to class and turn your work in complete (demonstrating knowledge of the topic) and on time. You will do well in this class if you do this.

All scores will be posted on Canvas. *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.

Dates for Withdrawals: There is a course withdrawal deadline. Check the IVC 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 college does not allow instructors to assign a grade of “I” simply because a student has quit attending classes and/or completing assignments.

Attendance

Each student is expected to attend all classes. It is the student's responsibility to inform the instructor of an excused absence as soon as possible. Absences for emergency situations may be excused unofficially by the instructor. Instructor-excused absences must be obtained *prior to or on the day of the student's absence*. It is the student's responsibility to inform the instructor of an upcoming excused absence as soon as possible. *There will be absolutely no make ups for unexcused absences*. Please contact the instructor if you have circumstances arise that conflict with attending class. Please do not contact the instructor *after* any unexcused absence (re-read this paragraph if necessary).

- 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. ***It is your responsibility to drop the class.***
- 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 express consent of the instructor.
- **Electronic Devices:** Cell phones and electronic devices must be turned off and put away during class unless otherwise directed by the instructor. This includes text messaging. If your work situation requires that you be on-call, please notify the instructor prior to class.
- **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 by the instructor.
- **Disruptive Students:** Students who disrupt or interfere with a class 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.
- **Children in the classroom:** Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.

- **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.

Online Netiquette

- What is netiquette? Netiquette is internet manners, online etiquette, and digital etiquette all rolled into one word. Basically, netiquette is a set of rules for behaving properly online.
- Students are to comply with the following rules of netiquette: (1) identify yourself, (2) include a subject line, (3) avoid sarcasm, (4) respect others' opinions and privacy, (5) acknowledge and return messages promptly, (6) copy with caution, (7) do not spam or junk mail, (8) be concise, (9) use appropriate language, (10) use appropriate emoticons (emotional icons) to help convey meaning, and (11) use appropriate intensifiers to help convey meaning [do not use ALL CAPS or multiple exclamation marks (!!!)].

Academic Honesty

Academic honesty in the advancement of knowledge requires that all students and instructors respect the integrity of one another's work and recognize the important of acknowledging and safeguarding intellectual property.

There are many different forms of academic dishonesty. The following kinds of honesty violations and their definitions are not meant to be exhaustive. Rather, they are intended to serve as examples of unacceptable academic conduct.

- **Plagiarism** is to take and present 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 correctly 'cite a source', 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, or assisting others in using materials, which are prohibited or inappropriate in the context of the academic assignment in question. Anyone caught cheating 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) use of a commercial term paper service.

Additional Student Services

Earth science is probably a very new concept to most students. There is a lot of information to absorb and we are only touching the tip of the iceberg. If you are having difficulty understanding the course work, please contact me immediately. My job is to help you get the most out of this class and hopefully take something from it that will help you in the future. You cannot receive help if you do not ask.

Imperial Valley College offers various services in support of student success. The following are some of the services available for students. Please speak to your instructor about additional services which may be available. Also, the

college has learning centers, disability resource centers, and counseling centers to address the various needs of students.

- **CANVAS LMS:** Canvas is Imperial Valley College's main Learning Management System. To log onto Canvas, use this link: [Canvas Student Login](#). The Canvas Student Guides Site provides a variety of support available to students 24 hours per day. Additionally, a 24/7 Canvas Support Hotline is available for students to use: 877-893-9853.
- **Learning Services:** There are several learning labs on campus to assist students through the use of computers and tutors. Please consult your Campus Map for the Math Lab; Reading, Writing & Language Labs; and the Study Skills Center.
- **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. Please contact them 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.

- **Student Health Center.** A Student Health Nurse is available on campus. In addition, Pioneers Memorial Healthcare District provide basic health services for students, such as first aid and care for minor illnesses. Contact the IVC Student Health Center at 760-355-6128 in Room 1536 for more information.
- **Mental Health Counseling Services.** Short-term individual, couples, family and group counseling services are available for currently enrolled students. Services are provided in a confidential, supportive, and culturally sensitive environment. Please contact the IVC Mental Health Counseling Services at 760-355-6310 or in the building 1536 for appointments or more information.

Veteran's Center

The mission of the [IVC Military and Veteran Success Center](#) is to provide a holistic approach to serving military/veteran students on three key areas: 1) Academics, 2) Health and Wellness, and 3) Camaraderie; to serve as a central hub that connects military/veteran students, as well as their families, to campus and community resources. Their goal is to ensure a seamless transition from military to civilian life. The Center is located in Building 600 (Office 624), telephone 760-355-6141.

Extended Opportunity Program and Services (EOPS)

The Extended Opportunity Program and Services (EOPS) offers services such as priority registration, personal/academic counseling, tutoring, book vouchers, and community referrals to qualifying low-income students. EOPS is composed of a group of professionals ready to assist you with the resolution of both academic and personal issues. Our staff is set up to understand the problems of our culturally diverse population and strives to meet student needs that are as diverse as our student population.

Also under the umbrella of EOPS our CARE (Cooperative Agency Resources for Education) Program for single parents is specifically designed to provide support services and assist with the resolution of issues that are particular to this population. Students that are single parents receiving TANF/Cash Aid assistance may qualify for our CARE program, for additional information on CARE please contact Lourdes Mercado, 760-355-6448, lourdes.mercado@imperial.edu.

EOPS provides additional support and services that may identify with one of the following experiences:

- Current and former foster youth students that were in the foster care system at any point in their lives
- Students experiencing homelessness
- Formerly incarcerated students

To apply for EOPS and for additional information on EOPS services, please contact Alexis Ayala, 760-355-5713, alexis.ayala@imperial.edu.

Student Rights and Responsibilities

- The Student Equity Program strives to improve Imperial Valley College's success outcomes, particularly for students who have been historically underrepresented and underserved. The college identifies strategies to monitor and address equity issues, making efforts to mitigate any disproportionate impact on student success and achievement. Our institutional data provides insight surrounding student populations who historically, are not fully represented. Student Equity addresses disparities and/or disproportionate impact in student success across disaggregated student equity groups including gender, ethnicity, disability status, financial need, Veterans, foster youth, homelessness, and formerly incarcerated students. The Student Equity Program provides direct supportive services to empower students experiencing insecurities related to food, housing, transportation, textbooks, and shower access. We recognize that students who struggle meeting their basic needs are also at an academic and economic disadvantage, creating barriers to academic success and wellness. We strive to remove barriers that affect IVC students' access to education, degree and certificate completion, successful completion of developmental math and English courses, and the ability to transfer to a university. Contact: 760.355.5736 or 760.355.5733 Building 100.
- The Student Equity Program also houses IVC's Homeless Liaison, who provides direct services, campus, and community referrals to students experiencing homelessness as defined by the McKinney-Vento Act. Contact: 760.355.5736 Building 100.

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.

Information Literacy

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. The IVC Library Department provides numerous Information Literacy Tutorials to assist students in this endeavor.

Anticipated Class Schedule / Calendar

The following schedule is tentative. Depending how the class discussions proceed, the schedule may change.

Date or Week	Activity, Assignment, and/or Topic	Tests
Week 1 – February 19	Syllabus & Introduction Chapter 1 – Introduction to Earth Science	
Week 2 – February 26	Chapter 2 – Earth in Space	
Week 3 – March 4	Chapter 3 – Near Earth Objects	
Week 4 – March 11	Chapter 4 – Plate Tectonics	
Week 5 – March 18		Test #1 – Chapters 1-4
Week 6 – March 25	Chapter 7 – Rocks and Minerals	
Week 7 – April 1	Chapter 6 – Volcanoes	
Week 8 – April 8	Chapter 5 – Earthquakes	
Week 9 – April 15	Spring Break – No Class	
Week 10 – April 22	Chapter 8 – Geologic Time	
Week 11 – April 29	Chapter 10 – Landslides	
Week 12 – May 6	Term Paper Discussion	Test #2 – Chapters 5-8, 10
Week 13 – May 13	Chapter 14 – Atmosphere	
Week 14 – May 20	Chapter 15 – Weather	
Week 15 – May 27	Chapter 16 – Climate	
Week 16 – June 3	Chapter 17 – Global Change	
Week 17 – June 10		Test #3 – Chapters 14-17

*****Tentative, subject to change without prior notice*****

Quiz Schedule (through Canvas) for GEOL110 Fall 2019

Quizzes (below) are due on Canvas by 11:59 p.m. on the day indicated.

Due by 11:59pm on this date	Quiz # / Chapter	Readings
Feb 26	Quiz 1, Chapter 1: Introduction to Earth Science	Chapter 1
March 4	Quiz 2, Chapter 2 Earth in Space	Chapter 2
March 11	Quiz 3, Chapter 3: Near-Earth Objects	Chapter 3
March 18	Quiz 4, Chapter 4: Plate Tectonics Chapter 4	Chapter 4
April 1	Quiz 7, Chapter 7: Rocks and Minerals	Chapter 7
April 8	Quiz 6, Chapter 6: Volcanoes	Chapter 6
April 22	Quiz 5, Chapter 5: Earthquakes	Chapter 5
April 29	Quiz 8, Chapter 8: Geologic Time	Chapter 8
May 6	Quiz 9, Chapter 10: Landslides	Chapter 10
May 27	Quiz 10, Chapters 14/15: The Atmosphere/Weather	Chapter 14/15
June 10	Quiz 11, Chapter 16/17: Climate/Global Change	Chapter 16/17

*****Tentative, subject to change without prior notice*****