

Instructor: William Frank

Office: ZHS 103

Office Hours: Tu/Th 11AM-12PM

Contact Info: I can be reached by email, but given the size of this class, I will likely not be able to reply to each message in detail. Please first check the syllabus, and then if you still have a question, consider contacting your TA first. If you have in-depth questions related to class content, you will probably find it more effective to ask in person, either immediately after lecture or lab, or during office hours held by me or one of the TAs. If you still do not have an answer, my e-mail is wbf Frank@usc.edu; please include GEOL105 in the subject.

TAs:

Name	Abra Atwood	Shan Ma	Emily Tibbett	Niloufar Abolfathian	Yifang Cheng
E-mail (@usc.edu)	aatwood	shanma	tibbett	nabolfat	chengyif

Course Description

Welcome to GEOL105, "Planet Earth." This course provides an introduction for non-geologists and non-scientists to the inner workings, origin, and history of our dynamic planet. We will learn how the Earth's internal heat drives the engine that builds mountains, moves the continents, creates the ocean basins, and produces earthquakes and volcanoes. We examine the way the circulation of the atmosphere and hydrosphere are driven by solar energy, and interact with the solid Earth to produce landscapes, erode and deposit sediment, and create environments for life and evolution. We investigate the techniques by which we can image the Earth's interior, measure the rates of plate motion, and infer how the planet has evolved through time. Each step of the way we ask ourselves how we know what we know, what we don't know, and how we use the scientific method to test and validate hypotheses. This syllabus outlines the course contacts, requirements, and schedule. Additional information will be posted on Blackboard throughout the course.

Learning Objectives

After taking this course, a student will be able to:

- understand the scientific process from observation to hypothesis to theory
- describe the interaction between the major Earth systems and their impacts on one another
- evaluate how topical current events fit into and affect different parts of our Earth system

Recommended Reading

Course will roughly follow the material in *Understanding Earth*, by John Grotzinger and Tom Jordan (W.H. Freeman and Company), ISBN: 978-1-4292-1951-8. Any recent edition should contain the material we will cover. The chapters in *Understanding Earth* that cover the material presented during each lecture are listed in the weekly schedule.

Grades

Student grades are based on the cumulative score across five grade elements: laboratory work, in-class quizzes, two mid-term exams, and a final exam. The breakdown of the total number of points that can be earned are shown in the table to the right.

Grade element	Max points
Laboratory work	200
In-class quizzes	100
Midterm exam 1	100
Midterm exam 2	100
Final exam	200
Total	700

Quizzes

There will be 8 quizzes given throughout the semester, as shown in the weekly schedule. Each quiz will be given at the beginning of the class and will cover the material of the previous lectures. Each quiz will contain 5 questions that will be similar to the style of the questions that will be asked on the midterm and final exams.

Exams

The three examinations will evaluate student comprehension of the lecture and textbook material. When each exam will take place and what material it will cover is as follows:

- Midterm exam 1 will be given in class on Thursday Feb 15; it will cover the material presented in lectures from Jan 9 through Feb 13.
- Midterm exam 2 will be given in class on Wednesday Mar 29; it will cover the lectures from Feb 20 through Mar 27.
- Final exam will be given on May 8, 8–10 AM; it will be a comprehensive examination, covering all lectures throughout the semester, but a special emphasis will be placed on the material in lectures from Apr 3 to the end of classes.

If you want to do well on the exams, you are encouraged to attend class faithfully, take notes in class, and review the lectures. Pdf versions of the lecture slides will be posted on Blackboard. All exams will be objective (true/false or multiple choice), and grading will be done using Scantron.

If you have to miss an examination because of illness or an academic conflict, you must inform the instructor by email in advance, and provide documentation. Make-ups of examinations will, in general, NOT be permitted except for extraordinary circumstances (e.g., documentable conflicts with other USC-related commitments). There are no make-ups for in-class quizzes.

Grade	A	B	C	D
Percentage of total enrollment	15%	35%	35%	15%

Assignment of Final Grades

Each student will receive a final grade based on their cumulative score. The grading curve will have an approximate distribution as follows:

Based on previous classes, a grade of F is typically assigned to a cumulative score that is less than 45%.

Pass/No Pass: note that the cut-off for Pass/No Pass is equivalent to a C- letter grade.

Additionally, more than three lab absences will result in an automatic no pass.

Extra Credit

Students can earn extra credit for participation in JEP (Joint Educational Project) The credit will be added to your grade after the class grades are curved, and the increase in grade will be limited to one-third of a grade step (e.g., from a B+ to an A- or from a C to a C+). No other forms of extra credit will be given at any time during the class or at the end of the semester for any reason.

Disability Services

Students requesting academic accommodations based on a disability are required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to an instructor as early in the semester as possible. DSP is located in Grace Ford Salvatori Hall, 120, and is open 8:30 a.m. - 5:00 p.m., Monday through Friday. The phone number is (213) 740-0776; email is

ability@usc.edu

Weekly Course Schedule

	Tuesday	Thursday	Related Chapter in <i>Understanding Earth</i>
Week 1	Jan 9: Intro to GEOL105 and the scientific method	Jan 11: The Earth system	Ch. 1
Week 2	Jan 16: Plate tectonics (QUIZ 1)	Jan 18: Plate tectonics	Ch. 2
Week 3	Jan 23: Earth Materials	Jan 25: Igneous/ metamorphic rocks (QUIZ 2)	Ch. 3, 4, 6
Week 4	Jan 30: Sedimentary rocks	Feb 1: Deforming rocks	Ch. 5, 7
Week 5	Feb 6: Geologic time (QUIZ 3)	Feb 8: Origin of Earth and the solar system	Ch. 8, 9
Week 6	Feb 13: Evolution of the continents (QUIZ 4)	Feb 15: Midterm exam 1	Ch. 10
Week 7	Feb 20: Biosphere and the Earth system	Feb 22: History of life	Ch. 11
Week 8	Feb 27: Volcanoes (QUIZ 5)	Mar 1: Volcanic hazard	Ch. 12
Week 9	Mar 6: Earthquakes	Mar 8: Earthquake hazard	Ch. 13
Week 10	Spring break		
Week 11	Mar 20: Exploring the Earth's interior (QUIZ 6)	Mar 22: Weathering and erosion	Ch. 14, 16
Week 12	Mar 27: Mass wasting	Mar 29: Midterm exam 2	Ch. 16
Week 13	Apr 3: Climate system	Apr 5: Streams and rivers	Ch. 15, 18
Week 14	Apr 10: Hydrologic cycle	Apr 12: Wind transport and landscaping (QUIZ 7)	Ch. 17, 19
Week 15	Apr 17: Coastlines and oceans	Apr 19: Glaciers	Ch. 20, 21
Week 16	Apr 24: Natural resources (QUIZ 8)	Apr 26: Human impact on the Earth system	Ch. 23
FINAL	May 8 @ 8–10 AM: Final exam		

Statement on Academic Conduct and Support Systems

Academic Conduct:

Plagiarism - presenting someone else's ideas as your own, either verbatim or recast in your own words - is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Part B, Section 11, "Behavior Violating University Standards" policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct>.

Support Systems:

Student Counseling Services (SCS) - (213) 740-7711 - 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention. engemannshc.usc.edu/counseling

National Suicide Prevention Lifeline - 1 (800) 273-8255

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. www.suicidepreventionlifeline.org

Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-4900 - 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender-based harm. engemannshc.usc.edu/rsvp

Sexual Assault Resource Center

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: sarc.usc.edu

Office of Equity and Diversity (OED)/Title IX Compliance - (213) 740-5086

Works with faculty, staff, visitors, applicants, and students around issues of protected class. equity.usc.edu

Bias Assessment Response and Support

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. studentaffairs.usc.edu/bias-assessment-response-support

The Office of Disability Services and Programs

Provides certification for students with disabilities and helps arrange relevant accommodations. dsp.usc.edu

Student Support and Advocacy - (213) 821-4710

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. studentaffairs.usc.edu/ssa

Diversity at USC

Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. diversity.usc.edu

USC Emergency Information

Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible. emergency.usc.edu

USC Department of Public Safety - UPC: (213) 740-4321 - HSC: (323) 442-1000 - 24-hour emergency or to report a crime.

Provides overall safety to USC community. dps.usc.edu