

SCI 311 Geology

Project 3

Purpose

Demonstrate your understanding of how the Earth has changed over time and continues to change.

What it is

Your project is a formal way to demonstrate that you understand the content covered in Unit III of the course. It should thoroughly fulfill at least two of the unit objectives.

Unit III objectives

1. Explain the tectonic settings of earthquakes.
2. Define earthquake magnitude and intensity and describe their measurement scales.
3. Identify earthquake characteristics and features.
4. Identify and explain the hazards of earthquakes and factors that modify the hazards.
5. Identify and explain human interventions to reduce earthquake risk
6. Define and describe geological structures: joints, faults (many types), folds (many types). Explain the characteristics used to describe them, such as strike, dip, trend, and plunge.
7. Identify the stresses and resulting strains that distort geologic structures, and their effects on rocks at small and large scales.
8. Identify, explain, and justify the principles of relative stratigraphic dating.
9. Interpret a geologic column and a geologic map.
10. Explain the principle of radioactive dating and the conditions under which it can be used.
11. Identify and describe the major earth events that occurred in Precambrian time.
12. Describe the evidence disclosing the age of the Earth.
13. Explain the differing ages of continental and oceanic rock.

Possible projects

These are some ideas for a project. You are free to suggest others. I will approve of projects that demonstrate your mastery of the chosen unit objectives.

- A concept map describing earthquakes
- A tutorial pamphlet, slide deck, or video on earth structures and how they are characterized and measured
- A report on the geologic structures of an area of interest, including an interpretation of a geologic map
- An interpretation of the geologic timeline (**Not** comparing Earth's history to one year)
- A pamphlet describing earthquake hazards and emergency preparedness
- A biography of a geologist who elucidated some aspect of the geologic time scale
- A quiz covering unit objectives

Graded Components

100 points total, awarded as described below.

Sign up (5 points): Select a project. Describe succinctly what form your project will take, and which of the unit objectives it will cover.

Outline (5 points): Give an overview of your project in more detail than your sign-up.

Rough Draft (10 points): Your project itself. The more complete the draft is, the more useful feedback your instructor can provide

Conference (10 points): Meet with the instructor to discuss your outline or rough draft. You may have more than one conference with the instructor, but one must take place before the end of Structured Study time on October 20.

Annotated bibliography (10): List your project's sources of information and how they can be accessed. Summarize the content of each source and identify what information from the source was used in your project.

Final Draft (60 points): The completed project.

Dates and Deadlines

Sep 30	Project assigned
Oct 6	Sign-up due
Oct 7, 14	Work days
Oct 11	Outline due
Oct 20	Rough Draft due
Oct 25	Project due

Scoring

Sign-up (5 points)

Let the instructor know what you intend to do for your project, and identify the unit objectives that it covers.

+3	Identifies the form and topic of the project.
+2	Identifies by number two unit objectives addressed.

Outline (5 points)

Provide an organized overview of the project.

5	Has an informative title, headings, subheadings, and brief, informative text describing an organized project.
4	Has informative title, headings, and brief, informative text.
3	Has informative title, headings, and subheadings, but text is lacking, not informative, or verbose.
≤ 2	Lacks title, headings, or organization.

Rough Draft (10 points)

This is the full project, but not polished.

10	Contains all parts of the project, addressing all of the specified unit objectives.
≤ 6	Submission lacks substantial portions of the project.

Conference (10 points)

Show up to the conference on time and discuss your submission.

10	Shows up on time and discusses the submission in good faith.
5	More than five minutes late.
3	Does not meaningfully discuss the submission.
0	More than ten minutes late.

Annotated bibliography (10 points)

Identify all sources of information used in the project (Wikipedia does not count), give their full look-up information, and describe them and their contribution to the project. This bibliography is not listed as a component of the final project because the project can take many forms. If your project is a report, it would make sense for the bibliography to be a section of the report.

+5	Contains at least two references.
+2	Gives complete look-up information for all references.
+3	Describes each reference and its relevance to the project.

Final Report (60 points)

+15	Neat and visually appealing.
+30	Demonstrates mastery of two unit objectives.
+15	Organized and easily understandable.