

Geology 316 – Research in Marine Paleoecology- Fall 2016

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There is a Canvas website for this course which you can access through MyWestern. This website will contain important resources and class announcements.

Overview: This class covers marine invertebrate paleontology and ancient ecosystems. We will spend the first few weeks going over basic ecosystem dynamics and the characteristics of fossilizable invertebrate phyla. We will then work on a series of short projects that will provide a deeper understanding of important paleoecological gradients. Sometimes you will work in teams. After the first few weeks I will not lecture very much, but I will present important information in “mini-lectures” during class as needed.

Attendance: I expect you to attend class every day. If you cannot attend class for any reason, you need to inform me and your teammates and make sure your team has access to any data that you collected that they may need. I will take attendance. **You may have two unexcused absences without penalty. After that your final grade will be lowered by a percentage point for each additional absence.**

Teamwork: Each member of a team must do their share of the work. If some member doesn't pull their weight, the other team members can drop them from the team and the ejected person must do the work on their own. If this becomes necessary, the complaining team members should see me and discuss the situation before taking action.

Grading: Grades will be based on the cumulative average of scores on reports and quizzes. I will give both announced and pop quizzes. I will post a grade sheet on Canvas so you can keep track of your progress. I generally break the letter grades at 90%, 80%, etc.

Notes and Quizzes: You may use your handwritten notes for most quizzes (Geologic Time Scale quizzes are an exception to this). You may NOT use electronic devices for the quizzes, so it is important that you take good notes with illustrations.

Handlens: Bring a good handlens to class everyday.

Projects: Guidelines and readings for each project will be posted on Canvas. It is important that you do the readings before you start each project.

Outcomes and Objectives: The outcomes and objectives are shown in the table on the next page. Each project and lab is designed to help achieve these goals.

Outcomes Assessment for Geology 316

(Research in Marine Paleoecology)

Outcomes	Objectives (SWABAT)
1. Understand processes of fossilization.	1.1 Predict what part of a marine community will be fossilized. 1.2 Characterize the fossilization potential of an animal phylum.
2. Understand evolution of marine ecosystems.	2.1 Identify common fossils to Phylum and Class. 2.2 Describe the life habits of common fossils. 2.3 Assign a fossil assemblage to an Era. 2.4 Describe how the life habits of marine communities have changed through the Phanerozoic.
3. Engage in paleontological research and communicate results in writing.	3.1 Find pertinent literature. 3.2 Write a thorough review of the literature. 3.3 Persuasively discuss a hypothesis with supporting evidence.

Geology 316 (Research in Marine Paleoecology) provides information for the following degree/program outcomes:

	B.A. Geology	B.S. Geology	B.S. Geophysics	GUR
Outcomes	<p><i>1. Earth has a history of biological and physical change over billions of years.</i></p> <p><i>7. Graduates have developed their observational, analytical and quantitative skills (field, lab, computer, and classroom)</i></p>	<p><i>1. Earth has a history of biological and physical change over billions of years.</i></p> <p><i>7. Graduates have developed their observational, analytical and quantitative skills (field, lab, computer, and classroom)</i></p>	<p><i>1. Earth has a history of biological and physical change over billions of years.</i></p> <p><i>7. Graduates have developed their observational, analytical and quantitative skills (field, lab, computer, and classroom)</i></p> <p><i>10. Graduates (alone or in teams) will be able to present geological information clearly</i></p>	<p><i>1. Analyze and communicate ideas effectively in oral, written, and visual forms.</i></p> <p><i>3. Use quantitative and scientific reasoning to frame and solve problems.</i></p>