

Department: GEOL

Course No.: 111

Credits: 3

Title: Age of the Dinosaurs

Contact Person: Robert Thorson

Content Area: CA3 Science and Technology

Catalog Copy: -GEOL 111. Age of the Dinosaurs. Either semester. Three credits. A reconstruction of the Mesozoic world of the dinosaurs as interpreted from geological and paleontological evidence. Course includes fundamental concepts of stratigraphy, historical geology, paleoclimatology, and paleontology.

Course Information: -Course Information: The goals of the course are to give students (1) background knowledge about the co-evolution of Earth and life, particularly during the Mesozoic Era, (2) an understanding of the scientific methods used to reconstruct Earth history, and (3) an appreciation for Earth being the contingent result of an entire system.

Exams consist of multiple choice, matching, true/false, and essay questions. Reading assignments consist of chapters from a standard textbook. Students also view and analyze a course-related video series.

The following major topics are addressed in the framework of dinosaurs and the Mesozoic Era: nature of science, paleontology, anatomy, taphonomy, stratigraphy, dating, evolution, cladistics, extinctions, tectonics, sedimentary basins, paleoclimatology, paleobotany, taxonomy, ecology, geography.

Meets Goals of Gen Ed: -How Meets Goals of Gen Ed.: Goals #2 and #3 of general education are integral to GEOL 111. The course is highly interdisciplinary and thereby allows students to acquire intellectual breadth and versatility. In particular, the course uses the backdrop of the Mesozoic Era to present background knowledge in a range of fields within the geosciences and biosciences. Because the concepts are applied to a specific time period in Earth history, students are exposed directly to the process of science. Critical judgement is required as the students learn how geoscientists obtain, evaluate, and interpret information about Earth's past.

CA3 Criteria: GEOL 111 addresses the criteria for this group as follows.

1. Students are introduced to the broad body of knowledge that allows geoscientists to understand and model Earth as an evolving system. The modern techniques used to reconstruct Earth history are described in the context of the life and environment of the Mesozoic Era.

2. Students are exposed to the methods by which geoscientists gather and analyze data to evaluate hypotheses about Earth history. In this way, students develop an appreciation for how scientists know about complex and evolving systems.

3. Through studying the Mesozoic Era, students are introduced to some of the most important "big" questions of the 21st century. For example, what is the nature of extinctions in the past and today? What was the nature of global climate change in the past and how can we predict it in the future?

4. The course uses dinosaurs as a means of awakening and stimulating students' interest in science. Because dinosaurs continue to be of wide interest to contemporary society and new findings are routine, students are likely to remain engaged in the field at some level. In addition, exposure to the rigorous nature of scientific thought within the field is likely to inspire students to seek a deeper understanding of other aspects of contemporary science.