GEOL 307 Paleobiology of Dinosaurs

Credit Hours: 3

Scheduled hours per week

Lecture: 3
Lab: 0
Other: N/A

Catalog Course Description: This course will explore the evolution, history, and paleobiology of dinosaurs from their appearance in the geologic record to their extinction. The course will also cover the relationship of dinosaurs to ancestral vertebrates of the Paleozoic era and to the birds and mammals, two groups which emerged in the early Mesozoic era. Hypotheses dealing with the (perhaps catastrophic) extinction of the dinosaurs and other groups at the end of the Mesozoic era will also be studied.

Pre-requisites: ENGL 101 and 102 and a 100 or 200 level Natural Science course

Co-requisites: PSCI112L Earth Science Laboratory

Course Learning Outcomes:

- Ability to demonstrate critical thinking by analyzing data to infer logical conclusion.
- Demonstrate and practice the scientific method of investigation of a problem or idea.
- Ability to collect accurate scientific data by practicing accurate data collecting techniques.
- Practice experimentation and/or observation of nature in order to evaluate scientific questions or scientific problems.
- Ability to analyze data by using graphing and other techniques to infer general trends in data and make inductive inferences.
- Ability to make hypothetical-deductive predictions relative to scientific concepts and understand how to test those predictions.
- Capability to correctly practice the steps involved in solving problems with the scientific formulas.
- Demonstrate an understanding of evolution, biology, and extinction of dinosaurs
- Demonstrate an understanding of the Earth's processes and rates of change and how the same processes of change may affect the future, using the paleobiology of dinosaurs as a model.

Topics to be studied:

- Principles of evolution
- Systematics (naming and classification of organisms and studying their evolutionary relationships)
- Fossilization
- Geologic time
- Sedimentary rocks and sedimentary environments
- Vertebrate anatomy
- Paleoecology
- Paleoclimatology
- Plate tectonics, and other geologic principles
- Principles of biology

Relationship of Course to Program or Discipline Learning Outcomes:

Relationship of Course to Science Learning Outcomes:	
Students will learn the process and reasoning behind the Scientific Method and be able to conduct experiments that meet the requirements of the model.	X
Students exhibit the basic safety-related rules and regulations of working in the lab.	X
Students be able to recount the basic safety tenants associated with a specific scientific discipline.	X
Students will become proficient at Science Writing.	X
Students will recognize and identify the applications of their specific discipline in the 'real world.'	X
Students will accurately recount important milestones in the history of scientific inquiry in their discipline.	X
5/3/2016	

Relationship of Course to General Education Learning Outcomes:	
Composition and Rhetoric Students illustrate a fundamental understanding of the best practices of communicating in English and meet the writing standards of their college or program-based communication requirements.	X
Science & Technology Students successfully apply systematic methods of analysis to the natural and physical world, understand scientific knowledge as empirical, and refer to data as a basis for conclusions.	X
Mathematics & Quantitative Skills Students effectively use quantitative techniques and the practical application of numerical, symbolic, or spatial concepts.	X
Society, Diversity, & Connections Students demonstrate understanding of and a logical ability to successfully analyze human behavior, societal and political organization, or communication.	X
Human Inquiry & the Past Students interpret historical events or philosophical perspectives by identifying patterns, applying analytical reasoning, employing methods of critical inquiry, or expanding problem-solving skills.	X
The Arts & Creativity Students successfully articulate and apply methods and principles of critical and creative inquiry to the production or analysis of works of art.	X
5/3/2016	

Special requirements of the course:

N/A

Additional information:

N/A

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