

Master Course Syllabus
Department of Chemistry and Geosciences

Historical Geology (GEOL 1064)

Catalog Description: **Historical Geology. (3-2)** History of the earth from the formation of the solar system to the present. Topics include the earth's development, evolution of life on earth, changes to the earth's geography throughout its history, and the tools geologists use to investigate these topics. Lab fee \$10.

Prerequisites: Physical Geology (GEOL 1054) or approval of department head.

Expanded Course Description: This is a second course in the geosciences, and is intended for freshman-level students from all disciplines who have successfully completed Physical Geology (GEOL 1054). Students may take this course to fulfill half of the university's "Lab Science" core requirement. The course provides a brief introduction to the creation of the universe and solar system, formation of the earth with its oceans and atmosphere, changes in climate and positions of continents, and the evolution of life. Specific topics include: the Big Bang and Solar Nebula Theories; composition and structure of the planets, earth and moon; principles of stratigraphy; relative and radiometric age dating; fossils and fossilization; the work of Charles Darwin and evolutionary concepts; the appearance of life on earth; changes to the earth's continents, oceans, and life over time; and what rocks and fossils can tell scientists about the past.

Intended Knowledge, Skill, and Value Outcomes: Students who successfully complete this course will be able to: identify common rocks and determine the environments in which each major rock type is created; read geologic maps and interpret geologic information from the maps; recognize significant fossils; compute plate velocities from tectonic data; understand the geologic and biologic consequences of changes in the earth's global cycles; trace the positions of the continents through time; and trace the evolution of all modern phyla through time. At the conclusion of this course, students will appreciate: the process of discovery and scientific progress; the complexity of the earth's natural systems and of evolution; the impact of environmental changes on organisms; and human impact on geologic and ancient biologic systems.

Course Requirements: The course grade is determined by a combination of the following elements, subject to the instructor's discretion: 3-4 non-comprehensive lecture exams, a comprehensive final exam, quizzes, field trips, and the laboratory grade (consisting of weekly laboratory exercises and/or quizzes, field trips, and laboratory exams).

Department Head Signature/Date:

Signature

Date