

# GEOLOGY (GLG)

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## **GLG 100 Introduction to Earth Science (4 Credits)**

45 lecture, 45 lab, 4 total contact hours

In this course, students will gain a basic understanding of the major branches of Earth science, including geology, hydrology, and meteorology. It is designed to develop an awareness and appreciation for these geosystems and their important interrelationships, as well as an understanding of the scientific approach to problem-solving. This course will include an overview of both local and global environmental problems as well as a discussion of possible solutions. Level I Prerequisite: Academic Reading and Writing Levels of 6

## **GLG 103 Field Geology (3 Credits)**

45 lecture, 3 total contact hours

In this course, students examine the processes that have formed and are forming the landscape by studying formations at local sites. Emphasis is placed on environmental impact on the landscape and waters of Washtenaw County. Traditional classroom lectures will be supplemented with field experiences to explore topics learned in class. Level I Prerequisite: Academic Reading and Writing Levels of 6

## **GLG 104 Weather (4 Credits)**

45 lecture, 45 lab, 4 total contact hours

This course is an introductory study of the atmosphere which includes both weather and climate. This course introduces the student to basic concepts involved in the analysis of weather phenomena and atmospheric processes on a global and local scale. Fundamental weather principles will be examined, such as solar radiation, temperature, moisture, pressure, winds, and weather systems. Current weather data is delivered via the internet, which is coordinated with learning activities. Broad aspects of climates, local microclimatology and climate change will also be integrated. Level I Prerequisite: Academic Reading and Writing Levels of 6; Academic Math Level 3

## **GLG 110 Geology of the National Parks and Monuments (3 Credits)**

45 lecture, 3 total contact hours

In this introductory course, students will develop a fundamental understanding of geology through the exploration of geologic formations present in various U.S. national parks and monuments. Highlighting the significance of geoheritage and responsible environmental stewardship, the course will use the geology found in our parks as examples to learn about various geological topics such as rocks, fossils, geologic time and dating, weathering and erosion, plate tectonics, and the impacts of climate change. Level I Prerequisite: Academic Reading and Writing Levels of 6; Academic Math Level 2

## **GLG 114 Physical Geology (4 Credits)**

45 lecture, 45 lab, 4 total contact hours

In this course, students examine the physical features and processes that have formed and are forming the landscape of the Earth. Emphasis is placed on learning the local geology of Michigan and the Great Lakes. Topics will include: topographic maps, minerals, rocks, soil erosion and formation, plate tectonics, earthquakes, volcanoes, mountain building, geologic time and dating, running water, lakes, groundwater, oceans, and glaciation. Level I Prerequisite: Academic Reading and Writing Levels of 6; Academic Math Level 2

## **GLG 125 The Earth Through Time (3 Credits)**

45 lecture, 3 total contact hours

Earth is a dynamic planet and has undergone many changes since its inception, and this will continue well into the future. In this course, students will use geologic principles, such as relative and absolute dating, stratigraphic principles, and plate tectonics to reconstruct and understand the geological history and possible future of Earth and its organisms. The course will include a close look at the geologic time scale and will explore the origins of the Universe, Solar System, as well as Earth's moon, atmosphere, and oceans. This course was previously titled Historical Geology. Level I Prerequisite: Academic Reading and Writing Levels of 6

## **GLG 276 Principles of Geographic Information Systems (3 Credits)**

45 lecture, 3 total contact hours

In this course, students are introduced to the basic principles and techniques of map creation and manipulation using Geographic Information Systems (GIS). Students will use ArcGIS to focus on various ways to classify, represent and visualize the Earth's surface. Upon completion of this course, students will have an understanding of basic GIS and develop fundamental skills to integrate data, draw maps, visualize trends and interpret findings. Level I Prerequisite: Academic Reading and Writing Levels of 6; Academic Math Level 3