

EAS - EARTH SCIENCE

EAS 100 4 credit hours (lecture: 3 | lab: 3)

Introduction to Earth Science

Course introduces four major divisions of Earth Science and how their interactions contribute to conditions on Earth today. Geology includes studies of minerals, rocks, plate tectonics, volcanoes, earthquakes, and surface topography. Oceanography includes studies of seawater and ocean currents, ocean floor topography, the beach and wave dynamics, and marine life. Meteorology includes studies of global and local winds, weather systems and conditions, and climate. Astronomy includes studies of the formation of the solar system and the objects in it, stellar evolution, and current technology for space travel and long-range discoveries. This course is intended for both science and non-science majors. Credit toward graduation cannot be received for both EAS 100 and EAS 121.

IAI General Education: P1 905L

Instruction Type: In-Person | Online | Hybrid

Fee: \$35

Term Typically Offered: Fall | Spring | Summer

EAS 101 4 credit hours (lecture: 3 | lab: 3)

Physical Geology

Course introduces earth materials and the physical and chemical processes that sculpt earth's surface. Content includes rocks, minerals, earthquakes, volcanoes, glaciers, groundwater, coastal processes, geologic time, structural geology, and topographic maps.

IAI General Education: P1 907L

Instruction Type: In-Person | Online | Hybrid

Fee: \$35

Term Typically Offered: Fall | Spring | Summer

EAS 102 4 credit hours (lecture: 3 | lab: 3)

Historical Geology

Course introduces Earth's long 4.6 billion-year history. The course begins with an introduction to rocks, minerals, plate tectonics, and fossils and then moves on to the study of various depositional environments in which different rocks and fossils form. It ends with a walk through time considering the physical processes, the position of the continents, and the life forms that define each segment of geologic time.

IAI General Education: P1 907L

Instruction Type: In-Person | Online

Fee: \$35

Term Typically Offered: Spring

EAS 105 3 credit hours (lecture: 3 | lab: 0)

Introduction to Weather and Climate

Course introduces weather and climate. Topics include atmospheric processes, elements of weather, and a survey of world climates.

IAI General Education: P1 905

Instruction Type: In-Person | Online

Term Typically Offered: Fall | Spring | Summer

EAS 110 3 credit hours (lecture: 3 | lab: 0)

Climate Change and Variability

Course introduces students to basic principles and knowledge to explain climate change. Students will learn about natural and anthropogenic causes of climate change, the interactions between earth-atmosphere-ocean systems, climate feedback mechanisms, and impacts of climate change on human activity. Students will have the opportunity to use both cognitive and quantitative skills to gain an understanding of how the base of scientific knowledge is developed and applied. Students will analyze data to draw conclusions regarding various observed phenomena and limitations of numerical models.

IAI General Education: P1 905

Instruction Type: In-Person | Online

Term Typically Offered: Fall | Spring | Summer

EAS 121 3 credit hours (lecture: 3 | lab: 0)

Physical Geography

Course examines the interactions between the atmosphere, hydrosphere, lithosphere and biosphere. The course begins with studies of location and map use, Earth's atmosphere, and the Sun's effect on Earth in terms of seasons, weather, ocean circulation, and climate development. Topics next include ground and surface water, earthquakes, volcanoes and plate tectonics. The course ends with studies of landforms and the processes that produce them including weathering and mass wasting, caves, deserts, glaciations, soils, and the ecological systems within Earth's spheres. Credit toward graduation cannot be received for both EAS 121 and EAS 100.

IAI General Education: P1 909

Instruction Type: In-Person | Online

Term Typically Offered: Fall | Spring | Summer

EAS 125 3 credit hours (lecture: 3 | lab: 0)

A Survey of Oceanography

Course introduces oceanography. Content includes physical and chemical properties of sea water, ocean circulation, waves, tides, coastal environments, and marine life.

IAI General Education: P1 905

Instruction Type: In-Person | Online

Term Typically Offered: Fall | Spring | Summer

EAS 190 4 credit hours (lecture: 3 | lab: 2)

Geographic Information Systems I

This course provides an introduction to digital maps, spatial analysis, and technology to explore geographic and spatial patterns. Introduces the concepts and components of a geographic information system (GIS), the basic concepts of remote sensing and Global Positioning System (GPS), and the ESRI ArcGIS® software. This course will also explore selected cases of GIS application in different disciplines to introduce students to problem solving and decision making using geospatial analysis. Credit toward graduation cannot be received for both GIS 190 and EAS 190.

Instruction Type: In-Person | Online | Hybrid

Fee: \$50

Term Typically Offered: Fall | Spring | Summer

EAS 191 4 credit hours (lecture: 3 | lab: 2)

Geographic Information Systems II

The course covers geodatabase development, maintenance, organization, and editing within ESRI's ArcGIS applications. Basic features and functionality of geodatabases as well as tools for creating and editing the geometry of spatial data are covered. Students learn to create and manipulate geographic information systems (GIS) features and to explore the analytical capabilities of GIS and apply them to real-world situations, including GIS projects developed by public safety officials, public works departments, planners, geographers, resource managers, engineers, and other industry professionals. Credit toward graduation cannot be received for both GIS 191 and EAS 191.

Recommended: EAS 190 or consent of instructor.

Instruction Type: In-Person | Online | Hybrid

Fee: \$50

Term Typically Offered: Fall | Spring

EAS 205 3 credit hours (lecture: 3 | lab: 0)

Environmental Geology

Course studies human-environment interaction. Content includes problems associated with geologic hazards, availability and management of natural resources, and the proper use of geology in any land use program.

IAI General Education: P1 908

Instruction Type: In-Person | Online

Term Typically Offered: Spring

EAS 290**1-4 credit hours (lecture: 1-4 | lab: 0-4)****Topics in Earth Science**

Course designed to meet special interest needs of Earth Science students.

Topics will be offered for variable credit from one to four semester credit hours. Course may be taken for credit up to four times on different topics.

Fee Varies. Prerequisite may vary by topic.

Instruction Type: In-Person