

# 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*

*Delivery mode: Face-to-Face | Hybrid | Online* Fee: \$35

## **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*

*Delivery mode: Face-to-Face | Hybrid | Online* Fee: \$35

## **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*

*Delivery mode: Face-to-Face | Online* Fee: \$35

## **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*

*Delivery mode: Face-to-Face | Online*

## **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 910*

*Delivery mode: Face-to-Face*

## **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*

*Delivery mode: Face-to-Face | Online*

## **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*

*Delivery mode: Face-to-Face | Online*

## **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.

*Delivery mode: Face-to-Face | Hybrid | Online* Fee: \$50

## **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.

*Delivery mode: Face-to-Face | Hybrid | Online* Fee: \$50

## **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*

*Delivery mode: Face-to-Face | Online*

**EAS 290****1-4 credit hours (lecture: 1-4 | lab: 1-4)****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. Students may repeat EAS 290 up to three times on different topics for a maximum of nine semester credit hours. Fee Varies. Prerequisite may vary by topic.

*Delivery mode: Face-to-Face*