

- **BIOL 11000** *Fundamentals of Biology I* (4 cr.) This course is designed primarily to provide an introduction to the principles of biology for students in agriculture and health sciences. Principles of biology, focusing on diversity, ecology, evolution, and the development, structure, and function of organisms.
- **BIOL 11100** *Fundamentals of Biology II* (4 cr.) This course is designed primarily to provide an introduction to the principles of biology for students in agriculture and health sciences. Continuation of BIOL 11000. Principles of biology, focusing on cell structure and function, molecular biology, and genetics.
- **BIOL 12100\*** and (**BIOL 13500** or **BIOL 28600**)
  1. **BIOL 12100\*** *Biology I: Diversity, Ecology, And Behavior* (2 cr.) Creates a framework for ordering biology by examining the unity and diversity of life on earth with an emphasis on ecology, genetics, population biology, evolution, and behavior.
  2. **BIOL 13500** *First year Biology Laboratory* (2 cr.) Laboratory exercises emphasizing student mastery of basic laboratory skills needed to succeed in the biological sciences; intended for beginning (first-year) biology majors.
  3. **BIOL 28600** *Introduction to Ecology and Evolution* (2 cr.) Evolutionary processes and ecological principles associated with individuals, populations, communities, and ecosystems. Topics include genetic drift, natural selection, adaptation, life tables, population dynamics, competition, predation, biodiversity, and ecological stability, with emphasis on natural systems.
- **BIOL 13100** *Biology II: Development, Structure, and Function of Organisms* (3 cr.) Principles of development of plants and animals and the relationship between the structure and function of selected systems of these organisms.
- **BIOL 23000** *Biology of the Living Cell* (3 cr.) An introduction to modern cell biology for students who may not have taken a previous college course in biology. All students with the appropriate prerequisites are welcome, and this course will be of special interest to students from engineering, chemistry, physics and computer science. This course will provide a solid foundation in modern cell biology concepts for engineers and students from other disciplines.
- **BTNY 28500** *Plants and Civilization* (3 cr.) This course, intended primarily for non-majors, covers the history of agriculture, with focus on the centers of origin of our major food, fiber, and medical plants and their historical, cultural, and economic relevance. The course also surveys the biology of crop plants, with respect to taxonomy, anatomy, cell structure, physiology, development, and genetics. Discussions also center on the role's plants biotechnology may play in sustainable agriculture and in helping to alleviate problems caused by overpopulation and ecological stress. Typically offered Spring.
- **EAPS 10000\*** *Planet Earth* (3 cr.) An introduction to the Geosciences-Earth science, oceanography, atmospheric science and astronomy. The course emphasizes topics (earthquakes, volcanoes, ocean pollution, climate change, severe weather, etc.) that are of general interest and relevance, and the interconnections between various Earth processes.
- **EAPS 10400\*** *Oceanography* (3 cr.) Origin of the oceans and marine life. Seafloor spreading and marine geology; currents, waves, and tides; marine organisms and ecology; beaches and nearshore life. Man's use and abuse of the sea, including contemporary problems and future opportunities. The role of oceans in climate and evolution of the biosphere. Recommended for both science and nonscience majors.
- **EAPS 10500** *The Planets* (3 cr.) This course deals with current knowledge of the physical, chemical, and geological nature of the planets and their atmospheres derived in part from data provided by manned and unmanned space probes and other techniques. Similarities and differences between the earth and other planets are described and discussed within the role of planetary formation.
- **EAPS 10900** *The Dynamic Earth* (3cr.) This course covers the formation and development of the solid earth, atmosphere, hydrosphere, and bio-sphere. The course studies the whole earth as a system of many interacting parts and focuses on the changes within and between these parts. This course is intended for all majors in earth and atmospheric sciences. Typically offered Fall.
- **EAPS 11100** *Physical Geology* (3 cr.) Geologic processes and the development of land forms. Laboratory covers the study of minerals and rocks, the interpretations of topographic and geologic maps, and field investigations.
- **EAPS 11200** *Earth Through Time* (3 cr.) The history of the planet Earth from its beginnings to the present. This course will explore the causes and effects of processes that have changed the Earth's surface and subsurface through time, the impacts of these changes on the evolution of life, and how scientists interpret Earth history from the geologic record.

The laboratory will provide hands-on experience in interpreting various geologic and fossil records. This course may be taken on its own or as a year-long lab series with EAPS 11100. EAPS 11100 and EAPS 11200 will fulfill the two-course sequence laboratory experience outside the major department. Typically offered Spring.

- **EAPS 11600 *Earthquakes and Volcanoes*** (3 cr.) A survey class on earthquakes and volcanoes. Topics include earthquake hazards and forecasting, the use of seismic waves to investigate the earth's interior, volcanoes and tectonics, volcanic hazards, and the influence of volcanoes on climate. Examples of recent and historic earthquakes and volcanic eruptions are present. Typically, offered Spring.
- **EAPS 12000\* *Introduction to Geography*** (3 cr.) Introduction to the major themes of modern geography, designed to enhance your spatial thinking skills, geographic literacy, and to help you understand the relevance of geographic concepts and how they relate to our changing world. This course will expand your awareness of global issues and provide you with tools to understand how the world around you changes at local, regional, and global states. Typically offered Fall Spring Summer.
- **EAPS 12500/FNR 12500\* *Environmental Science and Conservation*** (3 cr.) Introduction to environmental science and conservation includes topics in ecological principles, conservation and natural resource management, human impacts on the environment, toxic waste disposal, climate change, energy, air and water pollution, environmental geology and geologic hazards. Typically offered Fall Spring.
- **EAPS 12900 *Earth System Dynamics*** (3 cr.) Provides foundational knowledge and critical thinking skills to discuss the Earth's changing climate and environment and their impacts. Introduces how the components of the Earth system - atmosphere, hydrosphere, lithosphere, and biota – interact with each other in response to various forcings. Course is designed to enhance learners' geospatial-temporal thinking skills and geoscience literacy, as well as analyze some of the 'what if' scenarios using a 'systems approach'. Typically offered Fall Spring Summer.
- **EAPS 13800 *Thunderstorms and Tornadoes*** (3 cr.) Not open to juniors and seniors majoring in atmospheric science. An elementary treatment of the physical structure of the atmosphere and the dynamical conditions that lead to the development of convective clouds, thunderstorms, and severe weather (including tornadoes, hail, wind, rain, lightning, and flash floods). This course will also focus on storm climatology, the socioeconomic impact of severe weather, as well as prediction, detection, warnings, and safety procedures. Analysis of severe weather events will include tornado movies and case studies of ground/aerial surveys of storm damage. Typically offered Fall.
- **EAPS 22100 *Survey of Atmospheric Science*** (3 cr.) An introductory course for both science and nonscience students. A general study of the atmosphere, basic meteorological principles, and weather systems. Relationships of the changing atmosphere to climate ozone depletion, and other contemporary issues.
- **ENTM 10500 *Insects: Friend and Foe*** (3cr.) A one-semester course for nonscience students who want to know more about insects – the most numerous organisms on earth. An introduction to insects and their relationship with humankind, including interesting aspects of insect biology; insects in music, decoration, history; use of insects in teaching at the elementary school level; their use in art, photography, and drawing; insects as human food. Typically offered Fall and Spring.
- **ENTM 12800\* *Investigating Forensic Science*** (3 cr.) Designed for both forensic science majors and non-majors, this course will provide an overview of the issues affecting the study and practice of forensic science as defined by the National Academy of Science 2009 report: "Strengthening Forensic Science". Using a mixture of popular media (film, television, news articles) as well as more conventional academic peer-reviewed articles, students will learn how the scientific method is applied to forensic investigations including; identifying pseudoscience, crime lab procedures, DNA evidence, errors in thinking and problem solving, types of fraud, and the influence of the "CSI Effect". Typically offered Spring.
- **FNR 23000\* *The World's Forests and Society*** (3 cr.) Examination of structure, function, and environmental and cultural significance of forest ecosystems throughout the world. Typically offered Fall.
- **FNR 24000\* *The Wildlife in America*** (3 cr.) History of the occurrence, exploitation, and management of North America's wildlife resources. Life histories, habitat relationships, and human impacts on selected species. Current conservation practices and future prospects. Typically offered Fall.