

GEOS - GEOSCIENCES (GEOS)

GEOS 105 Introduction to Environmental Geoscience

Credits 3. 3 Lecture Hours. Key concepts and generalizations of global environmental issues within an Earth systems science framework including climate change, air pollution, land and coastal degradation, water resources and pollution, and habitat loss; environmental ethics, economics and politics; environmental issues in Texas. Enrollment preference will be given to environmental geoscience and environmental studies majors.

GEOS 110 Disasters and Society

Credits 3. 3 Lecture Hours. Exploration of the science behind disasters; how they occur, the choices society makes that create or affect disasters, how certain populations are privileged during disasters by the decisions society has made and how science informs preparation for and response to future disasters.

GEOS 205 Environmental Geosciences Cornerstone

Credit 1. 1 Lecture Hour. Professional career options, methods, strategies and skills involved in successful career planning in the environmental sciences; highlights high impact learning opportunities such as study abroad and internships and the development of scientific communication skills. **Prerequisites:** ENST and ENGS majors; sophomore classification or approval of instructor.

GEOS 405 Environmental Geosciences

Credits 3. 2 Lecture Hours. 2 Lab Hours. Dynamics and human interactions with near-surface environments including land, atmosphere and oceans through problem-based learning; interdisciplinary environmental problem topic, for example, water quality, urbanization, coastal development, or environmental pollution; geoscience techniques used for monitoring human-geosphere interaction. **Prerequisites:** GEOS 105; junior or senior classification.

GEOS 410 Global Change

Credits 3. 3 Lecture Hours. The interaction of the earth, atmosphere, oceans, cryosphere and life, including the impact of human society on the environment and climate; global change modeling; politics, policy and decision making; and personal awareness. **Prerequisite:** Junior or senior classification.

GEOS 430 Global Science and Policy Making

Credits 3. 3 Lecture Hours. Policy making derived from global science and technology; how advice is communicated to the federal government and the public; current and future societal concerns that could affect future policy making; knowledge and information used to set priorities, decide budget allocations, and establish public policy. **Prerequisite:** Junior or senior classification or approval of instructor.

GEOS 431 Environmental Regulatory Compliance in Geoscience

Credits 3. 3 Lecture Hours. Knowledge and practical experience necessary for analyzing and evaluating environmental protection and stewardship principles; application of evolving environmental laws and regulations to the human business enterprise; exploration of the interplay between stakeholders in the development of sound environmental management and regulatory strategies. **Prerequisites:** BESC 367 or approval of instructor; junior or senior classification.

GEOS 442/GEOG 442 Past Climates

Credits 3. 3 Lecture Hours. Terrestrial and marine proxy records of past climate variability, including tree rings, coral, and sediments; past climate change events such as the Little Ice Age and Medieval Warm Period; greenhouse gases and global temperature; insight into the nature of climate change and challenges humankind faces in the next few centuries. **Prerequisites:** ATMO 201, or GEOG 203, or GEOL 101, or GEOL 104, or OCNG 251; junior or senior classification. **Cross Listing:** GEOG 442/GEOS 442.

GEOS 443 Global Biogeochemical Cycles

Credits 3. 3 Lecture Hours. Use of biogeochemical cycles to study the Earth system; description of movement and transformation of major elements such as C, N, P and trace elements; flux of material in and out of atmosphere, hydrosphere, pedosphere, and lithosphere; chemical and physical transformations that occur in Earth system. **Prerequisites:** CHEM 119 and CHEM 120; select two from ATMO 201, or OCNG 251, or GEOG 203 or GEOG 205, or GEOL 101 or GEOL 104 or GEOL 150.