GEOS 101 Introduction to the Geosciences  
Credit 1. 1 Lecture Hour.  
Introduction to the geosciences; geography, geology, geophysics, atmospheric sciences and oceanography; areas and opportunities in the various geoscience fields. Open to all freshman and sophomore non-geoscience students interested in geosciences.

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 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 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 210 Climate Change  
Credits 3. 3 Lecture Hours.  
Examination of the science of climate change; how greenhouse gases warm the planet; scientific evidence that the earth is warming; scientific evidence that humans are causing this warming; what warming we can expect in the future and impacts of that warming.

GEOS 289 Special Topics in...  
Credits 1 to 4. 1 to 4 Lecture Hours.  
Selected topics in an identified area of geosciences. May be repeated for credit.  
Prerequisite: Approval of instructor.

GEOS 291 Research  
Credits 1 to 4. 1 to 4 Other Hours.  
Research conducted under the direction of faculty member in the College of Geosciences. May be repeated 2 times for credit. Registration in multiple sections of this course is possible within a given semester provided that the per semester credit hour limit is not exceeded.  
Prerequisites: Freshman or sophomore classification and approval of instructor.

GEOS 301 College of Geosciences Study Abroad  
Credits 1 to 18. 1 to 18 Other Hours.  
For students in approved programs abroad. May be repeated for credit.  
Prerequisites: Admission to approved program and approval of academic dean.

GEOS 401 Polar Regions of the Earth: Science, Society and Discovery  
Credits 3. 3 Lecture Hours.  
Overview of disciplines and topics that define modern polar science in the north and the south; includes history of the Polar Regions, polar geosciences, major polar scientific projects, and special topics; participate as individuals and teams in education, outreach and science projects.  
Prerequisite: Junior or senior classification.

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 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/GEOG 442.

GEOS 444 The Science and Politics of Global Climate Change  
Credits 3. 3 Lecture Hours.  
Examination of the policy and scientific debate over climate change; how scientific debates produce "knowledge"; how political debates produce policies; how policy debates use science; scientific evidence for climate change; impacts of climate change; possible responses to climate change; the political debate over climate change.  
Prerequisite: GEOS 210; junior or senior classification or approval of instructor.
GEOS 470 Data Analysis Methods in Geosciences  
Credits 3. 3 Lecture Hours.  
Research methods from conceptualization of a scientific problem to data collection, analysis, and visualization; basic data analysis methodologies in the geosciences; emphasis on real-world applications from environmental, atmospheric, and oceanographic sciences.  
Prerequisites: Junior or senior classification; MATH 151 and STAT 303 or concurrent enrollment, or approval of instructor.

GEOS 481 Seminar  
Credit 1. 1 Other Hour.  
Acquaint students with current research themes in the environmental field. May be repeated 4 times for credit.  
Prerequisite: Junior or senior classification.

GEOS 484 Internship  
Credits 0 to 6. 0 to 6 Other Hours.  
Provides opportunity to gain practical experience in a working situation either during the semester or summer; work experience must have relevance to the degree sought and/or career objectives. Must be taken on a satisfactory/unsatisfactory basis.  
Prerequisite: Junior or senior classification and approval of internship agency and departmental director.

GEOS 485 Directed Studies  
Credits 1 to 4. 1 to 4 Other Hours.  
Advanced problems in geosciences.

GEOS 489 Special Topics in...  
Credits 1 to 4. 1 to 4 Lecture Hours.  
Selected topics in an identified area of geosciences. May be repeated for credit.

GEOS 491 Research  
Credits 0 to 4. 0 to 4 Other Hours.  
Research conducted under the direction of a faculty member in the College of Geosciences. Registration in multiple sections of this course is possible within a given semester provided that the per semester credit hour limit is not exceeded.  
Prerequisites: Junior or senior classification and approval of instructor.