

GEOSCIENCES (GEOS)

Subject-area course lists indicate courses currently active for offering at the University of Louisville. Not all courses are scheduled in any given academic term. For class offerings in a specific semester, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>).

500-level courses generally are included in both the undergraduate- and graduate-level course listings; however, specific course/section offerings may vary between semesters. Students are responsible for ensuring that they enroll in courses that are applicable to their particular academic programs.

Course Fees

Some courses may carry fees beyond the standard tuition costs to cover additional support or materials. Program-, subject- and course-specific fee information can be found on the Office of the Bursar website (<http://louisville.edu/bursar/tuitionfee>).

GEOS 200. The Global Environment - S 3 Units

Term Typically Offered: Fall, Spring, Summer

Description: An introduction to the global physical environment, emphasizing the evolution and interaction of Earth's atmosphere, hydrosphere, lithosphere and biosphere; emphasizing energy and material cycles, and global change. An integrative spatial approach guided by scientific processes is used to study these interactions. Questions of global sustainability are addressed in the increasingly complex interactions between humans and their environment.

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GEOS 218. The Global Environment Lab - SL 1 Unit

Term Typically Offered: Fall, Spring

Corequisite(s): GEOS 200.

Description: An introduction to the global environment, emphasizing the evolution of interaction of Earth's atmosphere, hydrosphere, lithosphere and biosphere; energy and material cycles, and global change. The lab is designed to expand upon concepts covered in the GEOS 200 lecture course through a series of in-class collaborative activities which emphasize a wide range of topics related to interpreting maps, weather and climate processes, tectonic processes and landforms. These activities include interactive Google Earth exercises.

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GEOS 219. Contemporary Issues in Meteorology Laboratory - SL 1 Unit

Term Typically Offered: Fall, Spring

Corequisite(s): GEOS 220/PHYS 220.

Description: A lab designed to provide real-world examples of atmospheric processes through analysis and problem solving using basic concepts and physical principles relevant to the atmosphere.

Note: Cross-listed with PHYS 219.

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GEOS 220. Contemporary Issues in Meteorology - S 3 Units

Term Typically Offered: Fall, Spring

Description: Contemporary issues serve as an introduction to the physical basis, distribution and consequences of global-scale meteorological phenomena.

Note: Cross-listed with PHYS 220.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

GEOS 301. Geology for Scientists and Engineers 3 Units

Term Typically Offered: Spring Only

Description: A fundamental study of geological processes as applied to geomaterials, structures, landforms, water resources and geologic hazards. The course includes a laboratory component in the rocks, minerals, topography and geology of Kentucky.

Note: Intended primarily for science and engineering majors.

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GEOS 360. Global Environmental Change 3 Units

Term Typically Offered: Occasionally Offered

Description: This course provides an introduction to the biophysical and climatological changes occurring in the Earth system and discusses the implications of these changes on human society and ecosystems worldwide.

Note: While there are no prerequisites for this course, a general physical or environmental introductory course is recommended (for example, GEOS 200, ANTH 202, BIOL 240, PHYS 220).

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GEOS 363. Climate Science 3 Units

Term Typically Offered: Spring Only

Prerequisite(s): GEOS 200 or GEOS 220/PHYS 220.

Description: The scientific study of climate elements and controls emphasizing the global distribution of climate types and factors that give rise to their distribution.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

GEOS 365. Biogeography 3 Units

Term Typically Offered: Fall Only

Prerequisite(s): GEOS 200, GEOS 220, or GEOS 301.

Description: Study of environmental factors and the mechanisms of succession, dispersal, and migration as they relate to the character and geographical distribution of natural vegetation.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

GEOS 367. Geomorphology 3 Units

Term Typically Offered: Spring Only

Prerequisite(s): GEOS 200 or GEOS 301.

Description: Study of the relationship of climate and tectonics to Earth-surface processes and the development of landforms and landscapes.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

<p>GEOS 399. Senior Honors Seminar - WR 3 Units</p> <p>Prerequisite(s): Junior standing; admission to the departmental honors program.</p> <p>Description: Investigation of a major scientific or social issue within the field of geosciences.</p> <p>Note: Approved for the Arts and Sciences upper-level requirement in written communication (WR).</p> <p>For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>	<p>GEOS 571. GIS and Water Resources 3 Units</p> <p>Term Typically Offered: Spring Only</p> <p>Prerequisite(s): GEOG 558.</p> <p>Description: A study of the application of Geographic Information Science techniques in water resources research and management including: digital mapping of water resources, watershed delineation and modeling atmospheric, surface and groundwater processes.</p> <p>For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>
<p>GEOS 430. Practicum in Geography and Geosciences Education 1 Unit</p> <p>Term Typically Offered: Fall, Spring</p> <p>Prerequisite(s): Permission of instructor.</p> <p>Description: For STEM Undergraduate Teaching Assistants (UTAs) who have been selected to participate in the NSF-STEP-funded PRIMES project as peer mentors and undergraduate teaching assistants (UTA) in undergraduate STEM courses. This practicum course is intended to provide a pedagogical foundation for successfully engaging with students in the classes to which each UTA is assigned.</p> <p>Note: May be repeated for a maximum of 3 credit hours.</p> <p>For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>	<p>GEOS 590. Selected Topics in Geosciences 3 Units</p> <p>Prerequisite(s): Consent of instructor.</p> <p>Description: A detailed investigation of some restricted topic of geology or related discipline. Topic to be announced in Schedule of Courses.</p> <p>For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>
<p>GEOS 564. Hydrology 3 Units</p> <p>Term Typically Offered: Fall Only</p> <p>Prerequisite(s): GEOS 200 or GEOS 301.</p> <p>Description: Advanced study of the hydrologic cycle, drainage basin analysis, stream flow and flooding, pollution and utilization of water resources.</p> <p>For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>	
<p>GEOS 565. Natural Hazards 3 Units</p> <p>Prerequisite(s): GEOS 200 or GEOS 301.</p> <p>Description: Environmental significance of natural hazards and risk assessment methods. A discussion of earthquakes, flooding, landslides/ expansive soil, and volcanic eruptions. Hazards reduction and mitigation strategies.</p> <p>For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>	
<p>GEOS 570. Water Resource Management 3 Units</p> <p>Term Typically Offered: Spring Only</p> <p>Prerequisite(s): GEOG 558.</p> <p>Description: Water resources form a critical component of any socioeconomic or environmental system. This course provides an analysis of water resource issues impacting these systems including flood and drought hazards, surface and groundwater quantity/quality issues, and energy development. Water legislation and policy aspects are further integrated with these issues at various spatial scales, including case studies from within the US and across international boundaries that lead to conflict. At the outcome of this course students will develop a basic water resource management plan for a watershed in Kentucky.</p> <p>For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>	