

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 564. Hydrology 3 Units

Term Typically Offered: Fall Only

Prerequisite(s): GEOS 200 or GEOS 301.

Description: Advanced study of the hydrologic cycle, drainage basin analysis, stream flow and flooding, pollution and utilization of water resources.

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GEOS 565. Natural Hazards 3 Units

Prerequisite(s): GEOS 200 or GEOS 301.

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.

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GEOS 570. Water Resource Management 3 Units

Term Typically Offered: Spring Only

Prerequisite(s): GEOG 558.

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.

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GEOS 571. GIS and Water Resources 3 Units

Term Typically Offered: Spring Only

Prerequisite(s): GEOG 558.

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.

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GEOS 590. Selected Topics in Geosciences 3 Units

Prerequisite(s): Consent of instructor.

Description: A detailed investigation of some restricted topic of geology or related discipline. Topic to be announced in Schedule of Courses.

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GEOS 663. Climate and Environmental Change 3 Units

Description: Global and regional climate change is one of the most pressing issues of our time. In its evolution, the science of climate change has employed a great diversity of techniques to unravel the Earth's climate history on multiple time scales. To this end there now exists a considerable body of knowledge as to the magnitudes and rates of climate and environmental change. However, while the physical basis of the global climate system and its variation are well resolved, there is debate as to the nature of human intervention in the global climate system and consequences of climate change on the natural and human-made environment. As time moves forward toward issues connected to all facets of climate change will become increasingly important particularly in terms of human occupancy and the sustainability of the planet. What is currently missing from debates connected to climate change is an agreed upon understanding the linkages between the physical basis of the global climate system and its connection to human affairs. This deficiency is consequential as the debate has now moved squarely into the public consciousness as a political, economic and social agenda the outcome of which will have a profound effect upon climate policy.

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GEOS 691. Research and Independent Study 1-5 Units

Description: Individual investigation of topic(s) with the approval and supervision of a faculty member.

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