GEOGRAPHIC INFORMATION SCIENCE CERTIFICATE

The Graduate Certificate Program in Geographic Information Sciences offered within the Department of Geography and Environment is designed to educate and train students in Geographic Information Sciences with a focus on remote sensing, geographic information systems (GIS), and spatial analysis. The UNC-CH program is unique in the combination of basic theory with a focus on the practical application of knowledge in public health, ecology, planning, business, and other areas. The program is designed to serve (1) current students who wish to acquire cutting edge geospatial technical expertise to support the topical knowledge gained in their undergraduate and graduate programs, and (2) returning students who wish to acquire specialized education and training to meet current or future job requirements calling for knowledge in geographic information sciences.

Course Requirements

Code	Title	Hours
Core Courses		
GEOG 477	Introduction to Remote Sensing of the Environment [1]	3
or GEOG 577	Advanced Remote Sensing	
or GEOG 567	Geospatial Data Analysis with Google Earth Engine	
GEOG 491	Principles of Geographic Information Systems	3
or GEOG 591	Applied Issues in Geographic Information Systems	
GEOG 515	Applied Spatial Data Science [1]	3
or GEOG 567	Geospatial Data Analysis with Google Earth Engine	
or GEOG 592	Geographic Information Science Programming	
Electives		
Students are required to take three total electives with at least one being a GEOG elective totaling 9 credit hours. Please note that if students select one of the following electives to fulfill a core requirement, the course credit will not count towards the elective minimum hours requirement.		9
Minimum Hours		**18**

[1] If students take GEOG 567 for one requirement, it will not be able to count towards fulfilling the second requirement.

Code	Title	Hours
Electives		
One Geography Elective:		
GEOG 410	Modeling of Environmental Systems	3
GEOG 446	Geography of Health Care Delivery	3
GEOG 456	Geovisualizing Change	3
GEOG 477	Introduction to Remote Sensing of the Environment	3
GEOG 491	Principles of Geographic Information Systems	3
GEOG 515	Applied Spatial Data Science	3
GEOG 541	GIS in Public Health	3
GEOG 544	Geographic Information Systems for Impact Evaluation and Health Studies	3
GEOG 555	Cartography of the Global South	3
GEOG 567	Geospatial Data Analysis with Google Earth Engine	3
GEOG 570	Geographic Information Analysis	3
GEOG 577	Advanced Remote Sensing	3
GEOG 591	Applied Issues in Geographic Information Systems	3
GEOG 592	Geographic Information Science Programming	3
GEOG 594	Global Positioning Systems and Applications	3
GEOG 790	Spatial Analysis and Computer Modeling	3
GEOG 802	Research Seminar in Geographic Information Sciences	3
Two other courses (may select either Geography or options from the list below):		
ANTH 419	Anthropological Application of GIS	3
ANTH 490	Undergraduate Seminar in Anthropology	3
ANTH 897	Seminar in Selected Topics (Archeological Visualization)	3
BIOL 465	Global Biodiversity and Macroecology	3
COMP 426	Modern Web Programming	3
COMP 572	Computational Photography	3
COMP 775	Image Processing and Analysis	3
EMES 508	Global Hydrology	3
EMES 561	Time Series and Spatial Data Analysis	3
ENEC/EMES 415	Environmental Systems Modeling	3
ENEC 468	Temporal GIS and Space/Time Geostatistics for the Environment and Public Health	3
ENEC 479	Landscape Analysis	3
INLS 523	Introduction to Database Concepts and Applications	3
INLS 541	Information Visualization	3
INLS 641	Visual Analytics	3
SOCI 718	Longitudinal and Multilevel Data Analysis	3
PLAN 672	Urban Data Analytics	3

Non-Course Certificate Requirement

Contact Information

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