

# GEOGRAPHY MAJOR, B.A.

Geography is the science of space, place, and environment. The department offers classes spanning the social and natural sciences and offering students training in qualitative, quantitative, spatial analysis and modelling, and lab methodologies. Human geographers study the spatial aspects of human activity, and physical geographers study patterns of climate, land forms, soils, and water. Geographic tools and techniques—including Geographic Information Systems, remote sensing, and online and interactive mapping technologies—are among the most important for exploring and understanding our complex world. Geographic inquiry is global and local, inherently interdisciplinary, and offers skills that enable insights into pressing issues valued by employers and policy makers.

Career opportunities for geographers are wide ranging in the public, private, and nongovernmental sectors. Geographers work in the areas of social, health, and environmental policy; energy, transportation, economic development, and tourism planning; urban and regional planning; research and education; community development; resource management; and environmental regulation and modeling.

With geography you can explore the world and find yourself.

## Student Learning Outcomes

Upon completion of the geography program, students should be able to:

- Apply current research methods in geography
- Construct a coherent, logical research approach to examine a question of geographic significance
- Analyze a geographic landscape and discuss the human and physical influences that have helped create it
- Report satisfaction with the geography major

## Requirements

In addition to the program requirements, students must

- earn a minimum final cumulative GPA of 2.000
- complete a minimum of 45 academic credit hours earned from UNC–Chapel Hill courses
- take at least half of their major core requirements (courses and credit hours) at UNC–Chapel Hill
- earn a minimum cumulative GPA of 2.000 in the major core requirements. Some programs may require higher standards for major or specific courses.

For more information, please consult the degree requirements section of the catalog (<https://catalog.unc.edu/undergraduate/degree-requirements/>).

Code	Title	Hours
<b>Core Requirements</b>		
GEOG 110	 The Blue Planet: An Introduction to Earth's Environmental Systems <sup>H</sup>	3
or GEOG 111	 Weather and Climate	
One of the following:		3
GEOG 120	 World Regional Geography	
GEOG 121	 Geographies of Globalization	

GEOG 130	 Development and Inequality: Global Perspectives <sup>F</sup>	
GEOG 370	 Introduction to Geographic Information	3
GEOG 391	Quantitative Methods in Geography	3
GEOG 392	 Research Methods in Geography	3
GEOG 697	 Capstone Seminar in Geographic Research <sup>1</sup>	3
Four GEOG elective courses, at least two of which must be at the 400-level or above.		12
<b>Total Hours</b>		<b>30</b>

<sup>H</sup> Honors version available. An honors course fulfills the same requirements as the nonhonors version of that course. Enrollment and GPA restrictions may apply.

<sup>F</sup> FY-Launch class sections may be available. A FY-Launch section fulfills the same requirements as a standard section of that course, but also fulfills the FY-SEMINAR/FY-LAUNCH First-Year Foundations requirement. Students can search for FY-Launch sections in ConnectCarolina using the FY-LAUNCH attribute.

<sup>1</sup> Students wishing to pursue honors in geography are recommended to take the GEOG 697 in the spring of the junior year as preparation for the honors thesis (GEOG 691H and GEOG 692H).

Students are invited (but not required) to navigate through the major using a pathway, which reflects various subfields of geography (for example, urban geography, health geography, climate, international development, social and cultural geography). Students should refer to the full list of pathways below.

All General Education requirements apply. Although the major requires a total of 10 geography courses (30 credit hours), a maximum of 15 geography courses (45 credit hours) can count toward the 120 hours required to graduate. Students wishing more information should consult the director of undergraduate studies.

Geography (GEOG) course descriptions (<https://catalog.unc.edu/undergraduate/departments/geography/#coursestext>).

## Urban Development and Planning Pathway

For the first time in human history over half of the world's population lives in cities. This presents a monumental challenge to politicians, urban planners, and citizens to build sustainable, just, and livable urban spaces. A background in urban geography prepares you for one of the many careers devoted to improving cities and settlements around the globe.

Code	Title	Hours
<b>Core Classes</b>		
GEOG 228	 Urban Geography	3
GEOG 423	Social Geography	3
GEOG 428	 Global Cities: Space, Power, and Identity in the Built Environment	3
GEOG 429	 Urban Political Geography: Durham, NC	3
GEOG 430	Global Migrations, Local Impacts: Urbanization and Migration in the United States	3
GEOG 458	Urban Latin America: Politics, Economy, and Society	3

GEOG 542	Neighborhoods and Health	3
<b>Methods and Research</b>		
GEOG 391	Quantitative Methods in Geography <sup>1</sup>	3
GEOG 392	 Research Methods in Geography <sup>1</sup>	3
GEOG 491	Introduction to GIS <sup>1</sup>	3
GEOG 591	 Applied Issues in Geographic Information Systems <sup>1</sup>	3
GEOG 697	 Capstone Seminar in Geographic Research <sup>2</sup>	3

<sup>1</sup> Qualitative, quantitative, and GIS skills.

<sup>2</sup> Research opportunities.

Pursuing a minor in urban studies and planning (<https://catalog.unc.edu/undergraduate/programs-study/urban-studies-planning-minor/>) may also be of interest.

There are career opportunities in city planning, architecture, real estate development, policy analysis, community development, or civil engineering.

## Diversity and Justice Pathway

How do the places, spaces, and environments that we inhabit reinforce structures of oppression or create the potential for liberation? Social movements and activists have created spatial theories and strategies to change the world: by occupying public space or by fighting for the protection of sacred lands. In our classes, you will learn how power flows through space; that all politics unfolds in places; that everyday life is political; and that environmental issues are connected to social justice. You will also learn tools including mapping technologies, remote sensing, oral histories, and interviews.

Code	Title	Hours
<b>Building Blocks</b>		
GEOG 56	 First-Year Seminar: Local Places in a Globalizing World	3
GEOG 67	 First-Year Seminar: Politics of Everyday Life	3
GEOG 225	Space, Place, and Difference	3
GEOG 228	 Urban Geography	3
<b>Advanced Courses</b>		
GEOG 212	 Environmental Conservation and Global Change	3
GEOG 232	 Agriculture, Food, and Society	3
GEOG 447	Gender, Space, and Place in the Middle East	3
GEOG 470	 Political Ecology: Geographical Perspectives	3
GEOG 480	Liberation Geographies: The Place, Politics, and Practice of Resistance	3
GEOG 650	 Technology and Democracy Research	3
<b>Methods</b>		
GEOG 491	Introduction to GIS	3
GEOG 541	GIS in Public Health	3
GEOG 543	 Qualitative Methods in Geography	3
GEOG 591	 Applied Issues in Geographic Information Systems	3

## Climatology Pathway

The emphasis of this pathway is on developing an understanding of the Earth's climate system, the impacts of climate on environmental and human sectors, and in gaining quantitative skills that can be used to analyze climate and weather.

Code	Title	Hours
<b>Core Classes</b>		
GEOG 110	 The Blue Planet: An Introduction to Earth's Environmental Systems <sup>H</sup>	3
GEOG 111	 Weather and Climate	3
GEOG 412	Synoptic Meteorology	3
GEOG 414	 Climate Change	3
GEOG 416	 Applied Climatology: The Impacts of Climate and Weather on Environmental and Social Systems	3

### Geography Methods and Skills

GEOG 391	Quantitative Methods in Geography	3
GEOG 410	 Modeling of Environmental Systems	3
GEOG 477	 Introduction to Remote Sensing of the Environment	3

### Complimentary Methods and Skills

MATH 231	 Calculus of Functions of One Variable I <sup>H,F</sup>	4
MATH 232	 Calculus of Functions of One Variable II <sup>H,F</sup>	4
MATH 383	First Course in Differential Equations <sup>H</sup>	3
STOR 151	 Introduction to Data Analysis	3
	or STOR 155  Introduction to Data Models and Inference	
COMP 110	 Introduction to Programming and Data Science <sup>H</sup>	3
	or COMP 116 Introduction to Scientific Programming	

<sup>H</sup> Honors version available. An honors course fulfills the same requirements as the nonhonors version of that course. Enrollment and GPA restrictions may apply.

<sup>F</sup> FY-Launch class sections may be available. A FY-Launch section fulfills the same requirements as a standard section of that course, but also fulfills the FY-SEMINAR/FY-LAUNCH First-Year Foundations requirement. Students can search for FY-Launch sections in ConnectCarolina using the FY-LAUNCH attribute.

Climate science has growing career opportunities due to renewed interest in current and future climate change. This pathway will position students for non-profit, governmental, and private environmental jobs, as well as for advanced study in climatology.

### International Development and Globalization Pathway

The international development and globalization pathway will prepare students with the practical tools and intellectual framework to become participants and leaders in the world of international development. Students might continue their studies in graduate school, work for an international non-governmental organization, pursue a career in diplomacy, or work with social movements.

Code	Title	Hours
<b>Building Block Courses</b>		
GEOG 120	 World Regional Geography	3
GEOG 121	 Geographies of Globalization	3
GEOG 123	 Cultural Geography	3
GEOG 130	 Development and Inequality: Global Perspectives <sup>F</sup>	3
<b>Region Specific</b>		
GEOG 259	 Society and Environment in Latin America	3
GEOG 265	Eastern Asia	3
GEOG 266	 Society and Environment in Southeast Asia	3
GEOG 267	 South Asia	3
GEOG 268	 Geography of Africa	3
GEOG 464	Europe Today: Transnationalism, Globalisms, and the Geographies of Pan-Europe	3
<b>Advanced Concepts</b>		
GEOG 423	Social Geography	3
GEOG 428	 Global Cities: Space, Power, and Identity in the Built Environment	3
GEOG 453	 Political Geography	3
GEOG 460	 Geographies of Economic Change	3
GEOG 470	 Political Ecology: Geographical Perspectives	3
<b>Contemporary Issues</b>		
GEOG/GLBL 210	 Global Issues and Globalization	3
GEOG 435	 Global Environmental Justice	3
GEOG 447	Gender, Space, and Place in the Middle East	3
GEOG 448	Transnational Geographies of Muslim Societies	3
GEOG 452	Mobile Geographies: The Political Economy of Migration	3
GEOG 480	Liberation Geographies: The Place, Politics, and Practice of Resistance	3

<sup>F</sup> FY-Launch class sections may be available. A FY-Launch section fulfills the same requirements as a standard section of that course, but also fulfills the FY-SEMINAR/FY-LAUNCH First-Year Foundations requirement. Students can search for FY-Launch sections in ConnectCarolina using the FY-LAUNCH attribute.

## GIScience

Geographic information science (GIScience) emphasizes geographic information technologies, their real-world applications, and the science and technology underlying them. These technologies include geographic information systems (GIS), satellite remote sensing, global positioning systems, computer cartography, terrain analysis, and geospatial visualization. These skills are in high demand, giving students a competitive edge to pursue careers in the private, public, and non-profit sectors.

Code	Title	Hours
<b>GIScience Courses</b>		
GEOG 370	 Introduction to Geographic Information	3
GEOG 391	Quantitative Methods in Geography	3

GEOG 410	 Modeling of Environmental Systems	3
GEOG 477	 Introduction to Remote Sensing of the Environment	3
GEOG 541	GIS in Public Health	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 597	Ecological Modeling	3
<b>Courses Outside of Geography</b>		
COMP 116	Introduction to Scientific Programming	3
COMP 401	Foundation of Programming <sup>H</sup>	4
COMP 410	Data Structures	3
MATH 231	 Calculus of Functions of One Variable I <sup>H, F</sup>	4
MATH 232	 Calculus of Functions of One Variable II <sup>H, F</sup>	4
MATH 383	First Course in Differential Equations <sup>H</sup>	3
MATH 577	Linear Algebra	3
ENVR/ENEC 468	Temporal GIS and Space/Time Geostatistics for the Environment and Public Health	3

<sup>H</sup> Honors version available. An honors course fulfills the same requirements as the nonhonors version of that course. Enrollment and GPA restrictions may apply.

<sup>F</sup> FY-Launch class sections may be available. A FY-Launch section fulfills the same requirements as a standard section of that course, but also fulfills the FY-SEMINAR/FY-LAUNCH First-Year Foundations requirement. Students can search for FY-Launch sections in ConnectCarolina using the FY-LAUNCH attribute.

## Geography of Health and Disease

Health geography takes a socio-ecological approach, rather than a biomedical approach to understanding the occurrence of human disease and wellbeing. This is a highly integrated field, requiring knowledge of social systems, environmental systems, and the etiology and ecology of disease. In addition, geospatial technologies such as geographic information systems, satellite remote sensing, and geographic analysis are powerful tools in the study and management of human diseases. This pathway will prepare students for a career in the spatial, social, and ecological dimensions of public health, as well as for graduate school in the spatial health sciences.

Code	Title	Hours
<b>Health Courses in Geography</b>		
GEOG 60	 First-Year Seminar: Health Care Inequalities	3
GEOG 222	Health and Medical Geography	3
GEOG 446	Geography of Health Care Delivery	3
GEOG 451	 Population, Development, and the Environment	3
GEOG 542	Neighborhoods and Health	3
<b>Geography Methods &amp; Skills</b>		
GEOG 232	 Agriculture, Food, and Society	3
GEOG 269	 Human-Environment Interactions in the Galapagos Islands	3

GEOG 391	Quantitative Methods in Geography	3
GEOG 410	 Modeling of Environmental Systems	3
GEOG 451	 Population, Development, and the Environment	3
<b>Classes Outside Geography</b>		
ANTH 319	 Global Health	3
BIOL 101	 Principles of Biology <sup>H, F</sup>	3
SOCI 121	Population Problems	3
SOCI 172	 Introduction to Population Health in the United States	3
STOR 151	 Introduction to Data Analysis	3
STOR 155	 Introduction to Data Models and Inference <sup>F</sup>	3
STOR 358	Sample Survey Methodology	4

<sup>H</sup> Honors version available. An honors course fulfills the same requirements as the nonhonors version of that course. Enrollment and GPA restrictions may apply.

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## Political Ecology

Political ecologists study the reciprocal and dynamic relations between society and nature. How do markets, social relations, and populations influence resource governance practices and vice versa? Whose voices and ideas count in the creation of protected areas, or in the decisions about where toxic waste and trash are deposited? When and how do decision makers or community members mobilize scientific knowledge to pursue environmental and ethical commitments? The political ecology pathway in geography offers a cross-disciplinary approach for answering such questions and, more broadly, for studying the relationship between the economy, politics, and ecology.

Code	Title	Hours
<b>Core Courses</b>		
GEOG 141	 Geography for Future Leaders	3
GEOG 212	 Environmental Conservation and Global Change	3
GEOG 232	 Agriculture, Food, and Society	3
GEOG 414	 Climate Change	3
GEOG 435	 Global Environmental Justice	3
GEOG 470	 Political Ecology: Geographical Perspectives	3
<b>Methods and Skills</b> <sup>1</sup>		
GEOG 370	 Introduction to Geographic Information	3
GEOG 391	Quantitative Methods in Geography	3
GEOG 392	 Research Methods in Geography	3
GEOG 222	Health and Medical Geography	3
<b>Classes Outside of Geography</b>		
ANTH 139	Ecological Anthropology	3
ANTH 151	 Anthropological Perspectives on Food and Culture	3

ANTH/NUTR 175	 Introduction to Food Studies: From Science to Society	3
ANTH 238	 Human Ecology of Africa	3
ANTH 306	Water and Inequality: Anthropological Perspectives	3
ANTH 320	Anthropology of Development	3

<sup>1</sup> More advanced quantitative and GIS courses are very useful to students wishing to pursue professional paths in this field.

## Culture, Society, and Space

How are our identities, experiences, and daily practices shaped by the places that we live in? How do we transform our environments to reflect who we are? These questions underpin key debates about culture and society today. Cultural and social geographers study the relationships among culture, society, space, and place. Their research examines the dynamic geography of cultural and societal change due to, for example, migration, technological developments, or religious movements. The culture, society, and space pathway in geography prepares students for work in international NGOs and the public and private sectors, specializing in cultural and social issues, as well as training students for graduate school in the social sciences and humanities.

Code	Title	Hours
<b>Core Courses</b>		
GEOG 120	 World Regional Geography	3
GEOG 121	 Geographies of Globalization	3
GEOG 123	 Cultural Geography	3
GEOG 124	 Feminist Geographies	3
GEOG 125	Cultural Landscapes	3
GEOG 225	Space, Place, and Difference	3
GEOG 281	Ethnographies of Globalization: From 'Culture' to Decolonization	3
GEOG 423	Social Geography	3
GEOG 424	 Geographies of Religion	3
GEOG 428	 Global Cities: Space, Power, and Identity in the Built Environment	3
GEOG 430	Global Migrations, Local Impacts: Urbanization and Migration in the United States	3
GEOG 447	Gender, Space, and Place in the Middle East	3
<b>Methods and Skills</b>		
GEOG 115	Maps: Geographic Information from Babylon to Google	3
GEOG 370	 Introduction to Geographic Information	3
GEOG 391	Quantitative Methods in Geography	3
GEOG 392	 Research Methods in Geography	3
<b>Classes Outside Geography</b>		
ANTH 102	 Introduction to Cultural Anthropology	3
ANTH 120	Anthropology through Expressive Cultures	3
ANTH 259	Culture and Identity	3
ANTH 428	Religion and Anthropology <sup>H</sup>	3

COMM 140	Introduction to Media History, Theory, and Criticism <sup>F</sup>	3
COMM 450	Media and Popular Culture	3

H Honors version available. An honors course fulfills the same requirements as the nonhonors version of that course. Enrollment and GPA restrictions may apply.

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## Special Opportunities in Geography

### Joint Degree Program with the National University of Singapore (NUS)

The Department of Geography is one of several departments offering a joint degree in conjunction with the National University of Singapore (NUS). Students in the program will spend one or two years studying geography at NUS, and their diploma will be jointly granted by both universities.

### Honors in Geography

Qualifying students are encouraged to pursue an honors degree. To gain admission to the honors program students must have a cumulative grade point average of 3.3 or higher and a grade point average of 3.4 or higher in geography courses. Honors students take GEOG 691H and GEOG 692H (honors readings and research and theses hours) with their honors thesis chair in their senior year. Honors study involves the completion of a substantial piece of original research and the formal presentation of the results in an honors thesis and oral defense. Those who successfully complete the program are awarded their B.A. degree with either honors or highest honors in geography.

### Departmental Involvement

All students are welcomed and encouraged to attend the department's seminar, held on most Friday afternoons at 3:35 p.m. in Carolina Hall 220. The department sponsors the Carolina Geography Club, which provides an avenue for student involvement with the department outside of course work (see the club's Facebook page). Students can also interact with the department through service on the faculty undergraduate committee and through independent research with faculty.

### Experiential Education

The department offers several experiential education courses:

Code	Title	Hours
GEOG 53	First-Year Seminar: Battle Park: Carolina's Urban Forest	3
GEOG 419	Field Methods in Physical Geography	3
GEOG 429	Urban Political Geography: Durham, NC	3
GEOG 452	Mobile Geographies: The Political Economy of Migration	3
GEOG 493	Internship	3
GEOG 650	Technology and Democracy Research	3

GEOG 691H	Honors	3
GEOG 692H	Honors	3

### Internship

Students can gain course credit by interning with an organization, agency, or business that will augment their classroom learning. The department has an internship coordinator available to assist students find internships and to manage participation in the organization's activities. Internship can be taken with a geography faculty member for academic credit through GEOG 493.

### Independent Study

Independent study with a geography faculty member can be taken for academic credit through GEOG 296. Students are responsible for arranging their independent study with a faculty member who will sponsor them for this activity. Students must fill out a learning contract and syllabus in collaboration with the sponsoring faculty member and then be enrolled by Nell Phillips in the department office. For more information, contact the individual faculty member or the director of undergraduate studies.

### Undergraduate Research

Research with a geography faculty member can be taken for academic credit through GEOG 295. Students are responsible for arranging their research activities and responsibilities with a faculty member who will sponsor them for this activity. Students must fill out a learning contract with the sponsoring faculty member and then be enrolled by Nell Phillips in the department office.

### Study Abroad

Experiences with other cultures and environments are important to a sound background in geography, and thus the department encourages a study abroad experience. Many of our students study abroad in the Galapagos Islands at the Galapagos Science Center. The department also participates in a junior-year exchange program with King's College London. Many other study abroad programs combine well with a major in geography.

### Undergraduate Awards

The Andrew McNally Award is given each spring to an outstanding graduating geography major, as chosen by a committee of the faculty. The department also administers the Melinda Meade Award for Excellence in Undergraduate Geographic Research, the John D. Eyre Service in Geography Award, as well as the John D. Eyre Travel Award, and the Burgess McSwain Travel America Fund, which are open to all undergraduates at UNC-Chapel Hill.

## Department Programs

### Major

- Geography Major, B.A. (p. 1)

### Minor

- Environmental Justice Minor (<https://catalog.unc.edu/undergraduate/programs-study/environmental-justice-minor/>)
- Geography Minor (<https://catalog.unc.edu/undergraduate/programs-study/geography-minor/>)
- Geographic Information Sciences Minor (<https://catalog.unc.edu/undergraduate/programs-study/gis-minor/>)

### **Graduate Programs**

- M.A. in Geography (<https://catalog.unc.edu/graduate/schools-departments/geography/>)
- Ph.D. in Geography (<https://catalog.unc.edu/graduate/schools-departments/geography/>)

## **Contact Information**

### **Department of Geography**

Visit Program Website (<http://geography.unc.edu>)

205 Carolina Hall, CB# 3220

(919) 962-8901

### **Chair**

Conghe Song

[csong@email.unc.edu](mailto:csong@email.unc.edu)

### **Director of Undergraduate Studies**

Aaron Moody

[aaronm@email.unc.edu](mailto:aaronm@email.unc.edu)

### **Undergraduate Program Administrator**

Nell Phillips

[nphillip@email.unc.edu](mailto:nphillip@email.unc.edu)