

GEOGRAPHY, B.S.

The Bachelor of Science in Geography degree focuses on Earth's physical systems and the connections between them. Graduates will gain scientific insights into humankind's impact on natural environments, making this major ideal for students interested in pursuing climate science, geographic information science (GIS) mapping, or similar technical fields.

Compared to the B.A. in geography, the B.S. focuses more on physical landscapes and processes operating in the atmosphere, biosphere, hydrosphere and lithosphere while still providing a well-rounded selection of social sciences and humanities courses. Students on the B.S. track choose one of three concentrations: general geography, GIS or physical and environmental geography.

Students learn to interpret and analyze Earth's physical environments, use geospatial technologies and statistics, and communicate findings effectively. The skills students build in the geography program translate across fields in the academic, business, government and non-profit sectors.

Learning Outcomes

1. Students will demonstrate the ability to communicate in written and oral forms. These outcomes are evaluated together because they are connected for our students who often are in careers where their written work is the substance of their oral presentations. We see the linkage of the two to be the most important aspect.
2. Students will demonstrate understanding of and the use of one geographical technique such as GIS, remote sensing, cartography, or spatial statistics.
3. Students will demonstrate their knowledge of the central themes within the discipline.
4. Students will be prepared for careers in the field or for graduate study in geography.

Admissions

Entrance Requirements

New freshmen who meet University admissions standards are eligible for admission to degree programs offered by the college. A student who wishes to enter the College of Arts and Sciences from another college on the Columbia campus must be in good standing and have a cumulative GPA of 2.00 or higher. A student who wishes to enter the College of Arts and Sciences from another USC campus must fulfill one of the following requirements:

1. Be in good standing, meet the admission requirements for a baccalaureate degree on the Columbia campus, and have a cumulative GPA of 2.00 or higher.
2. Be in good standing and have completed 30 semester hours with a GPA of 2.00 or higher on a USC campus.

Some programs in the College of Arts and Sciences have special admission requirements established by the department or committee that supervises the specific degree program, for example, Cardiovascular Technology, Biological Sciences, Chemistry, Biochemistry and Molecular Biology, Economics, Environmental Science, the Bachelor of Arts in Interdisciplinary Studies, and the Bachelor of Science in Interdisciplinary

Studies. These requirements are listed in the sections of this bulletin that describe department and special degree programs.

Degree Requirements (120 hours)

Program of Study

Requirements	Credit Hours
1. Carolina Core	32-44
2. College Requirements	15-18
3. Program Requirements	33-49
4. Major Requirements	24-25

Founding Documents Requirement

All undergraduate students must take a 3-credit course or its equivalent with a passing grade in the subject areas of History, Political Science, or African American Studies that covers the founding documents including the United State Constitution, the Declaration of Independence, the Emancipation Proclamation and one or more documents that are foundational to the African American Freedom struggle, and a minimum of five essays from the Federalist papers. This course may count as a requirement in any part of the program of study including the Carolina Core, the major, minor or cognate, or as a general elective. Courses that meet this requirement are listed here (<https://academicbulletins.sc.edu/undergraduate/founding-document-courses/>).

1. Carolina Core Requirements (32-44 hours)

CMW – Effective, Engaged, and Persuasive Communication: Written (6 hours)

must be passed with a grade of C or higher

- any CC-CMW courses (<https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/>)

ARP – Analytical Reasoning and Problem Solving (6-8 hours)

- MATH 122* or MATH 141*
- MATH 142* or MATH 170* or MATH 172*

SCI – Scientific Literacy (8 hours)

- Two 4-credit hour CC-SCI courses (<https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/>)

GFL – Global Citizenship and Multicultural Understanding: Foreign Language (0-6 hours)

Demonstration of proficiency in one foreign language equivalent to the minimal passing grade on the exit examination in the 122 course is required. Students can demonstrate this proficiency by successfully completing Phase II of the Proficiency Test or by successfully completing the 122 course, including the exit exam administered as part of that course.

- CC-GFL courses (<https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/>)

It is strongly recommended that students continuing the study of a foreign language begin college-level study of that language in their first semester and continue in that language until their particular foreign language requirement is completed.

GHS – Global Citizenship and Multicultural Understanding: Historical Thinking (3 hours)

- any CC-GHS course (<https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/>)

GSS – Global Citizenship and Multicultural Understanding: Social Sciences (3 hours)

- any CC-GSS course (<https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/>)

AIU – Aesthetic and Interpretive Understanding (3 hours)

- any CC-AIU course (<https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/>)

CMS – Effective, Engaged, and Persuasive Communication: Spoken Component ¹ (0-3 hours)

- any overlay or stand-alone CC-CMS course (<https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/>)

INF – Information Literacy ¹ (0-3 hours)

- any overlay or stand-alone CC-INF course (<https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/>)

VSR – Values, Ethics, and Social Responsibility ¹ (0-3 hours)

- any overlay or stand-alone CC-VSR course (<https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/>)

¹ **Carolina Core Stand Alone or Overlay Eligible Requirements** — Overlay-approved courses offer students the option of meeting two Carolina Core components in a single course. A maximum of two overlays is allowed. The total Carolina Core credit hours must add up to a minimum of 31 hours. Some programs may have a higher number of minimum Carolina Core hours due to specified requirements.

Select at least one of the following to fulfill a Carolina Core requirement

must be passed with a grade of C or higher

Course	Title	Credits
GEOG 103	Introduction to Geography (*)	3
GEOG 104	Introduction to Physical Geography (*)	3
GEOG 121	Geographies of Global Change (*)	3
GEOG 201	Landform Geography (*)	4
GEOG 202	Weather and Climate (*)	4
GEOG 210	Peoples, Places, and Environments (*)	3

2. College Requirements (15-18 hours)

Foreign Language (0-3 hours)

- only if needed to meet 122-level proficiency

Analytical Reasoning (6 hours)

Course	Title	Credits
STAT 201	Elementary Statistics (*)	3
CSCE 102	General Applications Programming (*)	3
Total Credit Hours		6

History (3 hours)

The College of Arts and Sciences requires one additional GHS course beyond the Carolina Core GHS requirement.

- If the Carolina Core GHS requirement is fulfilled by a **U.S. history** course, the College of Arts and Sciences history requirement must be fulfilled by a **non-U.S. history** course.
- If the Carolina Core GHS requirement is fulfilled by a **non-U.S. history** course, the College of Arts and Sciences history requirement must be fulfilled by a **U.S. history** course.

Please select the College of Arts and Sciences history requirement from the approved list of U.S. and non-U.S. history courses (<https://academicbulletins.sc.edu/undergraduate/arts-sciences/history-requirement/>).

Social Science and Fine Arts or Humanities (6 hours)

- Social Science (3 hours)**
 - The College of Arts and Science requires one 3- hour Social Science Course (<https://academicbulletins.sc.edu/undergraduate/arts-sciences/courses-acceptable-social-science/>)
- Fine Arts/Humanities (3 Hours)**
 - A Bachelor of Science from the College of Arts and Sciences requires one 3-hour Fine Arts/Humanities Course (<https://academicbulletins.sc.edu/undergraduate/arts-sciences/courses-acceptable-fine-arts-humanities/>)

3. Program Requirements (33-49 hours)

Cognate or Minor (12-18 hours)

Students must complete a cognate (12 hours) or a minor as part of this program. In lieu of a cognate or minor, an additional major may be added to a student's program of study. **Additional majors must include all major courses as well as any prescribed courses noted (*) in the bulletin.** Prescribed courses noted in the bulletin may be shared with Carolina Core, College requirements, and Program requirements in the primary program.

Cognate (12 hours)

The cognate must consist of twelve (12) hours of courses at the advanced level, outside of but related to the major. The cognate may be taken in one or more departments or programs.

Courses offered by departments and programs that are acceptable for cognate credit are outlined in the section titled Courses Acceptable for Cognate Credit in Degree Programs in the College of Arts and Sciences (<https://academicbulletins.sc.edu/undergraduate/arts-sciences/courses-acceptable-cognate/>). Some major programs have specific cognate requirements. It should be emphasized that the cognate is not a second set of elective courses to be chosen at random by the student. Students are urged to consult their major advisors for specific requirements in their major.

Unless otherwise noted, for Bachelor of Science degrees, cognate courses passed with a grade of D or higher are acceptable.

Minor (18 hours)

In place of the cognate a student in the College of Arts and Sciences may choose a minor consisting of at least 18 credit hours of prescribed courses.

The minor is intended to develop a coherent basic preparation in a second area of study. It differs from the cognate inasmuch as the courses must follow a structured sequence.

Courses applied toward general education requirements cannot be counted toward the minor. No course may satisfy both major and minor requirements. **All minor courses must be passed with a grade of C or higher.** At least half of the courses in the minor must be completed in residence at the University.

A list of minor programs of study can be found at Programs A-Z (<https://academicbulletins.sc.edu/undergraduate/programs-az/>).

Electives (15-37 hours)

120 (or 128) degree applicable credits are required to complete any degree at USC. After the cognate, minor or second major is complete, any additional credits needed to reach 120 (or 128) total credits can be fulfilled by electives. No courses of a remedial, developmental, skill-acquiring, or vocational nature may apply as credit toward degrees in the College of Arts and Sciences. The College of Arts and Sciences allows the use of the Pass-Fail option on elective courses. Further clarification on inapplicable courses can be obtained from the College of Arts and Sciences.

Note: 4-25 hours of electives will be needed to reach hours to graduate, if completing the B.S. with Distinction.

4. Major Requirements (24-25 hours)

A minimum grade of C is required in all major courses.

Concentrations (24-25 hours)

Students must choose one of the following three concentrations:

General Geography (24 hours)

At least two courses for the major must be from the 500-level. GEOG 595 can be used to fulfill up to 3 hours of geography elective credit, but not the 500-level requirement.

Course	Title	Credits
GEOG 495	Seminar in Geography	3
Geography Elective: Select two courses at the 200-level or above with advisor's approval. ¹		6
Select 15 hours from the following: ¹		15
GEOG 285	Introduction to Drones for Airborne Spatial Data	
GEOG 310	Topics in Geography	
GEOG 311	Cultural Geography	
GEOG 312	Geography and Global Geopolitics	
GEOG 313	Economic Geography	
GEOG 321	Sustainable Cities	
GEOG 324	Landscapes of the United States	
GEOG 330	The Geography of Disasters	
GEOG 341	Cartography	

GEOG 343	Environment and Society
GEOG 344	Geographies of American Cities
GEOG 345	Interpretation of Aerial Photographs
GEOG 346	Climate and Society
GEOG 347	Water as a Resource
GEOG 348	Biogeography
GEOG 349	Cartographic Animation
GEOG 360	Geography of Wind
GEOG 363	Geographic Information Systems
GEOG 365	Hurricanes and Tropical Climatology
GEOG 370	America's National Parks
GEOG 371	Air Pollution Climatology
GEOG 378	World Tourism Geography
GEOG 510	Special Topics in Geographic Research
GEOG 511	Planning and Locational Analysis
GEOG 512	Migration and Globalization
GEOG 515	Political Geography
GEOG 516	Coastal Zone Management
GEOG 521	Landscapes of South Carolina
GEOG 525	Geographical Analysis of Transportation
GEOG 530	Environmental Hazards
GEOG 531	Quantitative Methods in Geographic Research
GEOG 535	Hazards Analysis and Planning
GEOG 541	Advanced Cartography
GEOG 542	Dynamic Cartography
GEOG 544	Geography of the City
GEOG 545	Synoptic Meteorology
GEOG 546	Applied Climatology
GEOG 547	Fluvial Geomorphology
GEOG 549	Water and Watersheds
GEOG 551	Principles of Remote Sensing
GEOG 552	LiDARgrammetric and Photogrammetric Digital Surface Mapping
GEOG 554	Spatial Programming
GEOG 556	WebGIS
GEOG 560	Source Materials for Geographic Instruction
GEOG 561	Contemporary Issues in Geography Education
GEOG 562	Satellite Mapping and the Global Positioning System
GEOG 563	Advanced Geographic Information Systems
GEOG 564	GIS-Based Modeling
GEOG 565	Geographic Information System (GIS) Databases and Their Use
GEOG 566	Social Aspects of Environmental Planning and Management
GEOG 567	Long-Term Environmental Change
GEOG 568	Human Dimensions of Global Environmental Change
GEOG 569	International Development and the Environment
GEOG 570	Geography of Public Land and Water Policy
GEOG 571	Microclimatology
GEOG 573	Climatic Change and Variability

GEOG 575	Digital Techniques and Applications in Remote Sensing
GEOG 581	Globalization and Cultural Questions
GEOG 590	Beach-Dune Interactions

Total Credit Hours **24**

¹ Courses used to fulfill Carolina Core or College Requirements may not be used again to fulfill these requirements.

Geographic Information Science (24-25 hours)

At least two courses for the major must be from the 500-level. GEOG 595 can be used to fulfill up to 3 hours of geography elective credit, but not the 500-level requirement.

Course	Title	Credits
GEOG 363	Geographic Information Systems	3
Select two of the following:		6
GEOG 341	Cartography	
GEOG 345	Interpretation of Aerial Photographs	
GEOG 531	Quantitative Methods in Geographic Research	
Select three of the following: ¹		9
GEOG 285	Introduction to Drones for Airborne Spatial Data	
GEOG 349	Cartographic Animation	
GEOG 535	Hazards Analysis and Planning	
GEOG 541	Advanced Cartography	
GEOG 542	Dynamic Cartography	
GEOG 551	Principles of Remote Sensing	
GEOG 552	LiDARgrammetric and Photogrammetric Digital Surface Mapping	
GEOG 554	Spatial Programming	
GEOG 556	WebGIS	
GEOG 562	Satellite Mapping and the Global Positioning System	
GEOG 563	Advanced Geographic Information Systems	
GEOG 564	GIS-Based Modeling	
GEOG 565	Geographic Information System (GIS) Databases and Their Use	
GEOG 575	Digital Techniques and Applications in Remote Sensing	
GEOG 495	Seminar in Geography	3
Geography Elective: Select one non-GIScience course at the 200-level 3-4 or above with advisor's approval from the following list:		
GEOG 201	Landform Geography	
GEOG 202	Weather and Climate	
GEOG 210	Peoples, Places, and Environments	
GEOG 221	Geography of South Carolina	
GEOG 223	Geography of Latin America	
GEOG 224	Geography of North America	
GEOG 225	Geography of Europe	
GEOG 226	Geography of the Middle East	
GEOG 228	Geography of Sub-Saharan Africa	
GEOG 310	Topics in Geography	
GEOG 311	Cultural Geography	
GEOG 312	Geography and Global Geopolitics	

GEOG 313	Economic Geography
GEOG 319	Cities in a Changing World
GEOG 321	Sustainable Cities
GEOG 324	Landscapes of the United States
GEOG 330	The Geography of Disasters
GEOG 343	Environment and Society
GEOG 344	Geographies of American Cities
GEOG 346	Climate and Society
GEOG 347	Water as a Resource
GEOG 348	Biogeography
GEOG 360	Geography of Wind
GEOG 365	Hurricanes and Tropical Climatology
GEOG 370	America's National Parks
GEOG 371	Air Pollution Climatology
GEOG 378	World Tourism Geography
GEOG 380	Global Geography of Human Rights
GEOG 510	Special Topics in Geographic Research
GEOG 511	Planning and Locational Analysis
GEOG 512	Migration and Globalization
GEOG 515	Political Geography
GEOG 516	Coastal Zone Management
GEOG 521	Landscapes of South Carolina
GEOG 525	Geographical Analysis of Transportation
GEOG 530	Environmental Hazards
GEOG 531	Quantitative Methods in Geographic Research
GEOG 535	Hazards Analysis and Planning
GEOG 538	Global Food Politics
GEOG 544	Geography of the City
GEOG 545	Synoptic Meteorology
GEOG 546	Applied Climatology
GEOG 547	Fluvial Geomorphology
GEOG 549	Water and Watersheds
GEOG 560	Source Materials for Geographic Instruction
GEOG 561	Contemporary Issues in Geography Education
GEOG 566	Social Aspects of Environmental Planning and Management
GEOG 567	Long-Term Environmental Change
GEOG 568	Human Dimensions of Global Environmental Change
GEOG 569	International Development and the Environment
GEOG 570	Geography of Public Land and Water Policy
GEOG 571	Microclimatology
GEOG 573	Climatic Change and Variability
GEOG 581	Globalization and Cultural Questions
GEOG 590	Beach-Dune Interactions

Total Credit Hours **24-25**

¹ GEOG 341, GEOG 345 or GEOG 531 may be used if not used above.

Physical/Environmental Geography (24 hours)

At least two courses for the major must be from the 500-level. GEOG 595 can be used to fulfill up to 3 hours of geography elective credit, but not the 500-level requirement.

Course	Title	Credits
Select one of the following:		3
GEOG 341	Cartography	
GEOG 345	Interpretation of Aerial Photographs	
GEOG 363	Geographic Information Systems	
GEOG 551	Principles of Remote Sensing	
GEOG 495	Seminar in Geography	3
Select 5-6 courses from the following: ¹		18
GEOG 330	The Geography of Disasters	
GEOG 343	Environment and Society	
GEOG 346	Climate and Society	
GEOG 347	Water as a Resource	
GEOG 348	Biogeography	
GEOG 360	Geography of Wind	
GEOG 365	Hurricanes and Tropical Climatology	
GEOG 370	America's National Parks	
GEOG 371	Air Pollution Climatology	
GEOG 516	Coastal Zone Management	
GEOG 530	Environmental Hazards	
GEOG 535	Hazards Analysis and Planning	
GEOG 545	Synoptic Meteorology	
GEOG 546	Applied Climatology	
GEOG 547	Fluvial Geomorphology	
GEOG 549	Water and Watersheds	
GEOG 566	Social Aspects of Environmental Planning and Management	
GEOG 567	Long-Term Environmental Change	
GEOG 568	Human Dimensions of Global Environmental Change	
GEOG 569	International Development and the Environment	
GEOG 570	Geography of Public Land and Water Policy	
GEOG 571	Microclimatology	
GEOG 573	Climatic Change and Variability	
GEOG 590	Beach-Dune Interactions	
Total Credit Hours		24

¹ GEOG 201 or GEOG 202 may be used if not used to satisfy Carolina Core or College Requirements.

B.S. with Distinction in Geography (36 hours)

Available to students majoring in Geography who wish to participate in significant research activities in their major field under the supervision of a faculty mentor.

Prerequisite

A minimum GPA of 3.50 in the major, and 3.30 cumulative, is required to apply for a BA or BS with Distinction in Geography.

Requirements

- Students must submit a written application for the BS with Distinction in Geography at least eight months before completion of the degree.
- Written sponsorship agreement from a Geography faculty mentor on file in the department.

- An established thesis committee consisting of a tenure-track faculty member in Geography and at least one other tenure-track or research faculty member at the University of South Carolina.
- A written thesis demonstrating significant original work and approved by the thesis committee.
- A public presentation of the Senior Thesis research.
- Successful fulfillment of all requirements below with a minimum GPA of 3.50 in the major and 3.30 cumulative.
- General major requirements, plus 12 additional credit hours including:
 - A minimum of nine credit hours in GEOG 498, or any GEOG 500-level courses (9 hours)
 - GEOG 499

Note: South Carolina Honors College students satisfying the above requirements will graduate with "Honors from the South Carolina Honors College" and with "Distinction in Geography."

Major Map

A major map is a layout of required courses in a given program of study, including critical courses and suggested course sequences to ensure a clear path to graduation.

Major maps are only a suggested or recommended sequence of courses required in a program of study. Please contact your academic advisor for assistance in the application of specific coursework to a program of study and course selection and planning for upcoming semesters.

Geography, B.S. General Geography Concentration

Geography, B.S. Geographic Information Science Concentration

Geography, B.S. Physical/Environmental Geography Concentration