DEPARTMENT OF
GEOGRAPHY

THE OHIO STATE UNIVERSITY
COLLEGE OF ARTS AND SCIENCES

Geographic Information Sciences (Bachelor of Science)

Requires 121 Total Credit Hours; 33 Major Credit Hours; **Declared major SP24 or after.** General education requirements for degree completion can be found at
https://artsandsciences.osu.edu/advising/general-education-requirements

Major Requirements

Several major courses are offered only one term per year. Careful schedule planning is required to complete course sequences in a timely manner.

Core Courses: Complete the follow five courses (15 credit hours)

Course	Title	Hours	Required Prerequisite
GEOG 4103	Introductory Spatial Data Analysis	3	Math 1116 or above
GEOG 5101	GIST Professionalism and Ethics *SP only*	3	None
GEOG 5200	Cartography and Map Design	3	None
GEOG 5210	Fundamentals of Geographic Information Systems	3	None
GEOG 5225	Geographic Applications of Remote Sensing	3	None

Intermediate Courses: Choose three of the following courses (9 credit hours). Classes completed to fulfill the Intermediate courses requirement.

Course	Title	Hours	Required Prerequisite
GEOG 4191	Internship in Geography (permission required)	1-5	12 credit hours in major program
GEOG 5103	Intermediate Spatial Data Analysis – *SP only*	3	GEOG 4103 *(previously GEOG 5100)*
GEOG 5201	GeoVisualization	3	GEOG 5200
GEOG 5212	Geospatial Databases for GIS	3	GEOG 5210
GEOG 5222	GIS Algorithims and Programming – *AU only*	3	GEOG 5210
GEOG 5223	GIS Design and Implementation – *SP only*	3	GEOG 5222
GEOG 5229	Emerging Topics in GIS – *AU only*	3	GEOG 5210

Elective Courses: Students are encouraged to choose 1 of the following focus areas, but are permitted to complete the required 3 elective courses (9 hours) from any of the categories listed below. *==Elective Courses are not permitted to double count toward the intermediate course requirement.==*

Spatial Data Analytics: ==*Choose 3 courses for area focus (If completing all elective courses from the Spatial Data Analytics focus, at least one course must be a GEOG course listed below.)*==

Course	Title	Hours	Required Prerequisite
GEOG 4191	Internship in Geography (***permission required***)	1-5	12 credit hours in major program
GEOG 5103	Intermediate Spatial Data Analysis - *SP only*	3	GEOG 4103 (previously GEOG 5100)
GEOG 5201	GeoVisualization	3	GEOG 5200
GEOG 5212	Geospatial Databases for GIS	3	GEOG 5210
GEOG 5222	GIS Algorithims and Programming – *AU only*	3	GEOG 5210
GEOG 5223	GIS Design and Implementation – *SP only*	3	GEOG 5222
GEOG 5229	Emerging Topics in GIS – *SP only*	3	GEOG 5210
CSE 2122 **OR**	Data Structures Using C++ **OR**	3	CSE 1222
CSE 2123	Data Structures Using Java	3	CSE1223
CSE 2221	Software I: Software Components	4	CSE 1222/23/24, Concur: Math 1151
CSE 2231	Software II: Software and Development	4	Prereq: 2221

CSE 5241	Introduction to Database Systems	2	CSE 2123 or 2231; and 2321, or 2111 and Math 2366
CSE 5242	Advanced Database Management Systems	3	CSE 3241 or 5241 & 2421 or 5042
CRPLAN 5320	Intro. to Data Analytics for Transportation Planners	3	None
PUBAFRS 4040	Public Sector Data Sciences and Management	3	None

Urban Studies *– choose 3 courses for area focus*

Course	Title	Hours	Required Prerequisite
GEOG 5300	Geography of Transportation – *AU only*	3	None
GEOG 5301	Sustainbale Transportation – *SP only*	3	None
GEOG 5501	Urban Spaces in the Global Economy – *AU only*	3	None
GEOG 5502	Data Justice and the Right to the Smart City – *SP only*	3	None
GEOG 5503	Urban China: Space, Place and Urban Transformation – *AU only*	3	None

Sustainability *– choose 3 courses for area focus*

Course	Title	Hours	Required Prerequisite
GEOG 3597.03	Climate Justice	3	None
GEOG 3702	Life & Death Geographies: Global Population Dynamics	3	None
GEOG 3800	Geographic Perspectives on Environment and Society – *SP only*	3	None
GEOG 5301	Sustainbale Transportation – *SP only*	3	None
GEOG 5402	Land Use Geography – *AU only*	3	None
GEOG 5700	Geography of Development – *SP only*	3	None
GEOG 5802	Globalization and Environment – *SP only*	3	None
GEOG 5803	Sustainable Energy Geographies – *AU only*	3	None

Major Requirement Notations

The following requirements for the major apply to all Arts and Sciences degrees.

Major requirements comprise at least 30 semester hours and can be substantially higher. Major courses must be at the 2000 level or above. At least 20 hours of the major must be in courses offered by the department of the major. Note: Some interdisciplinary majors are excluded from the 20-hour rule.

Students must earn at least a C- in a course for the course to apply to the major. However, students must receive a 2.0 cumulative grade point average (GPA) for all major course work. If a D+, D, or an E is earned in a course needed for the major, the course cannot be counted on the major. The major advisor will decide if the course should be repeated or if another course should be substituted. Courses taken on a pass/non-pass basis cannot be used on the major.

The department must approve all courses in the major. Some departments require a "major program form," a document that must be signed by the academic advisor and submitted with the graduation application. Some departments do not require such a form because the academic advisors use an automated version on the degree audit report. Some departments require both. In any case, students should meet with the academic advisor early to plan the major; during your meeting, it can be determined whether the department requires a paper major program form. Any changes or adjustments to the major should be made in consultation with the academic advisor.

If a student transferred from another institution, no more than half of the credit hours on the major program may consist of transfer credit. The academic advisor, the chairperson of the department, and the appropriate assistant dean must approve any request for a variation in this policy.

For Honors students, the GE curriculum and major must be approved by the assigned Honors advisor. Information about the honors curriculum and requirements and how to schedule an appointment with an honors advisor is available on the College of Arts and Sciences Honors Program website: http://aschonors.osu.edu/advising. Students will also be assigned a faculty advisor in the department of study to help the student choose courses and co-curricular opportunities that align with academic and professional goals.