

# Geographic Information Science (Bachelor of Science)

## Geographic Information Science Major

Requires 121 Total Credit Hours; 33 Major Credit Hours

### MAJOR REQUIREMENTS

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

#### Required Prerequisites to Courses in the Major (should be completed as soon as possible)

Course	Title	Hours
CSE 1114	Intro to Databases Using MS Access	1.5
STAT 1450 OR STAT 2450	Intro to the Practice of Statistics OR Introduction to Statistical Analysis I	3

#### Required Courses (8 courses/24 hours)

Course	Title	Hours	Required Prerequisite
GEOG 4103	Introductory Spatial Data Analysis ( <i>previously GEOG 5100</i> )	3	Math 1116 or above
GEOG 5200	Cartography and Map Design	3	None
GEOG 5201	GeoVisualization	3	GEOG 5200
GEOG 5210	Fundamentals of Geographic Information Systems	3	None
GEOG 5212	Geospatial Databases for GIS	3	GEOG 5210 & CSE 1114
GEOG 5222	GIS Algorithms and Programming	3	GEOG 5210
GEOG 5223	Design and Implementation of GIS – <b>Spring Only</b>	3	GEOG 5222
GEOG 5225	Geographic Applications of Remote Sensing	3	None

#### Elective Courses

Choose three of the following courses (9 hours).

Course	Title	Hours	Required Prerequisite
GEOG 4191	Internship in Geography (permission required)	1-5	None
GEOG 5103	Intermediate Spatial Data Analysis – <b>Spring Only</b>	3	GEOG 4103 ( <i>previously GEOG 5100</i> )
GEOG 5226	Spatial Simulation and Modeling in GIS – <b>Autumn Only</b>	3	None
GEOG 5229	Emerging Topics in GIS – <b>Spring Only</b>	3	GEOG 5210
GEOG 5XXX	One 5000-level topical course in Geography in addition to the courses above	3	Varies
CSE 2122	Data Structures Using C++	3	CSE 1222
CSE 2221 OR CSE 2231 OR CSE 2123	Data Structures Using Java	3	CSE 1223
CSE 3241	Introduction to Database Systems	3	CSE 2133 or 2231 & 2321 or Math 2366
CSE 5242	Advanced Database Management Systems	3	CSE 3241 or 5241 & 2421 or 5042

\* Check CSE and GEOG course listings to confirm when courses are offered.

## Major Requirements

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 be applied 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.

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**For more information about internship and career opportunities, visit the College of Arts and Sciences Career Services Office.** Their website is <http://asccareerservices.osu.edu/>.