

**GEOGRAPHY**

**DEPARTMENT OF**

**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)

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| **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.

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| **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.)*

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| **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** CSE 2123 | Data Structures Using C++ **OR**  Data Structures Using Java | 3 3 | CSE 1222 |
| 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*

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| **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*

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| **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.