

**College of Natural Resources and Environment (CNRE)
Department of Geography
Minor in Geographic Information Science (GIS-G)
(For Meteorology and Geography majors only)**
(See Minor in Geographic Information Science (GIS) for more information)

For students graduating in calendar year 2022 and for student date of entry under UG Catalog 2020-2021

A minimum of 18 credit hours to include:

Required Courses (9 credits)

- _____ CS 1064 Introduction to Programming in Python (3)
- _____ GEOG 4084/GEOS 4084 Modeling with Geographic Information Systems (Pre: 2084 and senior standing) (3)
- _____ GEOG 4354/GEOS 4354 Intro. Remote Sensing (3) **OR** FREC 4214 Forest Photogrammetry and Spatial Data Processing (3)

Geographic Information Science Options (9 credits)

Choose 3 courses from Following:

- _____ FREC 4114 Info Technologies for Natural Resource Management (Pre: FREC 2214 or GEOG 2314) (3)
- _____ GEOG 4314 Spatial Analysis in Geographic Information Systems (Pre: 4084) (3)
- _____ GEOG 4324 Algorithms in Geographic Information Systems (Pre: 4084, CS 1064) (3)
- _____ GEOG 4334 Geospatial Information Technology for Land Change Modeling (Pre: 4084) (3)
- _____ GEOG 4374 Remote Sensing and Phenology (Pre: 4354) (3)
- _____ GEOG 4394 Introduction to Web Mapping (Pre: 4324) (3)

A minimum overall GPA of 2.0 in these courses is required to complete the minor.

All minors must include 6 or more credits at 3000 level or above.

All courses must be taken for an A-F grade unless they are only offered P/F.

Steps for completing the minor in Geographic Information Science-G

- Declare minor using a 'Major/Option/Minor Form' found in the CNRE Advising Center, 138 Cheatham Hall.
- Include minor information when updating the application for degree in Hokie Spa.
- Some courses in the minor requirements listed above have prerequisites, so be sure to consult the University Catalog or check with the Minor advisor.
- Students cannot graduate until they have either (1) satisfied the requirements for the minor or (2) withdrawn from the minor by notifying CNRE Academic Programs office in 138 Cheatham and revised their DARS.