

GEOGRAPHIC INFORMATION SCIENCE, CERTIFICATE

Requirements for an undergraduate certificate may be completed at any campus location offering the specified courses for the certificate.

Program Requirements

To earn an undergraduate certificate in Geographic Information Science, a minimum of 12 credits is required.

Code	Title	Credits
Required Courses		
GEOG 260	Geographic Information in a Changing World: Introduction to GIScience	3
or GEOG 160	Mapping Our Changing World	
Select 9 credits from:		9
GEOG 361	Cartography--Maps and Map Construction	
GEOG 362	Remote Sensing and Image Analysis	
GEOG 363	Geographic Information Systems	
GEOG 364	Spatial Analysis	
GEOG 365	Intermediate GIS Programming	

Non-Course Requirements

Per University policy, all credit courses for a certificate require a grade of 'C' or higher, and at least two-thirds (2/3) of the credits used to complete a certificate must be earned at Penn State. If student is completing multiple certificates in Geography, no more than one (1) course may double-count for each.

Prerequisites not included in Geographic Information Science Certificate:

- GEOG 265 or ERM 300 or GEOG 161 or EME 210 or GEOSC 210 or METEO 273 or MATSE 219 or FOR 255 or FORT 260 or WILDL 211 or CMPSC 101 or CMPSC 121 or CMPSC 131 or IST 140: prerequisite for GEOG 361, GEOG 362, GEOG 363, GEOG 365
- STAT 200 or STAT 240 or STAT 250 or STAT 401 or PLSC 309) and (GEOG 265 or ERM 300 or FORT 260 or WILDL 211 or GEOG 161 or EME 210 or GEOSC 210 or METEO 273 or MATSE 219 or FOR 255 or CMPSC 101 or CMPSC 121 or CMPSC 131 or IST 140): prerequisite for GEOG 364