

GEOSPATIAL BIG DATA ANALYTICS, 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 Geospatial Big Data Analytics, a minimum of 12 credits is required.

Code	Title	Credits
Required Courses		
GEOG 365	Introduction to GIS Programming	3
Select 9 additional credits, including at least 3 credits in Analytics and 3 credits in Big Data.		9
<i>Analytics:</i>		
GEOG 461W	Dynamic Cartographic Representation	
GEOG 464	Advanced Spatial Analysis	
GEOG 465	Advanced Geographic Information Systems Modeling	
GEOG 485	GIS Programming and Software Development	
<i>Big Data:</i>		
GEOG 462	Advanced Observation of Earth and Its Environment	
GEOG 463	Geospatial Information Management	
GEOG 481	Topographic Mapping with Lidar	

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 Geospatial Big Data Certificate:

GEOG 260: prerequisite for GEOG 361, GEOG 362, GEOG 363, GEOG 365
 GEOG 361: prerequisite for GEOG 461W
 GEOG 362: prerequisite for GEOG 462, GEOG 481
 GEOG 363: prerequisite for GEOG 463, GEOG 465
 GEOG 364 or 300/400 level statistics course: prerequisite for GEOG 464