

# LANDSCAPE ECOLOGY, CERTIFICATE

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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 Landscape Ecology, a minimum of 12 credits is required.

Code	Title	Credits
<b>Required Courses</b>		
GEOG 210	Geographic Perspectives on Environmental Systems Science	3
GEOG 314	Biogeography and Global Ecology	3
GEOG 414	Principles and Applications in Landscape Ecology	3
Select 3 credits from:		3
GEOG 362	Image Analysis	
GEOG 365	Introduction to GIS Programming	
GEOG 430	Human Use of Environment	
GEOG 431	Geography of Water Resources	
GEOG 465	Advanced Geographic Information Systems Modeling	

Some "additional" course selections have prerequisites not included in the certificate: GEOG 160 or 260 is prerequisite for GEOG 362 and 365; GEOG 363 is prerequisite for GEOG 465.

### 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.