**GEOGRAPHY, B.S.**

**Begin Campus:** Any Penn State Campus

**End Campus:** University Park

**Degree Requirements**

For the Bachelor of Science degree in Geography, a minimum of 120 credits is required:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td>45</td>
</tr>
<tr>
<td>Electives</td>
<td>9</td>
</tr>
<tr>
<td>Requirements for the Major</td>
<td>75</td>
</tr>
</tbody>
</table>

9 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 6 credits of GQ courses; 3 credits of GWS courses.

**General Education**

Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements ([https://bulletins.psu.edu/undergraduate/general-education/baccalaureate-degree-general-education-program/](https://bulletins.psu.edu/undergraduate/general-education/baccalaureate-degree-general-education-program/)) section of the Bulletin and consult your academic adviser.

The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

**Foundations (grade of C or better is required.)**

- Quantification (GQ): 6 credits
- Writing and Speaking (GWS): 9 credits

**Knowledge Domains**

- Arts (GA): 6 credits
- Health and Wellness (GHW): 3 credits
- Humanities (GH): 6 credits
- Social and Behavioral Sciences (GS): 6 credits
- Natural Sciences (GN): 9 credits

**Integrative Studies (may also complete a Knowledge Domain requirement)**

- Inter-Domain or Approved Linked Courses: 6 credits

**University Degree Requirements**

**First Year Engagement**

All students enrolled in a college or the Division of Undergraduate Studies at University Park, and the World Campus are required to take 1 to 3 credits of the First-Year Seminar, as specified by their college First-Year Engagement Plan.

Other Penn State colleges and campuses may require the First-Year Seminar; colleges and campuses that do not require a First-Year Seminar provide students with a first-year engagement experience.

First-year baccalaureate students entering Penn State should consult their academic adviser for these requirements.

**Cultures Requirement**

6 credits are required and may satisfy other requirements

- United States Cultures: 3 credits
- International Cultures: 3 credits

**Writing Across the Curriculum**

3 credits required from the college of graduation and likely prescribed as part of major requirements.

**Total Minimum Credits**

A minimum of 120 degree credits must be earned for a baccalaureate degree. The requirements for some programs may exceed 120 credits. Students should consult with their college or department adviser for information on specific credit requirements.

**Quality of Work**

Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

**Limitations on Source and Time for Credit Acquisition**

The college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 ([http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80](http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80))). For more information, check the Suggested Academic Plan for your intended program.

**Requirements for the Major**

To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 ([http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44](http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44)).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescribed Courses: Require a grade of C or better</td>
<td></td>
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</tr>
<tr>
<td>EMSC 100S</td>
<td>Earth and Mineral Sciences First-Year Seminar</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 210</td>
<td>Geographic Perspectives on Environmental Systems Science</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 220</td>
<td>Perspectives on Human Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 230</td>
<td>Geographic Perspectives on Environment, Society and Sustainability</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 260</td>
<td>Geographic Information in a Changing World: Introduction to GIScience</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 301</td>
<td>Thinking Geographically</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 364</td>
<td>Spatial Analysis</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 390</td>
<td>Professional Development Seminar in Geography</td>
<td>1</td>
</tr>
<tr>
<td>GEOG 464</td>
<td>Advanced Spatial Analysis</td>
<td>3</td>
</tr>
<tr>
<td>STAT 200</td>
<td>Elementary Statistics</td>
<td>4</td>
</tr>
</tbody>
</table>
Additional Courses

Additional Courses: Require a grade of C or better

Calculus:
Select one of the following: 4
- MATH 83  Technical Calculus
- MATH 110  Techniques of Calculus I
- MATH 140  Calculus With Analytic Geometry I

Engaged Scholarship:
Select 3 credits from the following: 3
- GEOG 493  Service Learning (1-3 credits)
- GEOG 494  Research Project in Geography (1-3 credits)
- GEOG 494H  Research Project in Geography (1-3 credits)
- GEOG 495  Internship (1-3 credits)
- GEOG 495B  Geography Teaching Internship (1-3 credits)
- GEOG 495G  Geiscience Internship (1-3 credits)
- GEOG 499  Foreign Studies (1-3 credits)

Geographic Information Science Skills:
Select 6 credits from the following: 6
- GEOG 361  Cartography–Maps and Map Construction
- GEOG 362  Image Analysis
- GEOG 363  Geographic Information Systems
- GEOG 365  Introduction to GIS Programming

300-level geography:
Select 9 credits, not including courses taken above: 9
- GEOG 308  Research and Qualitative Inquiry in Geography
- GEOG 310  Introduction to Global Climatic Systems
- GEOG 310W  Introduction to Global Climatic Systems
- GEOG 314  Biogeography and Global Ecology
- GEOG 315  Landforms and Geomorphic Systems in the Anthropocene
- GEOG 320  Urban Geography: A Global Perspective
- GEOG 324  Place, Space and Culture
- GEOG 326  Geographic Perspectives on Economic Systems
- GEOG 328  War, Peace, and Diplomacy: Understanding Contemporary Geopolitics
- GEOG 330N  Political Ecology
- GEOG 333  Human Dimensions of Natural Hazards

400-level geography:
Select 12 credits, not including courses taken above: 12
- GEOG 410  Climatic Change and Variability
- GEOG 411  Forest Geography
- GEOG 411W  Forest Geography
- GEOG 412W  Climatic Change and Variability
- GEOG 414  Principles and Applications in Landscape Ecology
- GEOG 420Y  Comparative Urbanism
- GEOG 421  Population Geography
- GEOG 422W  Globalization, Migration, and Displacement
- GEOG 424  Geography of the Global Economy
- GEOG 424W  Geography of the Global Economy
- GEOG 425  Geography of Race, Class, and Poverty in America
- GEOG 426W  Gendered Worlds
- GEOG 428W  Political Geography

Supporting Courses and Related Areas
Select 12 credits in geography or related areas (not used above) in consultation with adviser: 12
- GEOG 430  Human Use of Environment
- GEOG 431  Geography of Water Resources
- GEOG 432  Energy Policy
- GEOG 433  Geographies of Justice
- GEOG 434  Politics of the Environment
- GEOG 436  Ecology, Economy, and Society
- GEOG 438W  Human Dimensions of Global Warming
- GEOG 439  Property and the Global Environment
- GEOG 444  African Resources and Development
- GEOG 461W  Dynamic Cartographic Representation
- GEOG 462  Advanced Observation of Earth and Its Environment
- GEOG 463  Geospatial Information Management
- GEOG 465  Advanced Geographic Information Systems Modeling
- GEOG 467  Applied Cartographic Design
- GEOG 481  Topographic Mapping with Lidar
- GEOG 485  GIS Programming and Software Development
- GEOG 493  Service Learning (1-3 credits)
- GEOG 494  Research Project in Geography (1-3 credits)
- GEOG 494H  Research Project in Geography (1-3 credits)
- GEOG 495  Internship (1-3 credits)
- GEOG 495B  Geography Teaching Internship (1-3 credits)
- GEOG 495G  Geiscience Internship (1-3 credits)
- GEOG 496  Independent Studies (1-3 credits)
- GEOG 497  Special Topics
- GEOG 498  Special Topics
- GEOG 499  Foreign Studies (1-6 credits)