GEOSCIENCES, B.A.

Begin Campus: Any Penn State Campus
End Campus: University Park

Degree Requirements
For the Bachelor of Arts degree in Geosciences, a minimum of 120 credits is required:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td>General Education</td>
<td>45</td>
</tr>
<tr>
<td>Bachelor of Arts Degree Requirements</td>
<td>24</td>
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<tr>
<td>Requirements for the Major</td>
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</table>

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

3 of the 24 credits for Bachelor of Arts Degree Requirements are included in the Requirements for the Major, General Education, or Electives and 0-12 credits are included in Electives if foreign language proficiency is demonstrated by examination.

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 (https://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>
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<tbody>
<tr>
<td>EMSC 100S</td>
<td>Earth and Mineral Sciences First-Year Seminar</td>
<td>3</td>
</tr>
<tr>
<td>GEOC 1</td>
<td>Physical Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOC 201</td>
<td>Earth Materials</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 15</td>
<td>Rhetoric and Composition</td>
<td>3</td>
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<tr>
<td>or ENGL 30H</td>
<td>Honors Rhetoric and Composition</td>
<td></td>
</tr>
<tr>
<td>MATH 140</td>
<td>Calculus With Analytic Geometry I</td>
<td>4</td>
</tr>
<tr>
<td>or MATH 110</td>
<td>Techniques of Calculus I</td>
<td></td>
</tr>
</tbody>
</table>

Select one of the following: 4
- GEOC 202 Chemical Processes in Geology
- GEOC 203 Physical Processes in Geology
- GEOC 204 Geobiology

Select 2 of the following 3 sequences for 8 credits each and a third sequence for 4 credits:

| BIOL 110 | Biology: Basic Concepts and Biodiversity and Biology: Populations and Communities | 2     |
| & BIOL 220W | | 2    |
| CHEM 110 | Chemical Principles I                    | 2     |
| & CHEM 111 | and Experimental Chemistry I            | 2    |
| & CHEM 112 | and Chemical Principles II              | 2    |
| & CHEM 113 | and Experimental Chemistry II           | 2    |
| PHYS 250 | Introductory Physics I                   | 2     |
| & PHYS 251 | and Introductory Physics II              | 2    |

Select 2-4 credits of advanced mathematics in consultation with an adviser 4

Select 6 credits from 300- and 400-level GEOC courses 6

Select 3 credits of appropriate field/laboratory experience in consultation with adviser 3

Select 3 credits of writing-intensive courses from within Earth and Mineral Sciences to include, but not limited to the following:

| GEOG 310 | Introduction to Global Climatic Systems | 3-4    |
| GEOG 412 | |         |
| GEOC 402Y | Natural Disasters | 3-4   |
| GEOC 470W | Introduction to Field Geology | 3-4    |
| METEO 471 | |         |

Additional Courses: Require a grade of C or better
- GEOC 310 Earth History 3-4
- or GEOC 320 Geology of Climate Change 3-4

Supporting Courses and Related Areas
Select 11-14 credits in consultation with adviser (students may apply 1-14 6 credits of ROTC)

1 The following substitutions are allowed for students attending campuses where the indicated course is not offered: CAS 100 or ENGL 202C can be substituted for EMSC 100S.
2 If GEOC 1 is not available, GEOC 20 may be substituted.
3 PHYS 211, PHYS 212, PHYS 213, PHYS 214 may substitute for up to 8 credits in Physics for students with MATH 140, MATH 141.
4 List includes:
   - MATH 111
   - MATH 141
   - STAT 200
   - STAT 250

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/) 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 and Inter-Domain courses do not meet this requirement.)
- Quantification (GQ): 6 credits
- Writing and Speaking (GWS): 9 credits

Breadth in the Knowledge Domains (Inter-Domain courses do not meet this requirement.)
- Arts (GA): 3 credits
- Health and Wellness (GHW): 3 credits
• Humanities (GH): 3 credits
• Social and Behavioral Sciences (GS): 3 credits
• Natural Sciences (GN): 3 credits

Integrative Studies
• Inter-Domain Courses (Inter-Domain): 6 credits

Exploration
• GN, may be completed with Inter-Domain courses: 3 credits
• GA, GH, GN, GS, Inter-Domain courses. This may include 3 credits of World Language course work beyond the 12th credit level or the requirements for the student’s degree program, whichever is higher: 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 (https://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.

B.A. Degree Requirements

Foreign Language (0-12 credits): Student must attain 12th credit level of proficiency in one foreign language. See the Placement Policy for Penn State Foreign Language Courses (https://bulletins.psu.edu/undergraduate/general-information/academic-information/advising-