BACHELOR OF ARTS WITH A MAJOR IN GEOLOGICAL SCIENCES (STEM)

The Geological Sciences Program takes advantage of GW’s rich geological setting, located near the Appalachian Mountains and within one of the major concentrations of geologists and geologically-related professionals in the country. Students are equipped with knowledge on a broad range of geological topics—including mineralogy, petrology, geochemistry, paleontology, sedimentology, stratigraphy, and applied environmental applications—all with an emphasis on field-based studies. Departmental faculty members are engaged in research on geology and paleontology, with many of them practicing research scientists from the U.S. Geological Survey, environmental firms, the Smithsonian Institution, and other agencies in Washington, DC. Working alongside the full-time faculty, students are provided with an education that goes beyond the classroom. Program graduates are prepared for a wide range of career opportunities in fields such as environmental science, geology, science education, and more.

This is a STEM designated program.

Visit the program website (https://geology.columbian.gwu.edu/) for additional information.

ADMISSIONS

For information about the admission process, including deadlines, visit the Office of Undergraduate Admissions website (https://undergraduate.admissions.gwu.edu/). Applications can be submitted via the Common Application (https://go.gwu.edu/commonapp/).

Supporting documents not submitted online should be mailed to:

Office of Undergraduate Admissions
The George Washington University
800 21st St NW Suite 100
Washington, DC 20052

For questions visit undergraduate.admissions.gwu.edu/contact-us (http://undergraduate.admissions.gwu.edu/contact-us/).

REQUIREMENTS

The following requirements must be fulfilled:

The general requirements stated under Columbian College of Arts and Sciences, Undergraduate Programs (https://bulletin.gwu.edu/arts-sciences/#degreeeregulationstext).

Program-specific curriculum:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 1002</td>
<td>Historical Geology</td>
<td></td>
</tr>
<tr>
<td>GEOL 1001</td>
<td>Physical Geology</td>
<td></td>
</tr>
<tr>
<td>GEOL 1005</td>
<td>Environmental Geology</td>
<td></td>
</tr>
</tbody>
</table>

Required courses in related areas:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1111</td>
<td>General Chemistry I</td>
<td></td>
</tr>
<tr>
<td>CHEM 1112</td>
<td>General Chemistry II</td>
<td></td>
</tr>
</tbody>
</table>

Required courses for the major:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 2111</td>
<td>Mineralogy</td>
<td></td>
</tr>
<tr>
<td>GEOL 2112</td>
<td>Igneous and Metamorphic Petrology</td>
<td></td>
</tr>
<tr>
<td>GEOL 2122</td>
<td>Structural Geology</td>
<td></td>
</tr>
<tr>
<td>GEOL 3128</td>
<td>Sedimentology and Stratigraphy</td>
<td></td>
</tr>
<tr>
<td>GEOL 3129</td>
<td>Sedimentology and Stratigraphy Lab</td>
<td></td>
</tr>
<tr>
<td>GEOL 4195</td>
<td>Geological Field Methods</td>
<td></td>
</tr>
</tbody>
</table>

Three upper-level elective courses selected from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 2106</td>
<td>Oceanography</td>
<td></td>
</tr>
<tr>
<td>GEOL 2151</td>
<td>Introduction to Paleontology</td>
<td></td>
</tr>
<tr>
<td>GEOL 2190</td>
<td>Special Topics in Geology (3 credits only)</td>
<td></td>
</tr>
<tr>
<td>GEOL 2333</td>
<td>Evolution and Extinction of Dinosaurs</td>
<td></td>
</tr>
<tr>
<td>GEOL 3118</td>
<td>Volcanology</td>
<td></td>
</tr>
<tr>
<td>GEOL 3123</td>
<td>Crustal Dynamics</td>
<td></td>
</tr>
<tr>
<td>GEOL 3131</td>
<td>Global Climate Change</td>
<td></td>
</tr>
<tr>
<td>GEOL 3138</td>
<td>Hydrogeology</td>
<td></td>
</tr>
<tr>
<td>GEOL 3140</td>
<td>Geochemistry</td>
<td></td>
</tr>
<tr>
<td>GEOL 3191</td>
<td>Geology of Energy Resources</td>
<td></td>
</tr>
<tr>
<td>GEOL 4199</td>
<td>Undergraduate Research or Reading (3 credits only)</td>
<td></td>
</tr>
</tbody>
</table>

GENERAL EDUCATION

In addition to the University General Education Requirement (https://bulletin.gwu.edu/university-regulations/general-education/), undergraduate students in Columbian College must complete a further, College-specific general education curriculum—Perspective, Analysis, Communication (G-PAC) (https://bulletin.gwu.edu/arts-sciences/gpac/) as well as the course CCAS 1001 First-Year Experience. Together with the University
General Education Requirement, G-PAC engages students in active intellectual inquiry across the liberal arts. Students achieve a set of learning outcomes that enhance their analytical skills, develop their communication competencies, and invite them to participate as responsible citizens who are attentive to issues of culture, diversity, and privilege.

Coursework for the University General Education Requirement is distributed as follows:

- One course in critical thinking in the humanities.
- Two courses in critical thinking, quantitative reasoning, or scientific reasoning in the social sciences.
- One course that has an approved oral communication component.
- One course in quantitative reasoning (must be in mathematics or statistics).
- One course in scientific reasoning (must be in natural and/or physical laboratory sciences).
- UW 1020 (https://bulletin.gwu.edu/search/?P=UW%201020) University Writing (4 credits).
- After successful completion of UW 1020, 6 credits distributed over at least two writing in the discipline (WID) courses taken in separate semesters. WID courses are designated by a "W" appended to the course number.

Coursework for the CCAS G-PAC requirement is distributed as follows:

- Arts—one approved arts course that involves the study or creation of artwork based on an understanding or interpretation of artistic traditions or knowledge of art in a contemporary context.
- Global or cross-cultural perspective—one approved course that analyzes the ways in which institutions, practices, and problems transcend national and regional boundaries.
- Local or civic engagement—one approved course that develops the values, ethics, disciplines, and commitment to pursue responsible public action.
- Natural or physical science—one additional approved laboratory course that employs the process of scientific inquiry (in addition to the one course in this category required by the University General Education Requirement).
- Humanities—one additional approved humanities course that involves critical thinking skills (in addition to the one course in this category required by the University General Education Requirement).
- CCAS 1001 First-Year Experience

Certain courses are approved to fulfill GPAC requirements in more than one category.

Courses taken in fulfillment of G-PAC requirements may also be counted toward majors or minors. Transfer courses taken prior to, but not after, admission to George Washington University may count toward the University General Education Requirement and G-PAC, if those transfer courses are equivalent to GW courses that have been approved by the University and the College.

Lists of approved courses in the above categories are included on each undergraduate major’s (https://bulletin.gwu.edu/arts-sciences/#majorstext) page in this Bulletin.

SPECIAL HONORS

In addition to the general requirements stated under University Regulations, in order to be considered for graduation with Special Honors, candidates must maintain a cumulative grade-point average of 3.3 both overall and for courses in the major, and must submit an approved Honors thesis.