Bachelor of Science Degree in Geology

The Bachelor of Science degree in Geology provides opportunities to prepare for careers in the geosciences (for example, petroleum, mining, water resources, environmental management, governmental agencies, engineering geology, geochemistry, geophysics, and natural resources) and for successful studies in graduate school.

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120, at least 39 of which must be at the upper-division level.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements: Students seeking the Bachelor of Science degree in Geology must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed in the table below satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree. For a complete listing of courses that satisfy the Core Curriculum requirements, see pages 5–9 of this catalog.

<table>
<thead>
<tr>
<th>Core Curriculum Component Area</th>
<th>Courses that Satisfy Core Curriculum and Degree Requirements</th>
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</table>
| **Communications**                             | English Rhetoric/Composition (6 semester credit hours)  
All students must take the following six hours to meet this core requirement:  
WRC 1013 Freshman Composition I  
WRC 1023 Freshman Composition II                                                      |
| **Mathematics**                                | Mathematics (3 semester credit hours)  
The core curriculum mathematics requirement is automatically fulfilled in obtaining a B.S. degree in Geology.                     |
| **Natural Sciences**                           | Science (6 semester credit hours)  
The core curriculum science requirement is automatically fulfilled in obtaining a B.S. degree in Geology.                     |
| **Humanities & Visual and Performing Arts**    | Literature (3 semester credit hours)  
Any three hours listed under this section in the list of core courses will satisfy this core requirement.                    |
|                                                 | The Arts (3 semester credit hours)  
Any three hours listed under this section in the list of core courses will satisfy this core requirement.                    |
| **Social and Behavioral Sciences**             | United States History and Diversity (6 semester credit hours)  
Any six hours listed under this section in the list of core courses will satisfy this core requirement.                      |
|                                                 | Political Science (6 semester credit hours)  
POL 1013 Introduction to American Politics, plus three additional hours listed under this section in the list of core courses will satisfy this core requirement. |
|                                                 | Social and Behavioral Science (3 semester credit hours)  
Any three hours listed under this section in the list of core courses will satisfy this core requirement.                   |
|                                                 | Economics (3 semester credit hours)  
Any three hours listed under this section in the list of core courses will satisfy this core requirement.                  |
| **World Society and Issues**                   | (3 semester credit hours)  
Any three hours listed under this section in the list of core courses will satisfy this core requirement.                   |
Degree Requirements

A. 62 semester credit hours in geology completed with a grade of “C” or better:

1. 56 semester credit hours of required courses:

   GEO 1103, 1111  Introduction to Earth Systems and Laboratory
   GEO 1123, 1131  Earth History and Laboratory
   GEO 2003, 2012  Mineralogy and Laboratory
   GEO 2113        Fundamentals of Geographic Information Systems (GIS)
   GEO 3043, 3052  Petrology and Laboratory
   GEO 3103, 3111  Structural Geology and Laboratory
   GEO 3112        Geologic Field Investigations
   GEO 3123, 3131  Sedimentary Geology and Laboratory
   GEO 3153, 3162  Paleontology and Stratigraphy and Laboratory
   GEO 3374        Geochemistry
   GEO 3383        General Geophysics
   GEO 4113, 4121  Geomorphology and Laboratory
   GEO 4623        Ground-Water Hydrology
   GEO 4933        Field Geology Part I
   GEO 4943        Field Geology Part II

2. 6 additional semester credit hours selected from the following courses. Students should meet with the College of Sciences Advising Center and/or a member of the Department of Geological Sciences to verify that they have taken the necessary prerequisites.

   GEO  2123  Advanced Geographic Information Systems (GIS)
   GEO  3013  Global Positioning System (GPS) Mapping for GIS
   GEO  3033  Programming for Geographic Information Systems (GIS)
   GEO  3143, 3151 Economic Geology and Laboratory
   GEO  3163  Oceanography
   GEO  3393  Introduction to Isotope Geochemistry
   GEO  4013  Volcanology
   GEO  4023  Engineering Geology
   GEO  4063  Environmental Geology
   GEO  4093  Principles of Remote Sensing
   GEO  4803  Analytical Methods in Geology
   GEO  4911-3 Independent Study
   GEO  4951-3 Special Studies in Geology
   GEO  4993  Honors Research

B. 25 required semester credit hours in the College of Sciences:

   CHE  1103  General Chemistry I
   CHE  1113  General Chemistry II
   CS   1073  Introductory Computer Programming for Scientific Applications
               or
   CS   1173  Data Analysis and Visualization using MATLAB
               or
   CS   2073  Computer Programming with Engineering Applications
   MAT   1214  Calculus I
   MAT   1224  Calculus II

Either

   PHY  1603, 1611  Algebra-based Physics I and Laboratory
   PHY  1623, 1631  Algebra-based Physics II and Laboratory
               or
   PHY  1943, 1951  Physics for Scientists I and Laboratory
   PHY  1963, 1971  Physics for Scientists II and Laboratory