Geology

Department Information

- **Department Location:** Stevens Hall
- **Department Phone:** 701-231-8455
- **Department Web Site:** www.ndsu.edu/geosci/
- **Credential Offered:** B.S.; B.A.
- **Plan Of Study Sample:** bulletin.ndsu.edu/programs-study/undergraduate/geology/#planofstudytext

Major Requirements

**Major: Geology**

**Degree Type:** B.A. or B.S.

**Minimum Degree Credits to Graduate:** 122

University Degree Requirements

1. Satisfactory completion of all requirements of the curriculum in which one is enrolled.
2. Earn a minimum total of 120 credits in approved coursework. Some academic programs exceed this minimum.
3. Satisfactory completion of the general education requirements as specified by the university.
4. A minimum institutional GPA of 2.00 based on work taken at NDSU.
5. At least 36 credits presented for graduation must be in courses numbered 300 or higher.
6. Transfer Students: Must earn a minimum of 60 credits from a baccalaureate-degree granting or professional institution.
   a. Of these 60, at least 36 must be NDSU resident credits as defined in #7.
   b. Within the 36 resident credits, a minimum of 15 must be in courses numbered 300 or higher and 15 credits in the major field of study.
7. At least 36 credits must be NDSU resident credits. Resident credits include credits registered and paid for at NDSU.

For complete information, please refer to the Degree and Graduation Requirements (http://bulletin.ndsu.edu/academic-policies/undergraduate-policies/degree-and-graduation) section of this Bulletin.

University General Education Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 110</td>
<td>College Composition I</td>
<td></td>
</tr>
<tr>
<td>ENGL 120</td>
<td>College Composition II</td>
<td></td>
</tr>
<tr>
<td>COMM 110</td>
<td>Fundamentals of Public Speaking</td>
<td></td>
</tr>
</tbody>
</table>

Upper Division Writing †

Quantitative Reasoning (R) †

Science and Technology (S) †

Humanities and Fine Arts (A) †

Social and Behavioral Sciences (B) †

Wellness (W) †

Cultural Diversity (D) ††

Global Perspectives (G) ††

Total Credits 39

* May be satisfied by completing courses in another General Education category.
† General education courses may be used to satisfy requirements for both general education and the major, minor, and program emphases, where applicable. Students should carefully review major requirements to determine if specific courses can also satisfy these general education categories.
A list of university approved general education courses and administrative policies are available here (http://bulletin.ndsu.edu/academic-policies/undergraduate-policies/general-education/#genedcoursedtext).

**College Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bachelor of Arts (BA) Degree – An additional 12 credits Humanities and</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Social Sciences and proficiency at the second year level in a modern</td>
<td></td>
</tr>
<tr>
<td></td>
<td>foreign language.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bachelor of Science (BS) Degree – An additional 6 credits in Humanities</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>or Social Sciences</td>
<td></td>
</tr>
</tbody>
</table>

* Humanities and Social Sciences may be fulfilled by any course having the following prefix: ADHM, ANTH, ARCH, ART, CJ, CLAS, COMM, ECON, ENGL, FREN, GEOG, GERM, HDFS, HIST, LA, LANG, MUSC, PHIL, POLS, PSYC, RELS, SOC, SPAN, THEA, WGS, or any course from the approved list of general education courses in humanities and social sciences (general education categories A and B). These credits must come from outside the department of the student's major.

**Major Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Geology Core Requirements</td>
<td></td>
</tr>
<tr>
<td>GEOG 455</td>
<td>Introduction to Geographic Information Systems</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 105</td>
<td>Physical Geology</td>
<td>4</td>
</tr>
<tr>
<td>&amp; 105L</td>
<td>and Physical Geology Lab (May satisfy general education category S)</td>
<td></td>
</tr>
<tr>
<td>GEOL 106</td>
<td>The Earth Through Time</td>
<td>4</td>
</tr>
<tr>
<td>&amp; 106L</td>
<td>and The Earth Through Time Lab</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select one of the following:</td>
<td>2</td>
</tr>
<tr>
<td>GEOL 301</td>
<td>Lake Superior Field Course</td>
<td></td>
</tr>
<tr>
<td>GEOL 302</td>
<td>Black Hills Field Course</td>
<td></td>
</tr>
<tr>
<td>GEOL 496</td>
<td>Field Experience</td>
<td></td>
</tr>
<tr>
<td>GEOL 350</td>
<td>Invertebrate Paleontology</td>
<td>4</td>
</tr>
<tr>
<td>&amp; GEOL 303</td>
<td>and Paleontology Field Course</td>
<td></td>
</tr>
<tr>
<td>GEOL 410</td>
<td>Sedimentology/Stratigraphy</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 412</td>
<td>Geomorphology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 420</td>
<td>Mineralogy</td>
<td>4</td>
</tr>
<tr>
<td>&amp; GEOL 421</td>
<td>and Mineralogy Laboratory</td>
<td></td>
</tr>
<tr>
<td>GEOL 422</td>
<td>Petrology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 423</td>
<td>Petrography</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 450</td>
<td>Field Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 457</td>
<td>Structural Geology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 491</td>
<td>Seminar (Junior Year)</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 491</td>
<td>Seminar (Senior Year)</td>
<td>1</td>
</tr>
<tr>
<td>SOIL 444</td>
<td>Soil Genesis and Survey</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Related Required Courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select one of the following chemistry sequences :</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Sequence A:</td>
<td></td>
</tr>
<tr>
<td>CHEM 121</td>
<td>General Chemistry I</td>
<td></td>
</tr>
<tr>
<td>&amp; 121L</td>
<td>and General Chemistry I Laboratory</td>
<td></td>
</tr>
<tr>
<td>CHEM 122</td>
<td>General Chemistry II</td>
<td></td>
</tr>
<tr>
<td>&amp; 122L</td>
<td>and General Chemistry II Laboratory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sequence B:</td>
<td></td>
</tr>
<tr>
<td>CHEM 150</td>
<td>Principles of Chemistry I</td>
<td></td>
</tr>
<tr>
<td>&amp; CHEM 160</td>
<td>and Principles of Chemistry Laboratory I</td>
<td></td>
</tr>
<tr>
<td>CHEM 151</td>
<td>Principles of Chemistry II</td>
<td></td>
</tr>
<tr>
<td>&amp; CHEM 161</td>
<td>and Principles of Chemistry Laboratory II</td>
<td></td>
</tr>
<tr>
<td>ENGL 324</td>
<td>Writing in the Sciences</td>
<td>3</td>
</tr>
<tr>
<td>MATH 165</td>
<td>Calculus I (May satisfy general education category S)</td>
<td>4</td>
</tr>
<tr>
<td>MATH 166</td>
<td>Calculus II</td>
<td>4</td>
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</tbody>
</table>
Select one of the following physics sequences:

**Sequence A:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 211 &amp; 211L</td>
<td>College Physics I and College Physics I Laboratory</td>
<td>8-10</td>
</tr>
<tr>
<td>PHYS 212 &amp; 212L</td>
<td>College Physics II and College Physics II Laboratory</td>
<td></td>
</tr>
</tbody>
</table>

**Sequence B:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 251 &amp; 251L</td>
<td>University Physics I and University Physics I Laboratory</td>
<td>3-4</td>
</tr>
<tr>
<td>PHYS 252 &amp; 252L</td>
<td>University Physics II and University Physics II Laboratory</td>
<td></td>
</tr>
</tbody>
</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 122</td>
<td>Visual BASIC</td>
</tr>
<tr>
<td>CSCI 160</td>
<td>Computer Science I</td>
</tr>
<tr>
<td>CSCI 227</td>
<td>Computing Fundamentals I</td>
</tr>
</tbody>
</table>

**Total Credits**

75-78

**Program notes**

- Except for courses offered only as pass/fail grading, no course may be taken Pass/Fail.
- Majors planning on graduate studies should be aware that a summer field camp course may be required for graduate admission. This course is recommended to be taken during the summer following the junior or senior year. Information on field camp courses and a small departmental scholarship to support these studies may be obtained from an adviser.

**Geology Minor**

**Minor Requirements**

**Required Credits:** 18

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Required Courses</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>All minor courses must be selected in consultation with a Department of Geosciences adviser.</td>
<td>18</td>
</tr>
</tbody>
</table>

**Total Credits**

18

**Minor Requirements and Notes**

- A minimum of 8 credits must be taken at NDSU.
- Select geography and soil science courses may be substituted for geology courses. A substitution form must be submitted to the Office of Registration and Records for approved substitutions.
- The student and adviser will complete a substitution form with the courses to be used for the geology minor. This form will also require the signature of the department chairperson before being submitted to the Office of Registration and Records for verification of minor program completion.
- Note: This minor will not be available for view in the Student Advisement/Requirement Report in Campus Connection until the substitution form has been received and processed.