INTERNATIONAL FIELD GEOSCIENCES JOINT

Bachelor of Science - International Field Geos Joint

College Humanities & Sciences

Degree Specific Credits: 108
Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

Note: This degree is designed specifically for students who seek to combine a rigorous education in the Geosciences with a yearlong international Geosciences experience and an emphasis on field-based learning. It requires attending classes and living overseas. Most of the course work completed during the year abroad will take place at University College Cork (UCC) in Ireland. For students who satisfy all degree requirements, a joint B.S. degree in International Field Geosciences will be awarded by The University of Montana and the University College Cork.

General Education Requirements
Information regarding these requirements can be found in the General Education Section (http://catalog.umt.edu/academics/general-education-requirements) of the catalog.

Summary

Lower Division Core 12
Upper Division Core 12
Degree Electives 15
Physics 10
Chemistry 8-10
Math 7-8
Computer Science 3-4
Upper Division Writing 4
Languages 8
German
Irish
Overseas Coursework 33-36
Total Hours 112-119

Lower Division Core
Rule: Must complete all of the following courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 101N</td>
<td>Introduction to Physical Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEO 102N</td>
<td>Introduction to Physical Geology Lab</td>
<td>1</td>
</tr>
<tr>
<td>GEO 211</td>
<td>Earth's History and Evolution</td>
<td>4</td>
</tr>
<tr>
<td>GEO 225</td>
<td>Earth Materials</td>
<td>4</td>
</tr>
</tbody>
</table>
Total Hours   |                                                   | 12      |
Minimum Required Grade: C-

Upper Division Core
Rule: Must complete all of the following subcategories

Minimum Required Grade: C-
12 Total Credits Required

Subcategory 1
Rule: Must complete all of the following courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 315</td>
<td>Structural Geology</td>
<td>4</td>
</tr>
<tr>
<td>GEO 318</td>
<td>Climate System Dynamics</td>
<td>4</td>
</tr>
</tbody>
</table>
Total Hours   |                                                   | 8       |
Minimum Required Grade: C-

Subcategory 2
Rule: Must complete 1 of the following courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 309</td>
<td>Sedimentation/Stratigraphy</td>
<td>4</td>
</tr>
<tr>
<td>or GEO 443</td>
<td>Principles of Sedimentary Petrology</td>
<td></td>
</tr>
</tbody>
</table>
Total Hours   |                                                   | 4       |
Minimum Required Grade: C-

Degree Electives
Select 15 credits from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 305</td>
<td>Igneous &amp; Metamorph Petrology</td>
<td></td>
</tr>
<tr>
<td>GEO 309</td>
<td>Sedimentation/Stratigraphy</td>
<td></td>
</tr>
<tr>
<td>GEO 311</td>
<td>Paleobiology</td>
<td></td>
</tr>
<tr>
<td>GEO 320</td>
<td>Global Water</td>
<td></td>
</tr>
<tr>
<td>GEO 327</td>
<td>Geochemistry</td>
<td></td>
</tr>
<tr>
<td>GEO 420</td>
<td>Hydrogeology</td>
<td></td>
</tr>
<tr>
<td>GEO 433</td>
<td>Global Tectonics</td>
<td></td>
</tr>
<tr>
<td>GEO 443</td>
<td>Principles of Sedimentary Petrology</td>
<td></td>
</tr>
<tr>
<td>GEO 460</td>
<td>Process Geomorphology</td>
<td></td>
</tr>
<tr>
<td>GEO 491</td>
<td>Special Topics</td>
<td></td>
</tr>
</tbody>
</table>
Total Hours   |                                                   | 15      |
Minimum Required Grade: C-

Physics
10 Total Credits Required

Select one of the following sequences:

<table>
<thead>
<tr>
<th>Option 1:</th>
<th></th>
<th>Option 2 with Calculus:</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHSX 205N</td>
<td>College Physics I</td>
<td>PHSX 215N</td>
</tr>
<tr>
<td>PHSX 206N</td>
<td>College Physics I Laboratory</td>
<td>Fund of Physics w/Calc I</td>
</tr>
<tr>
<td>PHSX 207N</td>
<td>College Physics II</td>
<td>PHSX 216N</td>
</tr>
<tr>
<td>PHSX 208N</td>
<td>College Physics II Laboratory</td>
<td>Fund of Physics w/Calc II</td>
</tr>
<tr>
<td>Course Code</td>
<td>Description</td>
<td>Credits</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
<td>---------</td>
</tr>
<tr>
<td>PHSX 218N</td>
<td>Physics Laboratory II w/Calc</td>
<td>10</td>
</tr>
<tr>
<td>GEO 320</td>
<td>Global Water</td>
<td>4</td>
</tr>
</tbody>
</table>

**Chemistry**

**Rule:** Must complete 1 of the following subcategories

- **Chemistry Option 1**
  - CHMY 121N: Introduction to General Chemistry 
  - CHMY 123: Introduction to Organic and Biochemistry
  - CHMY 124: and Introduction to Organic and Biochemistry Lab
  - Total Credits Required: 8

- **Chemistry Option 2**
  - CHMY 141N: College Chemistry I
  - CHMY 142N: and College Chemistry I Lab
  - CHMY 143N: College Chemistry II
  - CHMY 144N: and College Chemistry II Lab
  - Total Credits Required: 10

**Minimum Required Grade:** C-

**Math**

**Rule:** Must complete 1 of the following subcategories

- **Math Option 1**
  - M 162: Applied Calculus
  - Total Credits Required: 7

- **Math Option 2**
  - M 171: Calculus I
  - M 172: Calculus II
  - Total Credits Required: 8

**Minimum Required Grade:** C-

**Computer Science**

Select one of the following: 3-4

- CSCI 250: Computer Mldng/Science Majors
- GPHY 284: Intro to GIS and Cartography
- STAT 216: Introduction to Statistics

**Total Hours:** 3-4

**Minimum Required Grade:** C-

**Upper Division Writing**

**Rule:** Must complete the following course

**Note:** This course is recommended to complete the upper division writing requirement in Geosciences but students may also select from the university-approved list of upper division writing courses to fulfill this requirement.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 320</td>
<td>Global Water</td>
</tr>
</tbody>
</table>

**Languages**

**Rule:** Must complete 1 of the following subcategories (the "test out provision" applies as administered by the Department of Modern and Classical Languages and Literatures).

- **German**
  - GRMN 101: Elementary German I
  - Total Hours: 4
  - Minimum Required Grade: C-

- **Irish**
  - IRSH 101: Elementary Irish
  - Total Hours: 4
  - Minimum Required Grade: C-

**Overseas Coursework**

**Rule:** Must complete the following courses and field work at University College of Cork and Potsdam University

**Note:** In addition to Geosciences coursework completed at UM students must complete the following:

1. 1 formal field course module run by University College Cork, selected from
   - a. GL 2016 (Easter Field Course - Dingle Peninsula)
   - b. GL 3019 (Easter Field Course - Western Scotland)
   - c. ER 3002 (Easter Field Course - North Clare)
   - d. GL 4008 (Easter Field Course - Central Greece)
   - e. another equivalent-level field course run by UCC and approved apriori by their UCC and UM advisors

2. While in residence at Cork, students must complete any 9 of the following courses in consultation with their UCC and UM advisors
   - a. Sed Processes and Petrology
   - b. Igneous and MM Petrology
   - c. Invertebrate Paleontology & Evolution
   - d. Plate Tectonics & Global Geophysics
   - e. Igneous Petrogenesis & Geochemistry
   - f. Metamorphism & Geochronology
   - g. Advanced Structural Geology
   - h. Sedimentary Environments
   - i. Stratigraphy & Geologic Maps
   - j. Environmental Geology
k. Terr Ecosystems Through Time
l. Micropaleontology & Palynology
m. Petroleum Geology & Basin Analysis
n. Applied Geophysics & Computer Applications
o. Advanced Igneous Petrology
p. Hydrogeology

3. 1 formal upper-level Geosciences course at Potsdam University. Recommended are courses that focus on computer-based visualization or geoscience data using GIS or other visualization platforms.

Minimum Required Grade: C-

33-36 Total Credits Required