**INTERNATIONAL FIELD GEO SCIENCES 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</th>
<th>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>
<tr>
<td><strong>Total Hours</strong></td>
<td><strong>12</strong></td>
<td></td>
</tr>
</tbody>
</table>

Minimum Required Grade: C-

**Upper Division Core**

**Rule:** Must complete all of the following subcategories  
12 Total Credits Required

**Subcategory 1**

**Rule:** Must complete all of the following courses  
Total Hours: 8  
Minimum Required Grade: C-

**Subcategory 2**

**Rule:** Must complete 1 of the following courses  
Total Hours: 4  
Minimum Required Grade: C-

**Degree Electives**

Select 15 credits from the following:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>TITLE</th>
<th>CREDITS</th>
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</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>
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<tr>
<td><strong>Total Hours</strong></td>
<td><strong>15</strong></td>
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</tr>
</tbody>
</table>

Minimum Required Grade: C-

**Physics**

10 Total Credits Required

Select one of the following sequences:

**Option 1:**

<table>
<thead>
<tr>
<th>COURSE</th>
<th>TITLE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PHSX 205N</td>
<td>College Physics I</td>
<td></td>
</tr>
<tr>
<td>PHSX 206N</td>
<td>College Physics I Laboratory</td>
<td></td>
</tr>
<tr>
<td>PHSX 207N</td>
<td>College Physics II</td>
<td></td>
</tr>
<tr>
<td>PHSX 208N</td>
<td>College Physics II Laboratory</td>
<td></td>
</tr>
</tbody>
</table>

**Option 2 with Calculus:**

<table>
<thead>
<tr>
<th>COURSE</th>
<th>TITLE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PHSX 215N</td>
<td>Fund of Physics w/Calc I</td>
<td></td>
</tr>
<tr>
<td>PHSX 216N</td>
<td>Physics Laboratory I w/Calc</td>
<td></td>
</tr>
<tr>
<td>PHSX 217N</td>
<td>Fund of Physics w/Calc II</td>
<td></td>
</tr>
</tbody>
</table>
PHSX 218N Physics Laboratory II w/Calc
Total Hours 10
Minimum Required Grade: C-

Chemistry
Rule: Must complete 1 of the following subcategories
8-10 Total Credits Required
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
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
Minimum Required Grade: C-

Math
Rule: Must complete 1 of the following subcategories
7-8 Total Credits Required
Math Option 1
M 162 Applied Calculus
M 263 (Applied Differential Equations)
Math Option 2
M 171 Calculus I
M 172 Calculus II
Minimum Required Grade: C-

Computer Science
Select one of the following: 3-4
CSCI 250 Computer Mdng/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.

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).
6-10 Total Credits Required
German
Rule: May complete the following language sequence
GRMN 101 Elementary German I 4
GRMN 102 Elementary German II 4
Total Hours 8
Minimum Required Grade: C-
Irish
Rule: May complete the following language sequence
IRSH 101 Elementary Irish 4
IRSH 102 Elementary Irish II 4
Total Hours 8
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