### GEOLOGY - 5-YEAR BACHELOR OF SCIENCE AND MASTER OF OCEAN SCIENCE AND TECHNOLOGY

#### Program Requirements

**First Year**

**Fall**
- CHEM 119 Fundamentals of Chemistry I 4
- GEOL 104 Physical Geology 4
- MATH 151 Engineering Mathematics I 4
- ENGL 104 Composition and Rhetoric 3

**Semester Credit Hours** 15

**Spring**
- CHEM 120 Fundamentals of Chemistry II 4
- GEOL 106 Historical Geology 4
- MATH 152 Engineering Mathematics II 4
- Communication 3

**Semester Credit Hours** 15

**Second Year**

**Fall**
- GEOL 203 Mineralogy 1 4
- GEOL 311 1,2 1
- GEOP 341 Fundamentals of Geophysics 1 3
- MATH 251 Engineering Mathematics III 1 3
- PHYS 206 Newtonian Mechanics for Engineering and Science 3
- PHYS 226 Physics of Motion Laboratory for the Sciences 1

**Semester Credit Hours** 15

**Spring**
- GEOL 302 1
- GEOL 306 Sedimentology and Stratigraphy 1 4
- MATH 308 Differential Equations 1 3
- PHYS 207 Electricity and Magnetism for Engineering and Science 3
- PHYS 227 Electricity and Magnetism Laboratory for the Sciences 1

**Select one of the following:** 3
- American history 1
- Government/Political science 1

**Semester Credit Hours** 16

**Third Year**

**Fall**
- GEOL 304 Igneous and Metamorphic Petrology 1 4
- GEOL 305 1 3
- GEOL 451 Introduction to Geochemistry 1 3
- Language, philosophy and culture 3

**Select one of the following:** 3
- American history 1
- Government/Political science 1

**Semester Credit Hours** 17

**Summer**
- GEOL 300 6

**Fourth Year**

**Fall**
- OCGN 604 Ocean Observing Systems 5 3
- OCGN 608 Physical Oceanography 5 3

**Select one of the following:** 3
- American history 1
- Government/Political science 1

**Semester Credit Hours** 15

**Spring**
- OCGN 603 Communicating Ocean Science 3
- OCGN 657 Data Methods and Graphical Representation in Oceanography 6 3

**Select one of the following:** 3
- American history 1

**Semester Credit Hours** 18
Geology - 5-Year Bachelor of Science and Master of Ocean Science and Technology

Select one from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>OCNG 620</td>
<td>Biological Oceanography</td>
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<tr>
<td>OCNG 630</td>
<td>Geological Oceanography</td>
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<tr>
<td>OCNG 640</td>
<td>Chemical Oceanography</td>
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</tbody>
</table>

Technical elective

Fifth Year

Fall

Advanced specialized OCNG graduate courses 9

Spring

OCNG 661 Advanced Oceanographic Data Analysis and Communication 3

Advanced specialized OCNG graduate courses 6

Fall

Advanced specialized OCNG graduate courses 9

Spring

OCNG 661 Advanced Oceanographic Data Analysis and Communication 3

Advanced specialized OCNG graduate courses 6

Total Semester Credit Hours 150

1 Any of the required courses may be taken during the Summer Sessions to diminish the heavy semester loads during Years Two and Three.

2 A second W course is required. GEOL 312 is offered as a W option when taught by Dr. Julie Newman, and other GEOL electives also fulfill the W requirement (including GEOL 491 when arranged with the permission of the instructor).

3 Students must complete 6 credit hours of American history and 6 credit hours of government/political science.

4 Select in consultation with advisor.

5 Two graduate courses will be taken for dual undergraduate/graduate credit.

6 Students will not be permitted to receive credit for both undergraduate-level and graduate-level versions of stacked courses because the content and learning outcomes are too similar (e.g., OCNG 404/OCNG 604; OCNG 456/OCNG 656).