OCEANOGRAPHY - BS, OCEAN CLIMATE TRACK - 5-YEAR BACHELOR OF SCIENCE/MASTER OF OCEAN SCIENCE AND TECHNOLOGY

The Department of Oceanography offers a 5-year (3+2) combined degree program that allows a Bachelor of Science in Oceanography major with a track in Ocean Climate to enter the Master of Ocean Science and Technology at the start of their senior year (typically year four) at Texas A&M University. This enables students to receive their Oceanography undergraduate degree (BS) and a Master of Ocean Science and Technology (MOS) graduate degree in five years. For additional information, please visit https://ocean.tamu.edu/.

Program Requirements

**First Year**

**Fall**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester Credit Hours</th>
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<tbody>
<tr>
<td>CHEM 119</td>
<td>Fundamentals of Chemistry I</td>
<td>4</td>
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<tr>
<td>ENGL 104</td>
<td>Composition and Rhetoric</td>
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<tr>
<td>GEOS 101</td>
<td>Introduction to the Geosciences</td>
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<td>MATH 151</td>
<td>Engineering Mathematics I</td>
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<tr>
<td>OCNG 251</td>
<td>Oceanography</td>
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<th>Course Code</th>
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<tbody>
<tr>
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<td>Semester Credit Hours</td>
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**Spring**

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<tbody>
<tr>
<td>CHEM 120</td>
<td>Fundamentals of Chemistry II</td>
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<td>MATH 152</td>
<td>Engineering Mathematics II</td>
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<td>PHYS 206</td>
<td>Newtonian Mechanics for Engineering and Science</td>
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<td>PHYS 226</td>
<td>Physics of Motion Laboratory for the Sciences</td>
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<td>American history (<a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history</a>)</td>
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**Second Year**

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<tbody>
<tr>
<td>BIOL 111</td>
<td>Introductory Biology I</td>
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<tr>
<td>OCNG 203</td>
<td>Communicating Oceanography</td>
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<tr>
<td>STAT 211</td>
<td>Principles of Statistics I</td>
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<td>MATH 251</td>
<td>Engineering Mathematics III</td>
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<td>American history (<a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history</a>)</td>
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<tbody>
<tr>
<td>BIOL 112</td>
<td>Introductory Biology II</td>
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**Third Year**

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<tbody>
<tr>
<td>OCNG 420</td>
<td>Biological Oceanography</td>
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<tr>
<td>OCNG 440</td>
<td>Chemical Oceanography</td>
<td>3</td>
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<tr>
<td>OCNG 456</td>
<td>MATLAB Programming for Ocean Sciences</td>
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<tr>
<td>OCNG 469</td>
<td>Python for Geosciences</td>
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<td>Creative arts (<a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts</a>)</td>
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<td>Government/Political science (<a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science</a>)</td>
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<td>Track elective</td>
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<tbody>
<tr>
<td>GEOS 470</td>
<td>Data Analysis Methods in Geosciences</td>
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<td>OCNG 430</td>
<td>Geological Oceanography</td>
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<td>OCNG 481</td>
<td>Seminar</td>
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<td>POLS 207</td>
<td>State and Local Government</td>
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<td>Social and behavioral sciences (<a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences</a>)</td>
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**Fourth Year**

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<tbody>
<tr>
<td>OCNG 303</td>
<td>Professional Communication in Oceanography</td>
<td>3</td>
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<tr>
<td>OCNG 443</td>
<td>Oceanographic Field and Laboratory Methods</td>
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<tr>
<td>OCNG 608</td>
<td>Physical Oceanography</td>
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<tr>
<td>OCNG 655</td>
<td>Experimental Design and Analysis in Oceanography</td>
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<td>Track elective</td>
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<tbody>
<tr>
<td>OCNG 461</td>
<td>Advanced Oceanographic Data Analysis and Communication</td>
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</tr>
<tr>
<td>OCNG 620</td>
<td>Biological Oceanography</td>
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<tr>
<td>OCNG 640</td>
<td>or Chemical Oceanography</td>
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<tr>
<td>OCNG 657</td>
<td>Data Methods and Graphical Representation in Oceanography</td>
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Language, philosophy and culture (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture) 3

Track elective 2 3

Semester Credit Hours 15

Fifth Year

Fall

OCNG 656 or OCNG 669 MATLAB Programming for Ocean Sciences 3
OCNG 604 Ocean Observing Systems 3
 Advanced specialized OCNG graduate course 3
Advanced specialized OCNG graduate course 3

Semester Credit Hours 12

Spring

OCNG 603 Communicating Ocean Science 3
OCNG 661 Advanced Oceanographic Data Analysis and Communication 3
 Advanced specialized OCNG graduate course 3
Advanced specialized OCNG graduate course 3

Semester Credit Hours 12

Total Semester Credit Hours 150

1 A grade of C or better is required.

2 Select from ATMO 363; BIOL 213, BIOL 214, BIOL 351; CHEM 315, CHEM 362, CHEM 383, CHEM 415; GENE 302; OCNG 350, OCNG 425, OCNG 453, OCNG 456, OCNG 469.


4 Applied toward both the Bachelor of Science in Oceanography and the Master of Ocean Science and Technology.

Any of the required courses may be taken during the Summer Sessions to diminish the heavy semester loads during Years 2 and 3.

Students will not be permitted to receive credit for both the 400- and 600-level versions of certain courses because the content and learning outcomes are too similar (OCNG 440/OCNG 640; GEOS 470/OCNG 655).

The program includes a total of 156 hours with 6 hours being applied toward both the Bachelor of Science in Oceanography and the Master of Ocean Science and Technology.