# Marine Sciences - BS, License Option

## Program Requirements

### First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 104</td>
<td>Composition and Rhetoric</td>
</tr>
<tr>
<td>MARS 102</td>
<td>Earth and Ocean Science</td>
</tr>
<tr>
<td>MART 103</td>
<td>Basic Safety and Lifesaving Training</td>
</tr>
<tr>
<td>MART 115</td>
<td>Seamanship I</td>
</tr>
<tr>
<td>MATH 147 or MATH 151</td>
<td>Calculus I for Biological Sciences or Engineering Mathematics I</td>
</tr>
</tbody>
</table>

### Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 119</td>
<td>Fundamentals of Chemistry I</td>
</tr>
<tr>
<td>MARS 210</td>
<td>Marine Geography</td>
</tr>
<tr>
<td>MARS 281</td>
<td>Sophomore Seminar in Marine Sciences</td>
</tr>
<tr>
<td>MART 212</td>
<td>Marine Dry Cargo Operations</td>
</tr>
<tr>
<td>MART 215</td>
<td>Seamanship II</td>
</tr>
<tr>
<td>MART 303</td>
<td>Celestial Navigation</td>
</tr>
</tbody>
</table>

### Spring

<table>
<thead>
<tr>
<th>Select one of the following:</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 148</td>
<td>Calculus II for Biological Sciences</td>
</tr>
<tr>
<td>MATH 150</td>
<td>Functions, Trigonometry and Linear Systems</td>
</tr>
<tr>
<td>MATH 152</td>
<td>Engineering Mathematics II</td>
</tr>
<tr>
<td>Communication <a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication">link</a></td>
<td>3</td>
</tr>
</tbody>
</table>

### Summer

| MART 200 | Deck Sea Training I: Basic Communications, Navigation and Seamanship | 4 |

### Third Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARS 307</td>
<td>Global Maritime Distress Safety System</td>
</tr>
<tr>
<td>NVSC 200</td>
<td>Naval Science for the Merchant Marine Officer</td>
</tr>
<tr>
<td>PHYS 206 &amp; PHYS 226</td>
<td>Newtonian Mechanics for Engineering and Science and Physics of Motion Laboratory for the Sciences</td>
</tr>
<tr>
<td>POLS 206</td>
<td>American National Government</td>
</tr>
</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARS 325</td>
<td>Introduction to GIS for Marine Sciences</td>
</tr>
<tr>
<td>MARS 410</td>
<td>Physical Oceanography</td>
</tr>
<tr>
<td>MARS 481</td>
<td>Seminar</td>
</tr>
<tr>
<td>MART 208</td>
<td>Maritime Meteorology</td>
</tr>
<tr>
<td>MART 410</td>
<td>Integrated Navigation III: Bridge Watchstanding</td>
</tr>
<tr>
<td>MART 498</td>
<td>Maritime Medical Care</td>
</tr>
</tbody>
</table>

### Summer

| MART 300 | Deck Sea Training II: Intermediate Communications, Navigation and Seamanship | 4 |

<table>
<thead>
<tr>
<th>Fall</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARS 310</td>
<td>Field Methods in Marine Sciences</td>
</tr>
<tr>
<td>MARS 440 or MARS 340</td>
<td>Chemical Oceanography or Global Biogeochemical Cycles</td>
</tr>
<tr>
<td>MARS 491</td>
<td>Research in Marine Sciences</td>
</tr>
<tr>
<td>POLS 207</td>
<td>State and Local Government</td>
</tr>
</tbody>
</table>
American history ([http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history](http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)) 3

Creative arts ([http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts](http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts)) 3

<table>
<thead>
<tr>
<th>Semester Credit Hours</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Semester Credit Hours</td>
<td>140</td>
</tr>
</tbody>
</table>

1 Indicates required courses in the Marine Sciences License Option major. These courses will be used to compute the major GPA. Also, if any upper level MARS or OCNG elective courses are taken, they will be used in the major GPA.

2 Indicates license courses leading to a USCG license endorsement or sea time credit accrual which require a minimum grade of C (70%) or better to earn the endorsement or accrual. Midshipmen will be required to repeat the course until they earn a grade of C (70%) or better. MART 307 GMDSS requires a score of 75% or better.

3 Designated writing intensive course. MARS-LO majors must take two writing intensive courses. One of them is required MART 215. The other course may be chosen from MARS 281 or MARS 430.

All electives must be chosen in consultation with, and approved by, the student's academic advisor. Unless courses are specifically listed, see University Core Curriculum for a listing of course options for Communication; Mathematics; Life and Physical Sciences; Language, Philosophy and Culture; Creative Arts; American History; Government and Political Sciences; and Social and Behavioral Sciences. The 3-hour University Core Curriculum requirement for International and Cultural Diversity and 3-hour requirement for Cultural Discourse may be met with courses used to satisfy other degree requirements.

The total hours may be increased if the student is required to take remedial math, remedial English, foreign language, International and Cultural Diversity, or Cultural Discourse courses, or any of the six-hour cruise options. The six-hour cruise options (NAUT 200, NAUT 300 and NAUT 400 or MARR 200, MARR 300 and MARR 400) do not add any required hours to the degree plan.

This degree requires full participation in the Texas A&M University Maritime Academy Corps of Cadets as a qualified License Option cadet. Refer to the University catalog section for the Texas A&M Maritime Academy for additional information. In addition to the academic requirements outlined here, the cadet must also complete the following requirements to receive the degree:

- Successfully complete required sea service and minimum training cruise requirements
- Pass a comprehensive professional examination (either the Third Mate Unlimited-Oceans or Third Assistant Engineering Unlimited) administered by the U.S. Coast Guard (USCG).
- Successfully complete all competencies required by the International Convention on Standards for Training, Certification and Watchkeeping (STCW).

Note: STCW competency certifications expire 5 years after completion. If the cadet does not complete the degree within that time period, the cadet will be required to revalidate the expired competency prior to graduation.