**Lower Division Requirements**  (All courses must be taken for a Letter Grade)

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<tr>
<th>Math</th>
<th>20A</th>
<th>20B</th>
<th>20C</th>
<th>20D</th>
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<td>6B</td>
<td>6C</td>
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<td>Physics</td>
<td>2A</td>
<td>2B</td>
<td>2C</td>
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<td>2CL</td>
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</table>

**Upper Division Requirements**  (All courses must be taken for a Letter Grade)

**Group A: Core Requirements (all courses are required):**

- SIO 171 ___ Introduction to Physical Oceanography
- SIO 172 ___ Physics of the Atmosphere
- SIO 174 ___ Chemistry of the Ocean and Atmosphere

**Group B: Upper-Division Restricted Electives (choose at least 4 of the following):**

- SIO 111 ___ Introduction to Ocean Waves
- SIO 117 ___ The Physical Basis of Global Warming
- SIO 141 ___ Chemical Principles of Marine Systems
- SIO 143 ___ Ocean Acidification
- SIO 173 ___ Dynamics of Atmosphere and Climate
- SIO 175 ___ Analysis of Oceanic and Atmospheric Data
- SIO 176 ___ Observational Physical Oceanography
- SIO 177 ___ Fluid Dynamics
- SIO 178 ___ Geophysical Fluid Dynamics

**Group C: Upper-Division Restricted Electives (choose at least 5 of the following):**

Student may use any additional course(s) from the Restricted Electives list (Group B, above) as a Group C elective

- SIO 101 ___ California Coastal Oceanography
- SIO 108 ___ Introduction to Paleoclimatology
- SIO 110 ___ Introduction to GIS & GPS for Scientists
- SIO 113 ___ Introduction to Computational Earth Sciences
- SIO 115 ___ Ice and the Climate System
- SIO 134 ___ Introduction to Biological Oceanography
- SIO 135 ___ Satellite Remote Sensing
- SIO 160 ___ Introduction to Tectonics
- SIO 199 ___ Independent Study

- CHEM 127 ___ Physical Chemistry
- CHEM 130 ___ Chemical Physics: Quantum Mechanics
- CHEM 131 ___ Chemical Physics: Stat Thermo I
- CHEM 132 ___ Chemical Physics: Stat Thermo II
- CHEM 171 ___ Environmental Chemistry I
- CHEM 173 ___ Atmospheric Chemistry

- MATH 110A ___ Intro to Partial Differential Equations
- MATH 110B ___ Elements of Partial Differential Equations and Integral Equations
- MATH 120A ___ Elements of Complex Analysis
- MATH 120B ___ Applied Complex Analysis
- MATH 180A ___ Introduction to Probability

- PHYSICS 110A ___ Mechanics I
- PHYSICS 110B ___ Mechanics II
- PHYSICS 140A ___ Statistical and Thermal Physics I
- PHYSICS 140B ___ Statistical and Thermal Physics II

- MAE 101A ___ Introductory Fluid Mechanics
- CENG 101A ___ Introductory Fluid Mechanics

All Upper Division courses are 4 units unless otherwise indicated.

**For students entering UC San Diego Fall 2017 and later**