### Lower Division (52-56 units)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units Yet To Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics 4A-B-C-D-E or 2A-B-C-D</td>
<td>20 or 16</td>
</tr>
<tr>
<td>Physics 2CL and 2DL</td>
<td>4</td>
</tr>
<tr>
<td>Chemistry 6A</td>
<td>4</td>
</tr>
<tr>
<td>Math 18&lt;sup&gt;1&lt;/sup&gt; and 20A-B-C-D-E</td>
<td>24</td>
</tr>
<tr>
<td>A programming course&lt;sup&gt;2&lt;/sup&gt;</td>
<td>4</td>
</tr>
</tbody>
</table>

### Upper Division (69 units)

A course that is listed in several areas cannot count towards more than one area and can satisfy only ONE of the major requirements:

1. Physics 100A-B, 105A-B, 110A, 120, 130A-B, 140A                      | 37                     |
2. Two courses from Physics 122, 141, 142                              | 8                     |
3. Restricted electives:
   - Six restricted electives from the following groups:
     - Physics 100C, 110B, 122, 124, 130C, 140B, 141, 142, 173, other
     - upper division physics courses; Mathematics 170A-B-C, 179, 183; CSE 12, 30, 80; substitute elective courses<sup>3</sup> | 24                     |

Elective courses taken:  

### MAJOR REGULATIONS

**DOUBLE MAJORS**

A student with a double major must fulfill the separate requirements of each major, and the equivalent of at least ten upper-division courses (forty units) must be unique to each major. Courses taken in fulfillment of lower-division requirements may overlap to any degree.

**GRADE REQUIREMENTS**

A grade point average of 2.0 or higher in the upper-division major is required for graduation. Students must receive a grade of C– or better in all courses to be applied to the major. In exceptional cases, students with a grade point average of 2.5 or higher in the upper-division major may petition to have one grade of D accepted; approval is not guaranteed.

**P/NP GRADING OPTION**

Not allowed for any courses applied to the major (exceptions are courses completed via AP/IB, and Physics 199).

**PREREQUISITES**

Check the General Catalog for the prerequisites to all listed courses.

**RESIDENCE REQUIREMENTS**

At least nine upper-division courses in the major while in residence at UC San Diego.

**SUBSTITUTIONS**

Permissible only by approved petition.

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<sup>1</sup> The Linear Algebra course previously numbered Math 20F is acceptable.

<sup>2</sup> Programming course options: CENG 15; CSE 5A, 7, 8A, 11, 12, 86; MAE 8; NANO 15

<sup>3</sup> Upper-division science, mathematics, engineering courses may be applied via approved petition.