Admission to the Computer Science major is contingent upon the prior completion of the courses listed in the pre-major (Area I below) with at least a 2.75 University of California grade-point average. Students must complete additional preparation requirements in Area II, appropriate to the emphasis chosen. Area II courses apply to the overall major grade-point average, but they do not apply to the pre-major GPA, and they need not be completed prior to admission to the full major.

I. PRE-MAJOR REQUIREMENTS

<table>
<thead>
<tr>
<th>Course</th>
<th>Units Yet to Compete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 3A-B-C, 5A-B</td>
<td>20</td>
</tr>
<tr>
<td>Computer Science 10, 20, 40, 60</td>
<td>16</td>
</tr>
<tr>
<td>Probability/Statistics 120A</td>
<td>4</td>
</tr>
</tbody>
</table>

II. PREPARATION FOR THE MAJOR, specific to emphasis chosen

(Lower-division major requirements)

- **Computational Biology Emphasis**
  - Chemistry 1A-AL-B-BL-C-CL......12
  - MCDB 1A-AL, 1B, EEMB 2;
  - either MCDB 1BL or EEMB 2L......11
  - MCDB 22 or 121....................3 or 4

- **Computational Geography Emphasis**
  - One sequence from:
    - Chemistry 1A-AL-B-BL-C-CL or
    - Physics 1-2-3-3L or
    - 6A-AL-B-BL-C-CL....................12
  - Geography 3A-B, 5, and 12...........16
  - One course from Philosophy 4, 6,
    - 100A or Engineering 101 ............3 or 4

Upon satisfactory completion of the courses in Area I, in order to be classified as having full-major status, the student should complete a change of major petition, available in the office of the Department of Computer Science, Engineering I, 2104, and obtain the appropriate signatures. At that time, students must declare their intention to pursue a B.A. degree with either the Computational Biology or Computational Geography emphasis through the College of Letters and Science.

**MAJOR REGULATIONS**

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

**P/NP GRADING OPTION** ............Not allowed for major courses (Prep or UD major), including courses applied to the major from other departments.

**SUBSTITUTIONS** ....................In the major requirements permissible only by petition to the department chair and dean.

**RESIDENCE REQUIREMENTS** ........At least 20 UD units in major while in residence at UCSB.

**G.P.A. REQUIREMENTS** .............At least 2.0 overall UC average in all upper-division major courses and all courses (Prep and UD) for the major, including courses in excess of minimum requirements.

**DOUBLE MAJORS** ....................With the approval of each department chairperson, up to a total of 8 units may be applied simultaneously to both UD majors.