## Bachelor of Science in Biology (Impacted)

### Option in Cell and Molecular Biology

#### Major Requirements Worksheet

**2012-2013 Catalog**

**Name:** ___________________________  
**Student ID:** ___________________________

*Note: This checklist is not intended to replace advising from the major department. Students should consult with the major advisor to determine the appropriate sequence of courses. This checklist is to inform students of major requirements and course prerequisites only. CSULB Enrollment Services prepares the Academic Requirements Report, which is the official graduation verification. Pre-Biology majors must complete their GE Foundation courses, and the highlighted areas below all with a “C” or better and a cumulative GPA of 2.5, by 60 units to be considered for the major.*

### Pre-Biology

Pre-Biology majors must complete their GE Foundation courses, and the highlighted areas below all with a “C” or better and a cumulative GPA of 2.5, by 60 units to be considered for the major.

* Must receive a “C” or better  
** See catalog for more information

#### Grade  Course #  Course Title  Semester  Prerequisites (ALL Biology Department courses require a “C” or better in every pre-requisite course)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Course #</th>
<th>Course Title</th>
<th>Semester</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BIOL 211</td>
<td>Introduction to Evolution and Diversity (4)</td>
<td></td>
<td>CHEM 111A (can also be a corequisite)</td>
</tr>
<tr>
<td></td>
<td>BIOL 212</td>
<td>Introduction to Cell and Molecular Biology (4)</td>
<td></td>
<td>BIOL 211 and CHEM 111A*</td>
</tr>
<tr>
<td></td>
<td>BIOL 213</td>
<td>Introduction to Ecology and Physiology (4)</td>
<td></td>
<td>BIOL 211, 212 and CHEM 111B*</td>
</tr>
<tr>
<td></td>
<td>BIOL 260</td>
<td>Biostatistics (3)</td>
<td></td>
<td>BIOL 211 or BIOL 207 or MICR 200*, MATH 111* or 113* or 119A* or 122*</td>
</tr>
<tr>
<td></td>
<td>CHEM 111A</td>
<td>General Chemistry (5)**</td>
<td></td>
<td>A passing score on the CPT; MATH 113* or 117* or 119A* or 122*</td>
</tr>
<tr>
<td></td>
<td>CHEM 111B</td>
<td>General Chemistry (5)</td>
<td></td>
<td>CHEM 111A*</td>
</tr>
</tbody>
</table>

#### Take ONE course from EACH block set:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Course #</th>
<th>Course Title</th>
<th>Semester</th>
<th>Prerequisites (ALL Biology Department courses require a “C” or better in every pre-requisite course)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MATH 119A</td>
<td>Survey of Calculus I (3) OR</td>
<td>MDPT placement or MATH 113*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MATH 122</td>
<td>Calculus I (4)</td>
<td>Appropriate MDPT placement or MATH 111* and 113*, or 117*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MATH 119B</td>
<td>Survey of Calculus II (3) OR</td>
<td>MATH 119A or 122</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MATH 123</td>
<td>Calculus II (4)</td>
<td>MATH 122*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PHYS 100A</td>
<td>General Physics (4) OR</td>
<td>MATH 109 or 113 or 117 or 119A or 120 or 122</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PHYS 151</td>
<td>Mechanics and Heat (4)</td>
<td>MATH 122 (can also be a pre/corequisite)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PHYS 100B</td>
<td>General Physics (4) OR</td>
<td>PHYS 100A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PHYS 152</td>
<td>Electricity and Magnetism (4)</td>
<td>PHYS 151; Pre/corequisite MATH 123</td>
<td></td>
</tr>
</tbody>
</table>

#### Upper Division (for upper division advising, please see your faculty advisor). Take ALL of the following courses:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Course #</th>
<th>Course Title</th>
<th>Semester</th>
<th>Prerequisites (ALL Biology Department courses require a “C” or better in every pre-requisite course)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CHEM 322A</td>
<td>Organic Chemistry (3)</td>
<td>CHEM 111B* (lab required same semester**)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CHEM 323A</td>
<td>Organic Chemistry Laboratory (1)**</td>
<td>CHEM 111B*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CHEM 322B</td>
<td>Organic Chemistry (3)</td>
<td>CHEM 322A* and CHEM 323A* (+ lab**)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CHEM 323B</td>
<td>Organic Chemistry Laboratory (1)**</td>
<td>CHEM 322A* and CHEM 323A*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CHEM 441A</td>
<td>Biological Chemistry (3)**</td>
<td>CHEM 320B* or both CHEM 322B* and 323B*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CHEM 441B</td>
<td>Biological Chemistry (3)</td>
<td>CHEM 441A*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIOL 340</td>
<td>Molecular Cell Biology (3)</td>
<td>BIOL 211, 212; CHEM 320A* or 322A* or 327*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIOL 370</td>
<td>General Genetics (4)</td>
<td>BIOL 211, 212, and either BIOL 260 or CHEM 251*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIOL 440L</td>
<td>Molecular Cell Biology Laboratory (3)</td>
<td>BIOL 340, 370 and consent from the instructor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIOL 480</td>
<td>Seminars (1)</td>
<td>Taken during the semester the student is to graduate and has consent from the faculty advisor</td>
<td></td>
</tr>
</tbody>
</table>

#### Take ONE course from the following:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Course #</th>
<th>Course Title</th>
<th>Semester</th>
<th>Prerequisites (ALL Biology Department courses require a “C” or better in every pre-requisite course)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BIOL 312</td>
<td>Evolutionary Biology (3)</td>
<td>BIOL 211, 212, 213, 260</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIOL 350</td>
<td>General Ecology (3)</td>
<td>BIOL 211, 212, 213, 260; MATH 119A* or 122*</td>
<td></td>
</tr>
</tbody>
</table>

#### Take FIVE courses from the following totaling at least 15 units: MICR 211; BIOL 431, 433, 443, 445, 447, 472, 473, 477; CHEM 547; BIOL/MICR 416, 430. Students contemplating graduate school should consider taking 1- 3 units of BIOL 496 in addition to the above requirements. In exceptional cases, students may use 3 units of BIOL 496 towards these five courses but only with prior permission of the advisor for this option.

* Must receive a “C” or better  
** See catalog for more information

**NOTE: See the catalog for courses that do not meet any specific or elective requirements**