

# BACHELOR OF SCIENCE IN MARINE BIOLOGY (IMPACTED)

## 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.

| Grade | Course #  | Course Title                                   | Semester | Prerequisites ( <i>ALL Biology Department courses require a "C" or better in every pre-requisite course</i> ) |
|-------|-----------|--|----------|---|
|       | BIOL 153  | Introduction to Marine Biology (3)             |          | Courses that fulfill the A.1 and B.2 GE requirement (can be a corequisite)                                    |
|       | BIOL 211  | Introduction to Evolution and Diversity (4)    |          | CHEM 111A (can also be a corequisite)   |
|       | BIOL 212  | Introduction to Cell and Molecular Biology (4) |          | BIOL 211 <i>and</i> CHEM 111A   |
|       | BIOL 213  | Introduction to Ecology and Physiology (4)     |          | BIOL 211, 212 <i>and</i> CHEM 111B  |
|       | BIOL 260  | Biostatistics (3)                              |          | BIOL 211 or BIOL 207 or MICR 200*; MATH 111* or 113* or 119A* or 122*   |
|       | CHEM 111A | General Chemistry (5)**                        |          | A passing score on the CPT; MATH 113* or 117* or 119A* or 122*  |
|       | CHEM 111B | General Chemistry (5)                          |          | CHEM 111A*  |

### Take ONE course from EACH block:

|           |                        |  |
|-----------|------------------------|--|
| PHYS 100A | General Physics (4) OR | MATH 109 or 113 or 117 or 119A or 120 or 122 |
| PHYS 151  | Mechanics and Heat (4) | MATH 122 (can also be a pre/corequisite)     |

|           |                               |                                    |
|-----------|-------------------------------|------------------------------------|
| PHYS 100B | General Physics (4) OR        | PHYS 100A                          |
| PHYS 152  | Electricity and Magnetism (4) | PHYS 151; pre/corequisite MATH 123 |

|           |                             |   |
|-----------|-----------------------------|---|
| MATH 119A | Survey of Calculus I (3) OR | MDPT placement** or MATH 113*                               |
| MATH 122  | Calculus I (4)              | MDPT placement** or MATH 111* <i>and</i> 113*, or MATH 117* |

|           |                              |                  |
|-----------|------------------------------|------------------|
| MATH 119B | Survey of Calculus II (3) OR | MATH 119A or 122 |
| MATH 123  | Calculus II (4)              | MATH 122*        |

### Upper Division (for upper division advising, see your faculty advisor)

### Take EITHER CHEM 327 OR ALL 4 courses (CHEM 322A, 322B, 323A, 323B)

|           |  |                                       |
|-----------|--|---------------------------------------|
| CHEM 327  | Fundamentals of Organic Chemistry (3)**              | CHEM 111A* (CHEM 111B is recommended) |
| CHEM 322A | Organic Chemistry (3) (lab required same semester**) | CHEM 111B*                            |
| CHEM 323A | Organic Chemistry Laboratory (1)**                   | CHEM 111B*                            |
| CHEM 322B | Organic Chemistry (3) (lab required same semester**) | CHEM 322A* <i>and</i> CHEM 323A*      |
| CHEM 323B | Organic Chemistry Laboratory (1)**                   | CHEM 322A* <i>and</i> CHEM 323A*      |

### Take ALL of the following courses:

|           |  |  |
|-----------|--|--|
| BIOL 313  | Invertebrate Zoology (4)                 | BIOL 211, 212, 213                       |
| BIOL 340  | Molecular Cell Biology (3)               | BIOL 211, 212; CHEM 322A or 327          |
| BIOL 345  | Comparative Animal Physiology (3)        | BIOL 211, 212, 213                       |
| BIOL 345L | Lab in Comparative Animal Physiology (1) | BIOL 345 (can also be a pre/corequisite) |

\* Must receive a "C" or better \*\* See exception or clarification in the catalog

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

Updated 12/10/12 LM

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|  |          |  |  |  |
|--|----------|--|--|--|
|  | BIOL 350 | General Ecology (3)**                  |  | BIOL 211, 212, 213, 260; MATH 119A or MATH 122   |
|  | BIOL 353 | Marine Biology (3)                     |  | BIOL 153, 211, 212, 213, 260   |
|  | BIOL 370 | General Genetics (4)                   |  | BIOL 211, 212, and either BIOL 260 or CHEM 251   |
|  | BIOL 419 | Ichthyology (3)                        |  | BIOL 211, 212, 213, 260 and at least 6 additional units of upper division biological science. Recommended BIOL 350, 353, 370 |
|  | BIOL 425 | Phycology (4)                          |  | BIOL 353   |
|  | BIOL 480 | Seminars (1)                           |  | Must be taken the same semester that the student graduates. Consent of the undergraduate advisor                             |
|  | GEOL 465 | Physical and Chemical Oceanography (3) |  | CHEM 111B; PHYS 100A (can be a corequisite), and upper division standing in the CNSM, as well as GEOL Dept. Permission       |
|  | GEOL 466 | Oceanography Lab & Ocean Studies (1)   |  | GEOL 465 (can also be a corequisite)   |

Take a minimum of **THREE** courses from the following: BIOL 411, 420, 449, 451, 454A, 455, 457, 464; BIOL/MICR 415; and with prior permission of marine biology advisor for both BIOL 490, and 3 units of BIOL 496.

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