

# OCEANOGRAPHY (BS)

## Degree Requirements and Curriculum

In addition to the program requirements listed on this page, students must also satisfy requirements outlined in more detail in the Minimum Requirements for Graduation (<https://catalog.calpoly.edu/academic-standards-policies/general-requirements-bachelors-degree/>) section of this catalog, including:

- 40 units of upper-division courses
- 2.0 GPA
- Graduation Writing Requirement (GWR)
- U.S. Cultural Pluralism (USCP)

Note: No Major or Support courses may be selected as credit/no credit. In addition, no more than 12 units of cooperative or internship courses can count towards your degree requirements.

| Code                                            | Title                                                                                                                                             | Units |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| <b>MAJOR COURSES</b>                            |                                                                                                                                                   |       |
| OCN 1100<br>& 1100L                             | Marine Biology<br>and Marine Biology Laboratory (5B & 5C) <sup>1</sup>                                                                            | 4     |
| OCN 1110<br>& 1110L                             | Marine Ecology<br>and Marine Ecology Laboratory                                                                                                   | 4     |
| OCN 2200<br>& 2200L                             | Oceanography I: Geology and Chemistry<br>and Introduction to Oceanography Laboratory                                                              | 4     |
| OCN 2210<br>& 2210L                             | Oceanography II: Physics and Biology<br>and Introduction to Oceanography Laboratory II                                                            | 4     |
| OCN 3305                                        | Introduction to Ocean Science Research                                                                                                            | 1     |
| OCN 3310<br>& 3310L                             | Oceanographic Instruments and Analysis<br>and Oceanographic Instruments and Analysis Laboratory                                                   | 3     |
| OCN 3320                                        | Oceans and Climate (Upper-Division 2/5) <sup>1</sup>                                                                                              | 3     |
| OCN 3330                                        | Marine Microbial Ecology                                                                                                                          | 3     |
| OCN 3340                                        | Chemical Oceanography                                                                                                                             | 3     |
| OCN 3350                                        | Physical Oceanography                                                                                                                             | 3     |
| OCN 3360                                        | Marine Geology                                                                                                                                    | 3     |
| OCN 3380<br>& 3380L                             | Directed Research/Cooperative Education Experience<br>and Directed Research Cooperative Education Laboratory                                      | 3     |
| Select any Upper-Division OCN Electives Courses |                                                                                                                                                   | 9     |
| <b>SUPPORT COURSES</b>                          |                                                                                                                                                   |       |
| CHE 1110<br>& 1110L                             | General Chemistry<br>and General Chemistry Laboratory (5A) <sup>1</sup>                                                                           | 4     |
| CHE 2210<br>& 2210L                             | General Chemistry II<br>and General Chemistry II Laboratory                                                                                       | 4     |
| COM 1107                                        | Programming in R                                                                                                                                  | 1     |
| COM 2210<br>& 2210L                             | Engineering Computer Programming<br>and Oceanography Computer Programming Laboratory                                                              | 3     |
| EGL 1100                                        | English Composition (1A) <sup>1</sup>                                                                                                             | 3     |
| EGL 1110                                        | Speech Communication (1C) <sup>1</sup>                                                                                                            | 3     |
| EGL 2220                                        | Critical Thinking (1B) <sup>1</sup>                                                                                                               | 3     |
| EGL 3301                                        | Project Based Writing for Science (GWR)                                                                                                           | 3     |
| GMA 3320                                        | Ocean Environmental Management (Upper-Division 4) <sup>1</sup>                                                                                    | 3     |
| GOV 2200                                        | American Government (4A) <sup>1</sup>                                                                                                             | 3     |
| HIS 1100<br>or HIS 1101                         | Survey of American History to 1877: Precontact Through the Civil War (4B)<br>Survey of American History from 1877: Civil War Through Civil Rights | 3     |
| MTH 1107                                        | Elementary Statistics (2) <sup>1</sup>                                                                                                            | 3     |
| MTH 2210                                        | Calculus I                                                                                                                                        | 4     |
| PE 1101                                         | Swim Competency Exam <sup>2</sup>                                                                                                                 | 0     |

|                                     |                                                         |            |
|-------------------------------------|---------------------------------------------------------|------------|
| PHY 1100<br>& 1100L                 | General Physics I<br>and General Physics I Laboratory   | 4          |
| PHY 1105<br>& 1105L                 | General Physics II<br>and General Physics II Laboratory | 4          |
| <b>GENERAL EDUCATION (GE)</b>       |                                                         |            |
| (See GE program requirements below) |                                                         | 12         |
| <b>FREE ELECTIVES</b>               |                                                         |            |
| Free Electives                      |                                                         | 13         |
| <b>Total Units</b>                  |                                                         | <b>120</b> |

<sup>1</sup> Required in Major or Support; also satisfies General Education (GE) requirement.

<sup>2</sup> Swim assessments are required of all cadets during Orientation week. If PE 1101 is not passed with a grade CR, then enrollment in PE 1102 will be required.

## General Education (GE) Requirements

- 43 units required, 31 of which are specified in Major and/or Support.
- If any of the remaining 12 Units is used to satisfy a Major or Support requirement, additional units of Free Electives may be needed to complete the total units required for the degree.
- See the complete GE course listing (<https://catalog.calpoly.edu/academic-standards-policies/general-requirements-bachelors-degree/#generaleducationtext>).
- A grade of C- or better is required in one course in each of the following GE Areas: 1A (English Composition), 1B (Critical Thinking), 1C (Oral Communication), and 2 (Mathematics and Quantitative Reasoning).

### Lower-Division General Education

|               |                                                                                                               |   |
|---------------|---------------------------------------------------------------------------------------------------------------|---|
| <b>Area 1</b> | <b>English Communication and Critical Thinking</b>                                                            |   |
| 1A            | Written Communication (3 units in Support) <sup>1</sup>                                                       | 0 |
| 1B            | Critical Thinking (3 units in Support) <sup>1</sup>                                                           | 0 |
| 1C            | Oral Communication (3 units in Support) <sup>1</sup>                                                          | 0 |
| <b>Area 2</b> | <b>Mathematics and Quantitative Reasoning</b>                                                                 |   |
| 2             | Mathematics and Quantitative Reasoning (3 units in Support) <sup>1</sup>                                      | 0 |
| <b>Area 3</b> | <b>Arts and Humanities</b>                                                                                    |   |
| 3A            | Arts                                                                                                          | 3 |
| 3B            | Humanities: Literature, Philosophy, Languages other than English                                              | 3 |
| <b>Area 4</b> | <b>Social and Behavioral Sciences (Area 4 courses must come from at least two different course prefixes.)</b> |   |
| 4A            | American Institutions (Title 5, Section 40404 Requirement) (3 units in Support) <sup>1</sup>                  | 0 |
| 4B            | Social and Behavioral Sciences (3 units in Support) <sup>1</sup>                                              | 0 |
| <b>Area 5</b> | <b>Physical and Life Sciences</b>                                                                             |   |
| 5A            | Physical Sciences (3 units in Support) <sup>1</sup>                                                           | 0 |
| 5B            | Life Sciences (3 units in Support) <sup>1</sup>                                                               | 0 |
| 5C            | Laboratory (may be embedded in a 5A or 5B course) (1 units in Support) <sup>1</sup>                           | 0 |
| <b>Area 6</b> | <b>Ethnic Studies</b>                                                                                         |   |
| 6             | Ethnic Studies                                                                                                | 3 |

### Upper-Division General Education

|                    |                                                                                                                                          |           |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Upper-Division 2/5 | Mathematics and Quantitative Reasoning or Physical and Life Sciences (3 units in Major) <sup>1</sup>                                     | 0         |
| Upper-Division 3   | Arts and Humanities                                                                                                                      | 3         |
| Upper-Division 4   | Social and Behavioral Sciences (Area 4 courses must come from at least two different course prefixes.) (3 units in Support) <sup>1</sup> | 0         |
| <b>Total Units</b> |                                                                                                                                          | <b>12</b> |

<sup>1</sup> Required in Major or Support; also satisfies General Education (GE) requirement.