Salem | STATE UNIVERSITY

Name:_____
Student ID: _____
Date Admitted Into Major:_____

# BACHELOR OF SCIENCE
# BIOLOGY
## MARINE BIOLOGY CONCENTRATION

### GENERAL EDUCATION REQUIREMENTS

**Competencies**

| | |
|---|---|
| ☐ | ♦ Basic College Math |
| ☐ | ♦ Reading Comprehension |

**♣General Education Categories (34-35 credits total)**

| | | | | | | |
|---|---|---|---|---|---|---|
| ♦FYS | First Year Seminar | | | | 3 | |
| ♦W-I | Written Communication - Level I | | | | 3 | |
| ♦OC | Oral Communication | | | | 3 | |
| PGR | Personal Growth & Responsibility | | | | 3 | |
| CEA | Creative Expression & Appreciation | | | | 3 | |
| WC | World Cultures | | | | 3 | |
| HP | The Human Past | | | | 3 | |
| CS | Contemporary Society | | | | 3 | |
| SR | Scientific Reasoning: | ♯ Any SR course | | | 3-4 | |
| | | ♯ SR Lab course | | | 4 | |
| QR | Quantitative Reasoning | | | | 3 | |

**‡ Written Communication (Level II and Level III) and Diversity, Power Dynamics and Social Justice**

| | | | | |
|---|---|---|---|---|
| W-II | Written Communication - Level II | | | ☐ |
| W-III | Written Communication - Level III | | | ☐ |
| DPDS | Diversity, Power Dynamics and Social Justice | | | ☐ |

### Free Electives (8 credit minimum total)

May be necessary to take additional credits to attain the minimum 120 credits required for graduation depending on choices made for general education or minor selection.

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### COURSES IN MAJOR (47-49 credits total)

**Required (44-45 credits)**

| | | | | |
|---|---|---|---|---|
| BIO | 131 | Introduction to Organisms | 4 | |
| BIO | 132 | Introduction to Cells | 4 | |
| BIO | 208 | Environmental Problems | 3 | |
| BIO | 212 | Cell Biology | 4 | |
| BIO | 220 | Evolutionary Morphology | 3 | |
| BIO | 310 | Invertebrate Zoology | 4 | |
| BIO | 322 | Biological Oceanography | 4 | |
| BIO | 326 | Marine Botany | 4 | |
| BIO | 323 or 341 | Fish Biology<br>Biology of Marine Mammals | 3-4 | |
| † BIO | | Cell/Molecular or Structure/Function elective | 4 | |
| BIO | 402 | Genetics | 4 | |
| BIO | 415 | Biology Seminar | 3 | |

**Electives (3-4 credits)**

| | | | | |
|---|---|---|---|---|
| ¶ BIO | | Biology elective | 3-4 | |

**▽♥ Required Support Courses (11-12 credits total)**

| | | | | |
|---|---|---|---|---|
| MAT | 110 or 220 | Pre-calculus<br>Calculus I | 3-4 | |
| ◊ PHS | 211A or 221 | College Physics I<br>General Physics I | 4 | |
| ◊ PHS | 212A or 222 | College Physics II<br>General Physics II | 4 | |

**Required Minor:** Chemistry **(16 credits total)**

| | | | | |
|---|---|---|---|---|
| CHE | 130 | General Chemistry I | 4 | |
| CHE | 131 | General Chemistry II | 4 | |
| CHE | 212 | Organic Chemistry I | 4 | |
| CHE | 213 | Organic Chemistry II | 4 | |

♥ Students may choose to use support courses to satisfy general education categories, but may not be required to do so. **Note:** If a course is used to satisfy two or more requirements (for example, a support course and Scientific Reasoning requirement), the credits are counted in only one place. Using a course to satisfy more than one requirement does **not** reduce the credit total required for graduation.

♣ Courses used to satisfy the general education requirements of the university must be taken from a minimum of six different academic disciplines. First Year Seminar and Level I Written Communications courses are exempt from this restriction. Courses may not be used to fulfill both major discipline and general education requirements.

♯ These Scientific Reasoning General Education Category courses do not have to be a sequence or be from the same discipline.

‡ Level II, Level III Written Communications and Diversity, Power Dynamics and Social Justice Courses may be used to satisfy requirements anywhere else in a student's program of study where they may apply. The credits are counted only in one area.

¶ Electives within the major are to be chosen from 300 to 400 level courses, exclusive of BIO 304, 324, and 328. A maximum 4 credits from BIO 407, 408N, 416, 418, 420 or 422 may be used to fulfill one BIO Elective; additional credits will count as Free Electives. Secondary Education minors must select BIO 320, and one course in Geological Sciences.

† The Cell/Molecular or Structure/Function elective must be chosen from 400-level courses AND have a laboratory.

◊ The sequence can be either PHS 211A and 212A, or Physics 221 and 222.

♦ COMPETENCIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS | ♦ GENERAL EDUCATION CATEGORIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS

Exceptions in the timing of courses will be made for transfer students

**Total credits for graduation: 120**

**Effective: 9/2018**