



B.S. in Biology
BIOLBS.2016
60 credits, incl. 9 GE credits
Effective Date: 11/2016

| | | |
|-------------------------|--------------------------------|-----------------|
| Name of Student: | | |
| Student ID #: | | Graduation Date |
| Home Country: | <input type="checkbox"/> IWORK | |
| Advisor: | Name | Date |

General Science Core **19 Credits**

| Course # | Title | Hr. | Prerequisites | Offered | Sem. | Grade |
|------------|---|-----|-------------------------------|---------|------|-------|
| BIOL 112/L | Biology I – Cell and Molecular Biology/Lab | 4 | | F, W, S | | / |
| BIOL 113 | Biology II – Ecology, Evolution, and Organismal Biology | 3 | BIOL 112/L | F, W, S | | / |
| CHEM 105/L | General Chemistry I/Lab | 4 | MATH 110 | F, W | | / |
| CHEM 106/L | General Chemistry II/Lab | 4 | CHEM 105/L | W, S | | / |
| BIOL 491 | Introduction to Scientific Research | 1 | BIOL 113, 50% of Biology Core | F,W,S | | / |
| BIOL 492 | Scientific Writing | 3 | BIOL 491 | F,W,S | | / |

Biology Core **Minimum 20 Credits**
Select 2 courses from each of the following three divisions

| Cell and Molecular Biology | | | | | | |
|---|---|---|---|--------------|--|---|
| BIOL 220/L or BIOL 222/L | Microbiology/Lab Marine Microbiology/Lab | 4 | BIOL 112/L, CHEM 105/L | S | | / |
| BIOL 376/L | Genetics/Lab | 4 | BIOL 113, CHEM 105/L | F, W | | / |
| BIOL 441/L | Molecular Biology/Lab | 4 | BIOL 112/L, CHEM 106/L, (completion of BIOL 220 or 376 is strongly recommended) | F | | / |
| BIOL 442/L | Cellular Biology/Lab | 4 | BIOL 112/L, CHEM 106/L, (completion of BIOL 376 is strongly recommended) | W | | / |
| Organismal Biology | | | | | | |
| BIOL 201/L | General Botany/Lab | 4 | BIOL 113 | F, S | | / |
| BIOL 206/L | General Zoology/Lab | 4 | BIOL 113 | F | | / |
| BIOL 212/L | Marine Biology/Lab | 4 | BIOL 113 | S | | / |
| BIOL 260/L | Elementary Human Anatomy/Lab | 3 | BIOL 113, CHEM 105/L | W | | / |
| BIOL 261/L | Elementary Human Physiology/Lab | 4 | BIOL 113, CHEM 105/L | F | | / |
| BIOL 460 | Advanced Human Anatomy | 3 | Permission of Instructor, BIOL 260/L | F | | / |
| BIOL 465/L | Principles of Physiology/Lab | 4 | BIOL 113, CHEM 106/L | W | | / |
| Ecology, Evolution, and Population Biology | | | | | | |
| BIOL 204/L | Pacific Natural History/Lab | 4 | BIOL 113 | S | | / |
| BIOL 248/L | Conservation Biology/Lab | 4 | BIOL 113 | F - even | | / |
| BIOL 300/L | Animal Behavior/Lab | 4 | BIOL 113, CHEM 105/L | W | | / |
| BIOL 340 or MATH 221 | Biostatistics Principles of Statistics | 3 | BIOL 113, CHEM 105/L MATH 110 or 106 | W F, W, S | | / |
| BIOL 350/L | Ecology/Lab | 4 | BIOL 113, CHEM 105/L | F - odd | | / |
| BIOL 374 | Evolution & Human Prehistory | 3 | BIOL 113 | S | | / |
| BIOL 376/L | Genetics/Lab | 4 | BIOL 113, CHEM 105/L | F, W | | / |
| BIOL 412/L | Marine Ecology/Lab | 4 | BIOL 212/L, CHEM 105/L | S | | / |

Electives **17-21 Credits**
The combined credit total of the General Science Core, Biology Core and Electives should equal a minimum of 60 credits.

| | | | | | | |
|------------|--------------------------------------|------|--|----------|--|---|
| BIOL ### | Any Biology Core Course listed above | 3-21 | | | | / |
| BIOL 390R | Special Topics | 3-4 | BIOL 113, CHEM 105/L | Variable | | / |
| OCEN 201 | Oceanography and Marine Science | 3 | A college-level natural science course | F, W, S | | / |
| CHEM 351/L | Organic Chemistry I/Lab | 4 | CHEM 106/L; CHEM 201 co- or pre-requisite | F | | / |
| CHEM 352/L | Organic Chemistry II/Lab | 4 | CHEM 351/L | W | | / |
| CHEM 381/L | Biochemistry I/Lab | 4 | BIOL 112/L, CHEM 352/L (completion of BIOL 376 or 441 is strongly recommended) | F, S | | / |
| CHEM 382/L | Biochemistry II/Lab | 4 | CHEM 381/L | W | | / |
| PHYS 121/L | General Physics I/Lab | 4 | MATH 112 and either High School Trigonometry or MATH 111 | F, W | | / |
| PHYS 220/L | General Physics II/Lab | 4 | PHYS 121/L, (MATH 113 is strongly recommended, but not required) | F, W | | / |
| PHYS 221/L | General Physics III/Lab | 4 | PHYS 121/L, (MATH 113 is strongly recommended, but not required) | S | | / |

Minimum Credits required for B.S. in Biology: **60 Credits**
Total Credits Mapped for Graduation:



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BIOLBS.2016
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| | | |
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| Advisor: | Name | Date |

Biology Major Requirements (General Biology Track)

(mrs 1208)

- All students majoring in Biology need to complete a minimum of 24 credits of 300-400 level courses.
- Students are not required to complete a specific emphasis in Biology. Those not pursuing an emphasis, would be in the General Biology track by default.
- For students who are not in the Biomedical track and wish to pursue an advanced degree (MS, PhD, MD, DO, DDS, PA, PT etc.) we highly recommend the following courses: Organic Chemistry, Physics and Genetics in addition to other Biology courses as required by the graduate program of interest.

Grade policy

- To graduate with a major in Biology, a student cannot have a grade lower than C- in a core course and can only repeat* up to three courses in the major.
- One repeat* is allowed per major course. If after a repeat the grade is still lower than C-, a student will not be able to continue in the Biology major (for an exception, see 5).
- A repeat* of a second major course would be permitted only with the authorization from the department chair.
- A repeat* of a third major course would be permitted only with authorizations from the department chair and the dean.
- A student may have a D grade in one major elective course.

* Repeat because of a grade lower than C-

Emphasis/Track Requirements

Students seeking to graduate with an emphasis in Biology must complete the emphasis requirements listed below, within the requirements for B.S. in Biology.

Marine Biology – the following courses must be completed

(mrs 1210)

| | | | | | | |
|------------|---------------------------------|---|--|---------|--|---|
| BIOL 206/L | General Zoology/Lab | 4 | BIOL 113 | F | | / |
| BIOL 212/L | Marine Biology/Lab | 4 | BIOL 113 | S | | / |
| BIOL 222/L | Marine Microbiology/Lab | 4 | BIOL 112/L, CHEM 105/L | W | | / |
| BIOL 376/L | Genetics/Lab | 4 | BIOL 113, CHEM 105/L | F, W | | / |
| BIOL 412/L | Marine Ecology/Lab | 4 | BIOL 212/L, CHEM 105/L | S | | / |
| OCEAN 201 | Oceanography and Marine Science | 3 | A college-level natural science course | F, W, S | | / |

Molecular and Cell Biology – the following courses must be completed

(mrs 1211)

| | | | | | | |
|------------|--------------------------|---|--|------|--|---|
| BIOL 220/L | Microbiology/Lab | 4 | BIOL 112/L, CHEM 105/L | F, W | | / |
| BIOL 376/L | Genetics/Lab | 4 | BIOL 112/L, CHEM 105/L | F, S | | / |
| BIOL 441/L | Molecular Biology/Lab | 4 | BIOL 112/L, CHEM 106/L (completion of BIOL 220 or 376 is strongly recommended) | F | | / |
| BIOL 442/L | Cell Biology/Lab | 4 | BIOL 112/L, CHEM 106/L (completion of BIOL 376 is strongly recommended) | W | | / |
| CHEM 351/L | Organic Chemistry I/Lab | 4 | CHEM 106/L | F | | / |
| CHEM 352/L | Organic Chemistry II/Lab | 4 | CHEM 351/L | W | | / |
| CHEM 381/L | Biochemistry I/Lab | 4 | BIOL 112/L, CHEM 352/L (completion of BIOL 376 or 441 is strongly recommended) | F, S | | / |

Biomedical Sciences – the following courses must be completed

(mrs 1209)

| | | | | | | |
|---|---|------------------|---|------------------|--|---|
| BIOL 220/L or BIOL 260/L or BIOL 261/L or BIOL 465/L | Microbiology/Lab Elementary Human Anatomy/Lab Elementary Human Physiology/Lab Principles of Physiology/Lab | 4 3 3 4 | BIOL 112/L, CHEM 105/L BIOL 113, CHEM 105/L BIOL 113, CHEM 105/L BIOL 113, CHEM 106/L | S W F W | | / |
| BIOL 340 or MATH 221 | Biostatistics Principles of Statistics | 3 | BIOL 113, CHEM 105/L MATH 110 or 106 | W F, W, S | | / |
| BIOL 376/L | Genetics/Lab | 4 | BIOL 113, CHEM 105/L | F, W | | / |
| BIOL 441/L or BIOL 442/L or CHEM 381/L | Molecular Biology/Lab Cell Biology/Lab Biochemistry I/Lab | 4 | BIOL 112/L, CHEM 106/L (completion of BIOL 220 or 376 is strongly recommended) BIOL 112/L, CHEM 106/L (completion of BIOL 376 is strongly recommended) BIOL 112/L, CHEM 352/L (completion of BIOL 376 or 441 is strongly recommended) | F W F, S | | / |
| CHEM 351/L | Organic Chemistry I/Lab | 4 | CHEM 106/L | F | | / |
| CHEM 352/L | Organic Chemistry II/Lab | 4 | CHEM 351/L | W | | / |
| PHYS 121/L | General Physics I/Lab | 4 | MATH 112 and either High School Trigonometry or MATH 111 | F, W | | / |
| PHYS 220/L or PHYS 221/L | General Physics II/Lab General Physics III/Lab | 4 | PHYS 121/L, (MATH 113 is strongly recommended, but not required) | F, W S | | / |