



**B.S. in Biology**  
**BIOLBS.2016** (Mrs 1208-1211)  
**60 credits**  
 Effective Date: 11/2016

<b>Name of Student:</b>		
<b>Student ID #:</b>		Graduation Date
<b>Home Country:</b>	<input type="checkbox"/> IWORK	
<b>Advisor:</b>	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 – Evolution, Ecology, and Organismal Biology	3	BIOL 112/L	F,W,S		/
CHEM 105/L	General Chemistry I/Lab	4	MATH 110 w/C- or better, or ACT Math score higher than 22 or SAT Math score higher than 520. (High School Chemistry or CHEM 101 highly recommended)	F,W		/
CHEM 106/L	General Chemistry II/Lab	4	CHEM 105/L w/C- or better	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

<b>Cell and Molecular Biology</b>						
BIOL 220/L or	Microbiology/Lab	4	BIOL 112/L, CHEM 105/L	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 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		/
<b>Organismal Biology</b>						
BIOL 201	General Botany	3	BIOL 113	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	BIOL 260/L and Permission of Instructor	F		/
BIOL 465/L	Principles of Physiology/Lab	4	BIOL 113, CHEM 106/L	F		/
BIOL 475	Pathophysiology	3	Either BIOL 261/L or BIOL 465/L	W		/
<b>Ecology, Evolution, and Population Biology</b>						
BIOL 204/L	Pacific Natural History/Lab	4	BIOL 113	S		/
BIOL 248	Conservation Biology	3	BIOL 113	W		/
BIOL 300/L	Animal Behavior/Lab	4	BIOL 113, CHEM 105/L	W		/
BIOL 340 or MATH 221	Biostatistics	3	BIOL 113, CHEM 105/L	W		/
	Principles of Statistics		MATH 107 or 110	F,W,S		/
BIOL 350/L	Ecology/Lab	4	BIOL 113, CHEM 105/L	F		/
BIOL 374	Evolution and 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 in Biology	3-4	BIOL 113, CHEM 105/L	Variable		/
BIOL 390RL	Special Topics in Biology Laboratory	1	BIOL 113, CHEM 105/L	Variable		/
OCEN 201	Oceanography and Marine Science	3	Any college-level natural science course of CHEM, BIOL, PHYS, PHSC, GEOL, or ASTR	F,W,S		/
CHEM 351/L	Organic Chemistry I/Lab	4	CHEM 106/L, CHEM 201 (co- or prerequisite)	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, (Completion of MATH 113 is recommended)	F,W		/
PHYS 221/L	General Physics III/Lab	4	PHYS 121/L, (Completion of MATH 113 is recommended)	S		/

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



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**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	Any college-level natural science course of CHEM, BIOL, PHYS, PHSC, GEOL, or ASTR	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	S	/
BIOL 376/L	Genetics/Lab	4	BIOL 112/L, 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	/
CHEM 351/L	Organic Chemistry I/Lab	4	CHEM 106/L, CHEM 201 (co- or prerequisite)	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 4 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 F	/
BIOL 340 or MATH 221	Biostatistics Principles of Statistics	3	BIOL 113, CHEM 105/L MATH 107 or 110	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 Cellular 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, CHEM 201 (co- or prerequisite)	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, (Completion of MATH 113 is recommended)	F,W S	/

The terms of this MRS will be honored by the Department and University within the next 8 years. If courses cease to be offered, options for substitution will be provided.