



B.S. in Biology
BIOLBS.2018 (Mrs 1471,1473-1475,1479)
56 credits
Effective Date: 09/2018

Name of Student:		
Student ID #:		Graduation Date
Home Country:	<input type="checkbox"/> [WORK]	
Advisor:	Name	Date

General Science Core **16 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 (MATH 110 can be a corequisite if MATH 101 was completed-see Advisor), or ACT Math score 22+ or SAT Math score 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 490R	Current Topics in Biology	1	Senior status with 90+ credits	F,W,S		

Biology Core **Minimum 20 Credits**

Cell and Molecular Biology – Take 2 lecture and 2 lab courses

BIOL 220	Microbiology	3	BIOL 112/L, CHEM 105/L	S		
BIOL 220L	Microbiology Lab	1	Co- or prerequisite: BIOL 220	F,W,S		
BIOL 376	Genetics	3	BIOL 113, CHEM 105/L	F,W		
BIOL 441	Molecular Biology	3	BIOL 112/L, CHEM 106/L, (completion of BIOL 220 or 376 is strongly recommended)	F		
BIOL 442	Cellular Biology	3	BIOL 112/L, CHEM 106/L, (completion of BIOL 376 is strongly recommended)	W		
BIOL 484L	Biomolecular Methods Lab II – Nucleic Acids	1	Co- or prerequisite: BIOL 376 or BIOL 441	F,W		
BIOL 485L	Biomolecular Methods Lab III – Mammalian Cells	1	Co- or prerequisite: Any one of the following: CHEM 481, CHEM 482, BIOL 441 or BIOL 442	S		

Organismal Biology – Take 2 courses

BIOL 201/L	General Botany/Lab	4	BIOL 113	S		
BIOL 212/L	Marine Biology/Lab	4	BIOL 113	S		
BIOL 260/L	Human Anatomy/Lab	3	BIOL 113, CHEM 105/L	W		
BIOL 261/L	Human Physiology/Lab	4	BIOL 113, CHEM 105/L	F		
BIOL 302/L	Invertebrate Zoology/Lab	4	BIOL 113	W		
BIOL 303/L	Vertebrate Zoology/Lab	4	BIOL 113	F		
BIOL 460	Advanced Human Anatomy	3	BIOL 260/L and Permission of Instructor	F		
BIOL 465	Principles of Physiology	3	BIOL 113, CHEM 106/L	F		

Ecology, Evolution, and Population Biology – Take 2 courses

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	F		
BIOL 340 or MATH 121	Biostatistics Principles of Statistics	3	BIOL 113, CHEM 105/L MATH 107 or 110	S F,W,S		
BIOL 350/L	Ecology/Lab	4	BIOL 113, CHEM 105/L	F		
BIOL 374	Evolution and Human Prehistory	3	BIOL 113	W		
BIOL 376	Genetics	3	BIOL 113, CHEM 105/L	F,W		
BIOL 412/L	Coral Reef Ecology/Lab	4	BIOL 212/L, CHEM 105/L	S		

Electives **16-20 Credits**

The combined credit total of the General Science Core, Biology Core and Electives should equal a minimum of 56 credits. Any Biology course listed on this requirement sheet, which is not taken as part of the General Science Core or Biology Core, can be counted as an elective.

BIOL ###	Any Biology Core Course listed above					
BIOL 222/L	Marine Microbiology/Lab	4	BIOL 112/L, CHEM 105/L	Variable		
BIOL 373	Human Embryology	3	BIOL 113, CHEM105/L	F		
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		
BIOL 475	Pathophysiology	3	Either BIOL 261/L or BIOL 465	W		
BIOL 496LR	Student Research	1	Department Consent (1 credit/semester, up to 3 credits total)	F,W,S		
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	Organic Chemistry I	3	CHEM 106/L w/C- or better, CHEM 201 (co- or prerequisite)	F,W		
CHEM 351L	Organic Chemistry I Lab	1	Co- or prerequisite: CHEM 351	F		
CHEM 352	Organic Chemistry II	3	CHEM 351 w/C- or better	F,W		
CHEM 352L	Organic Chemistry II Lab	1	CHEM 351/L and co- or prerequisite: CHEM 352	W		
CHEM 481	Biochemistry I	3	BIOL 112/L w/C- or better, CHEM 351 w/C- or better (completion of BIOL 376 or 441 is strongly recommended)	F,S		
CHEM 482	Biochemistry II	3	CHEM 481 w/C- or better	W		
CHEM 483L	Biochemistry Methods Lab I – Proteins	1	Co- or prerequisite: CHEM 481	F,S		
PHYS 121/L	General Physics I/Lab	4	MATH 212 and either High School Trigonometry or MATH 111	F,W		
PHYS 220/L	General Physics II/Lab	4	PHYS 121/L, (Completion of MATH 213 is recommended)	F,W		
PHYS 221/L	General Physics III/Lab	4	PHYS 121/L, (Completion of MATH 213 is recommended)	S		



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Biology Major Requirements **(mrs 1479)**

- All students majoring in Biology need to complete a minimum of 24 credits of 300-400 level courses.
- All students majoring in the Biology program, with or without an emphasis, work towards a B.S. in Biology. Students are not required to complete a specific emphasis in the major. However, those with special interests, who wish to select an emphasis may claim it by completing the emphasis requirements as part of, not in addition to, the Biology major requirements.
- 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

All students majoring in Biology are expected to achieve a grade of C- or higher in their major courses. However, we will allow D grades as passing, if the number of credits from D grades is at or less than the allowed maximum (12 credits), as outlined by the BYU-Hawaii policy for graduation requirements.

Marine Biology – the following courses must be completed within, not in addition to, the Biology major requirements **(mrs 1473)**

BIOL 212/L	Marine Biology/Lab	4	BIOL 113	S	
BIOL 302/L	Invertebrate Zoology/Lab	4	BIOL 113	W	
BIOL 303/L	Vertebrate Zoology/Lab	4	BIOL 113	F	
BIOL 376	Genetics	3	BIOL 113, CHEM 105/L	F,W	
BIOL 412/L	Marine Ecology/Lab	4	BIOL 212/L, CHEM 105/L	S	
BIOL 484L	Biomolecular Methods Lab II – Nucleic Acids	1	Co- or prerequisite: BIOL 376 or BIOL 441	F,W	
OCEN 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 within, not in addition to, the Biology major requirements **(mrs 1474)**

BIOL 220	Microbiology	3	BIOL 112/L, CHEM 105/L	S	
BIOL 220L	Microbiology Lab	1	Co- or prerequisite: BIOL 220	F,W,S	
BIOL 376	Genetics	3	BIOL 112/L, CHEM 105/L	F,W	
BIOL 441	Molecular Biology	3	BIOL 112/L, CHEM 106/L (completion of BIOL 220 or 376 is strongly recommended)	F	
BIOL 442	Cellular Biology	3	BIOL 112/L, CHEM 106/L (completion of BIOL 376 is strongly recommended)	W	
CHEM 351	Organic Chemistry I	4	CHEM 106/L w/C- or better, CHEM 201 (co- or prerequisite)	F,W	
CHEM 351L	Organic Chemistry I Lab	1	Co- or prerequisite: CHEM 351	F	
CHEM 352	Organic Chemistry II	3	CHEM 351 w/C- or better	F,W	
CHEM 352L	Organic Chemistry II Lab	1	CHEM 351; Co- or prerequisite: CHEM 352	W	
CHEM 481	Biochemistry I	3	BIOL 112/L w/C- or better, CHEM 351 w/C- or better (completion of BIOL 376 or 441 is strongly recommended)	F,S	
CHEM 483L	Biochemistry Methods Lab I – Proteins	1	Co- or prerequisite: CHEM 481	F,S	
BIOL 484L or CHEM 484L	Biomolecular Methods Lab II – Nucleic Acids	1	Co- or prerequisite: BIOL 376 or BIOL 441	F,W	
	Biochemistry Methods Lab II – Nucleic Acids		Co- or prerequisite: CHEM 482	W	
BIOL 485L or CHEM 485L	Biomolecular Methods Lab III – Mammalian Cells	1	Co- or prerequisite: Any one of the following: CHEM 481, CHEM 482, BIOL 441 or BIOL 442	S	
	Biochemistry Methods Lab III – Mammalian Cells		W		

Ecology, Evolution and Conservation Biology – the following courses must be completed within, not in addition to, the Biology major requirements **(mrs 1471)**

BIOL 248	Conservation Biology	3	BIOL 113	W	
BIOL 300/L	Animal Behavior/Lab	4	BIOL 113, CHEM 105/L	F	
BIOL 340	Biostatistics	3	BIOL 113, CHEM 105/L	S	
BIOL 350/L	Ecology/Lab	4	BIOL 113, CHEM 105/L	F	
BIOL 374	Evolution and Human Prehistory	3	BIOL 113	W	

Biomedical Sciences – the following courses must be completed within, not in addition to, the Biology major requirements **(mrs 1475)**

BIOL 220 or BIOL 260/L or BIOL 261/L or BIOL 465	Microbiology Human Anatomy/Lab Human Physiology/Lab Principles of Physiology	3 3 4 3	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 121	Biostatistics Principles of Statistics	3	BIOL 113, CHEM 105/L MATH 107 or 110	S F,W,S		
BIOL 376	Genetics	3	BIOL 113, CHEM 105/L	F,W		
BIOL 441 or BIOL 442 or CHEM 481	Molecular Biology Cellular Biology Biochemistry I	3	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 w/C- or better, CHEM 351 w/C- or better (completion of BIOL 376 or 441 is strongly recommended)	F W F,S		
CHEM 351	Organic Chemistry I		3	CHEM 106/L w/C- or better, CHEM 201 (co- or prerequisite)	F,W	
CHEM 352	Organic Chemistry II		3	CHEM 351 w/C- or better	F,W	
PHYS 121/L	General Physics I/Lab	4	MATH 212 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 213 is recommended)	F,W S		
Lab Courses	Take any additional Biology and Chemistry lab courses as needed		Based on the selected courses, all prerequisites listed in the catalog must be met.	Variable		