

# B.S. IN BIOLOGY

Code	Title	Credits
<b>Major in Biology (B.S.)</b>		
BIO 124 & BIO 124D	Integrative Biology: Genes, Cells, Change and Integrative Biology: Genes, Cells, Change Lab	4
BIO 128 & BIO 128D	Integrative Biology: Metabolism, Energy, Biodiversity and Integrative Biology: Metabolism, Energy, Biodiversity Lab	4
BIO 218	Biology in a Changing World	3
BIO 399	Introduction to Research	1
BIO 495	Biology Seminar	2
Choose an applied experience:		2-4
BIO 481	Internship in Biology	
BIO 496 & BIO 497	Biology Research and Advanced Biology Research	
BIO 499	Biology Symposium	0
<b>Choose one course from each of the following three areas, at least one of which must be a designated research course</b>		
<b>Environmental area courses:</b>		<b>4</b>
BIO 316 & BIO 317	Wildlife Ecology and Management and Wildlife Ecology and Management Lab	
BIO 318KZ	Ecology in the Tropics: Natural History and Future Prospects	
BIO 328 & BIO 329	Invertebrate Biology and Invertebrate Biology Lab	
BIO 330 & BIO 331	Ecology and Ecology Lab <sup>1</sup>	
BIO 342 & BIO 343	Aquatic Biology and Aquatic Biology Lab	
BIO 346 & BIO 347	Animal Behavior and Animal Behavior Lab	
BIO 372 & BIO 373	Plant Taxonomy and Ecology and Plant Taxonomy and Ecology Lab	
BIO 380 & BIO 383	Environmental Plant Biology and Environmental Plant Biology Lab <sup>1</sup>	
Courses from Au Sable Institute of Environmental Studies		
<b>Organismic area courses:</b>		<b>4</b>
BIO 214 & BIO 215	Human Anatomy and Human Anatomy Lab	
BIO 216 & BIO 217	Human Physiology and Human Physiology Lab	
BIO 238 & BIO 239	Human Anatomy and Physiology and Human Anatomy and Physiology Lab	
BIO 326 & BIO 327	Vertebrate Histology and Vertebrate Histology Lab	
BIO 338 & BIO 339	Endocrinology and Endocrinology Lab <sup>8</sup>	
BIO 358 & BIO 359	Neurobiology and Neurobiology Lab	

## B.S. in Biology 2

BIO 368 & BIO 369	Structure and Development of Vertebrates and Structure and Development of Vertebrates Lab	
BIO 376 & BIO 377	Animal Physiology and Animal Physiology Lab	
<b>Cell and molecular area courses:</b>		<b>4</b>
BIO 234 & BIO 235	Microbiology and Microbiology Lab	
BIO 332 & BIO 333	Genetics and Genetics Lab	
BIO 354 & BIO 355	Cell Biology and Cell Biology Lab <sup>1</sup>	
BIO 362 & BIO 363	Developmental Biology and Developmental Biology Lab <sup>1</sup>	
BIO 384 & BIO 387	Immunology and Immunology Lab <sup>1</sup>	
BIO 396 & BIO 397	Molecular Biology and Molecular Biology Lab <sup>1,4</sup>	
CHE 304 & CHE 397	Essentials of Biochemistry and Biochemistry II Lab <sup>3</sup>	
CHE 388 & CHE 389	Biochemistry I and Biochemistry I Lab	
Electives from 200-level or above biology courses (of which 12 credits must be 300 level)		16
CHE 113 & CHE 113D	General Chemistry I and General Chemistry I Lab	4
CHE 214 & CHE 215	General Chemistry II and General Chemistry II Lab	4
CHE 224 & CHE 225	Organic Chemistry I and Organic Chemistry I Lab	4
CHE 226 & CHE 227	Organic Chemistry II and Organic Chemistry II Lab	4
Choose one of the following Physics sequences:		8
PHY 202 & PHY 202D & PHY 206 & PHY 207	Introductory Physics I and Introductory Physics I Lab and Introductory Physics II and Introductory Physics II Lab <sup>6</sup>	
PHY 292 & PHY 292D & PHY 296 & PHY 297	General Physics I and General Physics I Lab and General Physics II and General Physics II Lab <sup>2, 5</sup>	
Choose one of the following mathematics courses:		3-4
AHS 250M	Statistics and Research Methods in Applied Health Sciences	
MAT 124M	Calculus 1 <sup>7</sup>	
MAT 125	Calculus 2 <sup>5</sup>	
MAT 207M	Statistical Analysis	
PSY 230M	Introduction to Statistical Methods and Experimental Design	

Code	Title	Credits
Major		71-74
General Education		43-44
Electives		5-7
<b>Total Credits</b>		<b>122</b>

<sup>1</sup> This is a designated research course.

<sup>2</sup> MAT 125 is a prerequisite for PHY 296/PHY 297.

<sup>3</sup> Students requiring CHE 397 for their degree will require an override to take this course concurrently with CHE 304.

<sup>4</sup> BIO 332/BIO 333 is a prerequisite for this course.

<sup>5</sup> MAT 124M is a prerequisite for this course.

<sup>6</sup> MAT 123M, MAT 124M or the Math Placement exam is a prerequisite for PHY 202/PHY 202D.

<sup>7</sup> Students may test into this course via successful completion of the Math and Computer Science department placement exam or by completing MAT 123M and the Math and Computer Science department placement exam requirements.

<sup>8</sup> BIO 122/BIO 122D is a prerequisite for this course.

Courses whose number is followed by a letter fulfill a General Education requirement.

Students may not declare a B.A. in Biology and a B.S. in Biology.

Students may not declare a B.S. in Biology and a Minor in Biology.