

Department Level Requirements - Biological Sciences

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Requirements for the BA and BS degrees with a major in Biological Sciences include course work in biology and ancillary science departments (chemistry, physics and math). The BS degree program requires more extensive course work, with additional studies in biology and the ancillary sciences. The BA degree program is more flexible and has fewer required courses to accommodate students with dual degrees or minors in other departments. Both degree programs can be used to prepare for graduate study or professional school. Students must also complete college and university graduation requirements, including university general education requirements.

All courses in the major (including ancillary sciences) must be completed with a grade of C- or higher with a cumulative GPA of 2.0 or higher. (Satisfactory/Unsatisfactory grading is not acceptable for courses in the major.) At least 12 hours of biology coursework must be taken in residence at MU.

Second Language Alternative (SLA) for students pursuing a BS degree in biological sciences

Students who are pursuing a BS degree with a major in biological sciences may opt to satisfy the foreign language requirement through alternative coursework (SLA) consisting of at least 12 credits in courses numbered 2000 or above. These courses may not be used to satisfy other degree requirements. Students should confer with the Biology Advising Office to ensure that alternative courses meet departmental requirements. Any alternative courses must be approved by the Director of Undergraduate Studies.

Major Core Requirements Biology

BIO_SC 1500	Introduction to Biological Systems with Laboratory	5
or BIO_SC 1010 & BIO_SC 1020	General Principles and Concepts of Biology and General Biology Laboratory (Grade of A or B required for Bio 1010/1020)	
BIO_SC 2200	General Genetics	
BIO_SC 2300	Introduction to Cell Biology	
Evolutionary Biology (select from):		3
BIO_SC 3400	Evolution and Ecology	
BIO_SC 4600	Evolution	
Biological Diversity (select from):		3-5
MICROB 3200	Medical Microbiology and Immunology	
BIO_SC 3210	Plant Systematics	
BIO_SC 3260	Invertebrate Zoology	
BIO_SC 3360	Herpetology	
BIO_SC 3510	Biology of Fungi	
BIO_SC 3710	Introductory Entomology	
BIO_SC 3750	General Microbiology	
F_W 2600	Ornithology	
F_W 2700	Ichthyology	
F_W 3660	Mammalogy	

Capstone course (select one) (complete in last 45 hours):		3-5
BIO_SC 4950 & BIO_SC 4952	Undergraduate Research in Biology and Undergraduate Research in Biology	
BIO_SC 4950H & BIO_SC 4952H	Honors Research in Biology and Honors Research in Biology	
BIO_SC 4972	Developmental Biology	
BIO_SC 4976	Molecular Biology	
BIO_SC 4978	Cancer Biology	
BIO_SC 4982	Human Inherited Diseases	
BIO_SC 4983	Molecular Ecology	
BIO_SC 4990	Vertebrate Histology and Microscopic Anatomy	
BIO_SC 4994	Senior Seminar	

Electives

All biology majors must take additional biology courses to total at least 29 credits for the BA degree or 33 credits for the BS degree. No more than 5 credits of introductory biology coursework may be included in the major.

Elective credits must be in formal courses numbered above 2000 and must include at least one 3000- or 4000-level laboratory course, one 4000-level course, and one WI course at the 3000- or 4000- level in a natural science. BIO_SC 2001, BIO_SC 2010, BIO_SC 2015, BIO_SC 2030, BIO_SC 2060, BIO_SC 2100, BIO_SC 2150, BIO_SC 2950, and BIO_SC 3010 may not be used to satisfy this requirement. MICROB 3200 may not be used to satisfy the laboratory course requirement.

Independent readings, internships, and problems courses (i.e., BIO_SC 2940, BIO_SC 2960, BIO_SC 2965H, BIO_SC 4085, and BIO_SC 4960) do not apply to the BA or BS degree.

Students completing research courses BIO_SC 4950, BIO_SC 4950H, BIO_SC 4952, or BIO_SC 4952H for 6 credits may apply 3 credits toward fulfillment of biology elective hours for the BA or BS degree.

Students may repeat research courses for a total of 12 hours. Any credits remaining after 3 hours are used as a capstone or an elective in biology will be applied toward total hours to graduate. A maximum of 12 credit hours from the following courses (BIO_SC 2940, BIO_SC 2960, BIO_SC 2965H, BIO_SC 4085, BIO_SC 4950, BIO_SC 4950H, BIO_SC 4952 and BIO_SC 4952H) can be counted toward graduation.

BIOCHM 4270 and BIOCHM 4272 may apply toward fulfillment of biology elective hours for the BA or BS degree.