

2023-2024 Catalog

Biology

Bachelor of Science
Academic Department
Biology

The BS degree emphasizes research and laboratory experience and requires additional courses in biology. All BS students will complete a laboratory or field project under the direction of a faculty member in the Biology Department. BS students will also complete BIOL 3194, 4194 and 4195, for which they will prepare a scientific research article describing their research.

****Note:** All biology students must complete a Major Field Test prior to graduation**

Total Credits 66

Biology			
Item #	Course Title		Credits
☐ BIOL 1351	Introduction to Population Biology and Evolution	BIOL 1351 Corequisite: BIOL 1151	3
☐ BIOL 1151	Introduction to Biology Practicum	BIOL 1151 Corequisite: BIOL 1351	1
☐ BIOL 1352	Introduction to Cell and Molecular Biology	BIOL 1352 Corequisite: BIOL 1152	3
☐ BIOL 1152	Basic Lab Techniques in Biology	BIOL 1152 Corequisite: BIOL 1352	1
☐ BIOL 3321	Genetics	Prerequisites (with a grade of 'C' or better): BIOL 1351/1151, 1352/1152 and CHEM 1341/1141.	3
☐ BIOL 3121	Genetics and Molecular Biology Laboratory	Prerequisites (with a grade of 'C' or better): BIOL 1351/1151, 1352/1152 and CHEM 1341/1141, 1342/1142; Corequisite: BIOL 3321	1
☐ BIOL 3331 or BIOL 3341	Biochemistry	BIOL 3334 Prerequisites (With Grade of 'C' or Better): CHEM 2343/2143	3
☐ BIOL 3334			
☐ BIOL 4332	Evolution	BIOL 4332 Prerequisites (With Grade of 'C' or Better): BIOL 3321 and Senior Standing.	3

Biology Research Methods			
Item #	Course Title		Credits
☐ BIOL 3194	Introduction to Biological Research	BIOL 3194 Pre/ Corequisites: BIOL 3321	1

☐	BIOL 4194	Guided Biological Research	BIOL 3321, BIOL 3194, Senior standing or second semester Junior. Minimum of 50 documented research hours with Biology faculty member.	1
☐	BIOL 4195	Biology Senior Thesis	BIOL 4195 Prerequisites: BIOL 3321, 3194, 4194. Senior standing and entering last semester. Minimum of 100 documented research hours with Biology faculty member.	1

Additional Upper Division Biology Courses

Choose six lecture courses and 4 lab courses. For 3 HR courses with 1 HR lab it is recommended to take them together. 4 HR courses include the lecture and the lab.

Item #	Course Title		Credits
☐ BIOL 3331	Ecology	BIOL Upper-Division Prerequisite (with a 'C' or better): BIOL 3321	3
☐ BIOL 3345	Physiology	BIOL 3345 Prerequisite (With Grade of 'C' or Better): BIOL 1351/1151, 1352/1152	3
☐ BIOL 3333	Microbiology	BIOL Upper-Division Prerequisite (with a 'C' or better): BIOL 3321	3
☐ BIOL 3339	Neuroscience	BIOL Upper-Division Prerequisite (with a 'C' or better): BIOL 3321	3
☐ BIOL 3341	Marine Biology	BIOL Upper-Division Prerequisite (with a 'C' or better): BIOL 3321	3
☐ BIOL 3351	Molecular Biology	BIOL 3351 Prerequisites (With Grade of 'C' or Better): BIOL 3321, CHEM 2343	3
☐ BIOL 3362	Cancer Biology	BIOL Upper-Division Prerequisite (with a 'C' or better): BIOL 3321	3
☐ BIOL 4321	Nucleic Acids	BIOL Upper-Division Prerequisite (with a 'C' or better): BIOL 3321	3
☐ BIOL 4336	Cells, Genes and Molecules	BIOL 4336 Prerequisites: BIOL 3321, 3334, 3351	3
☐ BIOL 4354	Pathogenic Microbiology	BIOL Upper-Division Prerequisite (with a 'C' or better): BIOL 3321	3
☐ BIOL 3448	Comparative Anatomy	BIOL Upper-Division Prerequisite (with a 'C' or better): BIOL 3321	4
☐ BIOL 3461	Cell Biology	BIOL Upper-Division Prerequisite (with a 'C' or better): BIOL 3321	4
☐ BIOL 4449	Immunology	BIOL Upper-Division Prerequisite (with a 'C' or better): BIOL 3321	4
☐ BIOL 3121	Genetics and Molecular Biology Laboratory	Prerequisites (with a grade of 'C' or better): BIOL 1351/1151, 1352/1152 and CHEM 1341/1141, 1342/1142; Corequisite: BIOL 3321	1
☐ BIOL 3133	Microbiology Laboratory	BIOL Upper-Division Prerequisite (with a 'C' or better): BIOL 3321	1
☐ BIOL 3134	Biochemistry Lab	BIOL 3134 Prerequisites (With Grade of 'C' or Better): CHEM 2343, 2143	1
☐ BIOL 3151	Advanced Molecular Biology Laboratory	BIOL 3151 Prerequisites: BIOL 3321, 3121	1

☐	BIOL 4154	Pathogenic Microbiology Laboratory	BIOL Upper-Division Prerequisite (with a 'C' or better): BIOL 3321	1
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Chemistry

Must take in order:

Item #	Course Title		Credits
☐ CHEM 1341	General Chemistry I	CHEM 1341 Corequisite: CHEM 1141	3
☐ CHEM 1141	General Chemistry I Laboratory	CHEM 1141 Corequisite: CHEM 1341	1
☐ CHEM 1342	General Chemistry II	CHEM 1342 Prerequisite (C or better): CHEM 1341/1141. Corequisite: CHEM 1142	3
☐ CHEM 1142	General Chemistry II Laboratory	CHEM 1142 Corequisite: CHEM 1342	1
☐ CHEM 2343	Organic Chemistry I	CHEM 2343 Prerequisite: CHEM 1342/1142; Corequisite: CHEM 2143.	3
☐ CHEM 2143	Organic Chemistry I Laboratory	CHEM 2143 Corequisite: CHEM 2343	1

Physics

Choose one pair of the following:

Item #	Course Title		Credits
☐ PHYS 1331	General Physics I	PHYS 1331 Prerequisite: MATH 1430.	3
☐ PHYS 1111	General Physics I Laboratory	PHYS 1111 Corequisite: PHYS 1331	1
☐ PHYS 2333	University Physics I	PHYS 2333 Corequisites: PHYS 2111, MATH 1431	3
☐ PHYS 2111	University Physics I Laboratory	PHYS 2111 Corequisite: PHYS 2333	1

Mathematics

Choose one of the following:

Item #	Course Title		Credits
☐ MATH 1431	Calculus I	MATH 1431 Prerequisite: MATH 1430 or department consent.	4
☐ MATH 3450	Biostatistics I		4