

B.A. Biology

2023-24

WEBSITE

<https://www.swau.edu/biology>

DEPARTMENT PERSONNEL

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The Bachelor of Arts (BA) degree is designed to give the student maximum flexibility in their curriculum while still obtaining a four-year degree in Biology. The BA in Biology does not require as many cognates in chemistry and physics as does the BS in Biology. BA students choose a minor area of study outside Biology and learn a foreign language. Students in the Department of Biological Sciences are presented with rare leadership opportunities through the Biology Club and Pre-Health Professions Club and the potential to work with professors as laboratory and research assistants. Biology majors can also choose to receive research experience which can include cancer research, molecular biology applications, microbiological investigation, plant studies, animal ecology, and conservation, or dinosaur bone analysis, among other things, depending on the student's individual interests.

Job Market

The career potential for graduates with a B.A. degree in Biology is very large. If a student does not wish to pursue further education after the college degree, there are jobs available as technical assistants for biotech, academic, or government positions. Alternatively, when combined with a teaching certificate, biology graduates are prepared to teach high school biology. Another career option for biology graduates is to pursue further education in the form of graduate school. A B.A. in Biology is an excellent entry point for many non-thesis, science-related master's degrees that prepare students to work in industry or government. Such students can become specialists in product development or testing, resource management, or resource policy to name a few.

Job Outlook

Biotechnology Laboratory Technician, High School Science Teacher, Research Scientist, Public Health Officer, Health Educator, Science Writer, Occupational Therapist, SpeechLanguage Pathologist, Optometrist, Orthotist & Prosthetist. (Note that some of these careers require additional graduate training and may require additional pre-requisite coursework. Please consult with your academic advisor for career planning.)

Earnings

Biological Technicians, Median Pay: \$43,800; Job Outlook (next 10 years): 10% (faster than average). High School Teachers, Median Pay: \$59,170; Job Outlook (next 10 years): 8% (average). Medical Scientists, Median Pay: \$82,090; Job Outlook (next 10 years): 13% (faster than average). Occupational Therapists, Median Pay: \$83,200; Job Outlook (next 10 years): 24% (much faster than average).

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Required Courses *Include one botany elective.

Item #	Title	Credits
BIOL 111	General Biology I	4
BIOL 112	General Biology II	4
BIOL 230	Ecology	4
BIOL 320	Genetics	4
BIOL 340	Cell and Molecular Biology I	4
BIOL 419	Philosophy of Science	3
	Sub-Total Credits	23

Biology BA Electives (6-8 credit hours)

Item #	Title	Credits
BIOL 314	Systematic Botany	4
BIOL 318	Microbiology & Immunology	4
BIOL 325	Field Ecology	4
BIOL 331	Vertebrate Ectotherms	4
BIOL 333	Parasitology	3
BIOL 336	Endotherms	4
BIOL 341	Cell and Molecular Biology II	4
BIOL 345	Environment and Mankind	4
BIOL 360	Plant Biology	4
BIOL 410	Human Physiology	4
BIOL 443	Comparative Vertebrate Anatomy	4
BIOL 450	Histology	4
BIOL 455	Immunology	3
BIOL 465	Plant Physiology	4
	Sub-Total Credits	6-8

Required Cognates

Item #	Title	Credits
CHEM 111	General Chemistry I	4
CHEM 112	General Chemistry II	4
	MATH 141 or 180	3-4
	Sub-Total Credits	16

Sample 4 Year Curriculum

General Education Requirements

To view general education requirements for this major please visit: <https://catalog.swau.edu/core-curriculum-for-a-bachelors-degree>

First Year First Semester

Item #	Title	Credits
	Beginning Language Requirement	4
BIOL 111	General Biology I	4
ENGL 121	Freshman Composition	3
MATH 110	College Algebra	3
	Sub-Total Credits	14

First Year Second Semester

Item #	Title	Credits
	Beginning Language Requirement	4
BIOL 112	General Biology II	4
MATH 141	Introduction to Probability and Statistics	3
	Religion GE Requirement	3
UNIV 111	Wellness for Life	2
	Sub-Total Credits	15

Second Year First Semester

Item #	Title	Credits
CHEM 111	General Chemistry I	4
COMM 111	Speech	3
	Elective Course for 120	3
ENGL 220	Research Writing	3
	Minor Elective	3
	Sub-Total Credits	16

Second Year Second Semester

Item #	Title	Credits
CHEM 112	General Chemistry II	4
	Fine Arts GE Requirement	3
	Kinesiology GE Requirement	1
	Minor Elective	3
	Religion GE Requirement	3
	Sub-Total Credits	14

Third Year First Semester

Item #	Title	Credits
BIOL 230	Ecology	4
	Elective (Upper Division)	3
	Elective (Upper Division)	3
	Minor Elective	3
	Religion GE Requirement	3
	Sub-Total Credits	16

Third Year Second Semester

Item #	Title	Credits
BIOL 320	Genetics	4
	Elective (Upper Division)	3
	History GE Requirement	3
	Kinesiology GE Requirement	1
	Minor Elective	3
	Sub-Total Credits	14

Fourth Year First Semester

Item #	Title	Credits
BIOL 340	Cell and Molecular Biology I	4
	BIOL BA Elective (x2) Curriculum Guide	3-4
	History GE Requirement	3
	Minor Elective	3
	Religion GE Requirement	3
	Sub-Total Credits	16-17

Fourth Year Second Semester

Item #	Title	Credits
BIOL 419	Philosophy of Science	3
	BIOL BA Elective (x2) Curriculum Guide	3-4
	Literature GE Requirement	3
	Minor Elective	3
	Social Science GE Curriculum Guide	3
	Sub-Total Credits	15-16