
NATURAL SCIENCES AND MATHEMATICS

The Natural Sciences and Mathematics academic area serves the University by offering general education courses in Mathematics, Biology, Physics, and Chemistry. Courses in grouping of related fields serve both the students and faculty by simulating collaboration and team-teaching in the disciplines. The Bachelor of Science degree is offered in Biology and a minor.

This academic school also houses a developing teaching and research center of excellence through which the school looks to strengthen the research capabilities of faculty and students at Wiley University and to provide opportunities for the creation of knowledge and advanced learning experiences.

BACHELOR OF SCIENCE IN BIOLOGY

Program Overview

The Bachelor of Science degree in Biology is designed to prepare graduates with a broad understanding of biological principles through and to equip them for graduate studies and a wide range of careers through integrated support courses in Chemistry, Physics, and Mathematics.

Career Opportunities for Biology Majors

Graduates are prepared for careers in industry, sales, research, and government. Graduates are also prepared for entry into graduate programs in biology and professional schools in public health, medicine, dentistry, allied health sciences and related areas such as pharmacy, medical technology, nursing, physician's assistantship, biotechnology, and forensics.

Pre-professional and pre-certificate students at Wiley University are encouraged to help establish contacts with graduate or professional schools offering their choice of programs. Thus, specific degree requirements of target schools or programs can be incorporated in the student's preparatory schedule at Wiley in the most efficient sequence.

Objectives

The objectives of the Department of Biology include the following:

1. To enhance students' reasoning, problem-solving skills, and application of the scientific method and related scientific and mathematical concepts
2. To prepare its graduates for entry into graduate school
3. To prepare graduates for entry into professional programs such as medicine, dentistry, environmental studies, biotechnology, and allied health

GENERAL DEGREE REQUIREMENTS FOR BIOLOGY

For the Bachelor of Science degree in Biology, the student must complete the following:

General Education Requirements	45	Semester Hours
Departmental Requirements	36	Semester Hours
Major Field of Study Requirements	38	Semester Hours
Directed Electives	4	Semester Hours
Total Semester Hours	123	

Graduation Requirements

To graduate with a major or minor in biology, a student must:

1. Earn at least a "C" in all required major, minor, and required biology elective courses.
2. Meet all General Education requirements and take the Rising Junior, Senior Comprehensive, and Major Subject Field Tests.
3. Have a cumulative GPA of at least 2.0.
4. Enroll in GEEP each semester of attendance and receive a "P" grade. The student must complete seven (7) semesters. Transfer students are only required to meet the satisfaction of the number of GEEP courses based on their classification at the time of enrollment.
5. Complete an application for graduation and secure the approval of their advisor and school's dean.

Internship Requirements

Biology majors are not required to complete an internship; however, they are strongly encouraged to engage in internships and other programs and activities that allow them to explore opportunities in biology and related fields.

RECOMMENDED FOUR-YEAR CURRICULUM
Bachelor of Arts in Biology

Freshman Year

First Semester			Cr. Hrs.	Second Semester			Cr. Hrs.
ENGL	1301	English Composition I	3	ENGL	1302	English Composition II	3
GESS	1100	Academic Success Seminar - PF	1	MATH	1351	Pre-Calculus II	3
GESS	1200	Academic Success Seminar	2	BIOL	1422	General Biology II with Lab (Botany)	4
*MATH	1350	Pre-Calculus I	3	CHEM	2402	General Chemistry II with Lab	4
BIOL	1411	Gen Bio I w/Lab (Zoology)	4	HIST	2300	Intro to African American Studies	3
CHEM	2401	General Chemistry I with Lab	4	GEEP	1002	General Educ Enrich Program	0
GEEP	1001	General Educ Enrich Program	0				17
			17				

Sophomore Year

First Semester			Cr. Hrs.	Second Semester			Cr. Hrs.
PHYS	2401	General Physics I with Lab	4	PHED	1110	Fundamentals of Health & Fitness I	1
ENGL	2311	World Literature I	3	PHYS	2402	General Physics II with Lab	4
BIOL	2451	General Ecology with Lab	4	CHEM	3402	Organic Chemistry II with Lab	4
BIOL	2200	Concepts in Lab Analysis	2	SPCH	2300	Speech Communication	3
CHEM	3401	Organic Chemistry I with Lab	4	CISC	1300	Introduction to Computing	3
GEEP	2001	General Educ Enrich Program	0	GEEP	2002	General Educ Enrich Program	0
			17				15

Junior Year

First Semester			Cr. Hrs.	Second Semester			Cr. Hrs.
HIST	1301	US History I	3	HIST	1302	US History II	3
BIOL	3411	Ess of Cell/Mol Biol w/Lab	4	PHED	1111	Fundamentals of Health & Fitness II	1
BIOL	3111	Biology Seminar I	1	BIOL	3442	Anatomy and Phys II w/Lab	4
BIOL	3441	Anatomy and Phys I w/Lab	4	BIOL	4112	Biology Seminar II	1
MATH	3305	Elementary Statistics	3	SPAN	2302	Elementary Spanish II	3
SPAN	2301	Elementary Spanish I	3	PSYC	2300	Introduction to Psychology OR	3
GEEP	3001	General Educ Enrich Program	0	SOCI	2310	Introduction to Sociology	0
			18	GEEP	3002	General Educ Enrich Program	0
							15

Senior Year

First Semester			Cr. Hrs.	Second Semester			Cr. Hrs.
BIOL	4201	Research in Biology	2	CHEM	4404	Biochemistry	4
BIOL	4411	Principles of Gen w/ Lab	4	BIOL	4441	Microbiology with Lab	4
HUMA	2300	Humanities	3	BIOL		Biology Elective with Lab	4
RELI	1301	Survey of Rel & Philosophy	3	GEEP	4002	General Educ. Enrich Program	0
GEEP	4001	General Educ Enrich Program	0				12
			12				

Total Semester Hours **123**

General Education Requirements (45 hours)

			Semester Hours
PHYS	2401	General Physics I with Lab	4
ENGL	1301	English Composition I	3
ENGL	1302	English Composition II	3
ENGL	2311	World Literature I	3
GESS	1100	Academic Success Seminar - PF	1
GESS	1200	Academic Success Seminar	2
HIST	1301	US History I	3
HIST	1302	US History II	3
HIST	2300	Introduction to African American Studies	3
HUMA	2300	Humanities	3
MATH	1350	Precalculus I	3
PHED	1110	Fundamentals of Health and Fitness I	1
PHED	1111	Fundamentals of Health and Fitness II	1
RELI	1301	Survey of Religion and Philosophy	3
SPAN	2301	Elementary Spanish I	3
SPAN	2302	Elementary Spanish II	3
SPCH	2300	Speech Communication	3
Total Semester Hours			45

Departmental Requirements

			Semester Hours
CISC	1300	Introduction to Computing	3
CHEM	2401	General Chemistry I with Lab	4
CHEM	2402	General Chemistry II with Lab	4
CHEM	3401	Organic Chemistry I with Lab	4
CHEM	3402	Organic Chemistry II with Lab	4
CHEM	4404	Biochemistry with Lab	4
PHYS	2402	General Physics II with Lab	4
MATH	1351	Pre-Calculus II or higher	3
MATH	3305	Elementary Statistics	3
PSYC	2300	Introduction to Psychology OR	3
SOCI	2310	Introduction to Sociology	3
Total Semester Hours			36

Directed Electives for Biology Students

(Students should choose 4 credit hours from the following list)

			Semester Hours
BIOL	2304	Medical Terminology	3
BIOL	3491	Environmental Biology with Lab	4
BIOL	3412	Developmental Biology with Lab	4
BIOL	4141	Special Problems	1
BIOL	4404	Advanced Techniques in Molecular Biology and Biochemistry	4
BIOL	4421	Immunology with Lab	4

Total Semester Hours 4

Courses Required to Satisfy the Major Field of Study Requirements for Biology students:

Students selecting biology as a major must earn 38 semester hours in the following biology courses with no grade below "C."

			Semester Hours
BIOL	1411	General Biology I with Lab (Zoology emphasis)	4
BIOL	1422	General Biology II with Lab (Botany emphasis)	4
BIOL	2200	Concepts in Laboratory Analysis	2
BIOL	2451	General Ecology with Lab	4
BIOL	3111	Biology Seminar I	1
BIOL	3411	Essentials of Cellular & Molecular Biology	4
BIOL	3441	Anatomy and Physiology I with Lab	4
BIOL	3442	Anatomy and Physiology II with Lab	4
BIOL	4112	Biology Seminar II	1
BIOL	4201	Research in Biology	2
BIOL	4411	Principles of Genetics with Lab	4
BIOL	4441	Microbiology with Lab	<u>4</u>
Total Semester Hours			38

Listed below are general preparation courses offered for students interested in pursuing professions in medicine and nursing. The following courses are highly suggested:

MATH	1351	Pre-Calculus II	3
MATH	3305	Elementary Statistics	3
CHEM	2301	Nutrition	3
ENGL	2302	World Literature II	3
PSYC	2300	Introduction to Psychology	3
PSYC	2322	Social Psychology	3

Courses Required to Satisfy a Minor in Biology:

Students selecting biology as a minor must earn 26 semester hours in the following courses with no grade below "C":

			Semester Hours
BIOL	1411	General Biology I with Lab (Zoology emphasis)	4
BIOL	1422	General Biology II with Lab (Botany emphasis)	4
BIOL	2451	General Ecology with Lab	4
BIOL	3111	Biology Seminar I	1
BIOL	3411	Essentials of Cell/Molecular Biology with Lab	4
BIOL	4112	Biology Seminar II	1
BIOL	4411	Principles of Genetics with Lab	4
BIOL	4441	Microbiology with Lab	<u>4</u>
Total Semester Hours			26