BIOLOGY, BACHELOR OF SCIENCE (525)

Program Coordinator
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The major in biology (525) does not require a second major or minor. Students complete a range of biology courses and are able to participate in research projects to ease the transition into the workplace.

Students who wish to be certified to teach high school biology must complete both the major in Biology (reference number 617) with a Teacher Education concentration (TCHR) and the major in Science and Mathematics Education (reference number 774), offered in the School of Teacher Education. Interested students should contact the SKyTeach Office, Kelly Thompson Hall 1011A, 270-745-3900.

Program Requirements (48 hours)

This option for a major in biology requires a minimum of 48 hours in biology with 24 hours at the 300 or higher level. No minor is required. A range of upper level courses are available in ecology and evolutionary biology, molecular and cellular biology, plant biology, animal biology, and microbiology.

A baccalaureate degree requires a minimum of 120 unduplicated semester hours. More information can be found at www.wku.edu/registrar/degree_certification.php. (https://www.wku.edu/registrar/degree_certification.php)

Students who began WKU in the Fall 2014 and thereafter should review the Colonnade requirements located at: https://www.wku.edu/colonnade/colonnaderequirements.php. (https://www.wku.edu/colonnade/colonnaderequirements.php)

Code	Title	Hours
Required Courses		
BIOL 120 & BIOL 121	Biological Concepts: Cells Metabolism and Genetics and Biological Concepts: Cells, Metabolism, and Genetics Lab [1]	4
BIOL 122 & BIOL 123	Biological Concepts: Evolution, Diversity, and Ecology and Biological Concepts: Evolution, Diversity, and Ecology Lab [1]	4
BIOL 489	Professional Aspects of Biology	1
Restricted Electives *		**4**
Select one of the following:		4
BIOL 222 & BIOL 223	Plant Biology and Diversity and Plant Biology and Diversity Lab	
BIOL 224 & BIOL 225	Animal Biology and Diversity and Animal Biology and Diversity Lab	
BIOL 226 & BIOL 227	Microbial Biology and Diversity and Microbial Biology and Diversity Lab	
Select one of the following:		4
BIOL 319 & BIOL 322	Introduction to Molecular and Cell Biology and Introduction to Molecular and Cell Biology Laboratory	
BIOL 327 & BIOL 337	Genetics and Genetics Laboratory	
Select one of the following:		3
BIOL 315	Ecology	
or BIOL 316	Evolution: Theory and Process	
Laboratory Experience Courses *		
Select five of the following:		
BIOL 212	Genome Discovery Exploration	
BIOL 312	Bioinformatics	
BIOL 321	Comparative Anatomy	
BIOL 322	Introduction to Molecular and Cell Biology Laboratory	
BIOL 324	Histology	
BIOL 325	Insect Biodiversity	
BIOL 328	Immunology	
BIOL 331	Animal Physiology Laboratory	
BIOL 337	Genetics Laboratory	
BIOL 348	Plant Taxonomy	
BIOL 350	Introduction to Recombinant Genetics	
BIOL 355	Ecology Lab	
BIOL 356	Ornithology Lab	
BIOL 400	Plant Physiology	
BIOL 404	Techniques and Theory of Electron Microscopy	
BIOL 405	Aquatic Insect Diversity	
BIOL 412	Cell Biology Laboratory	
BIOL 447	Biochemistry Laboratory	
BIOL 450	Recombinant Gene Technology	
BIOL 456	Ichthyology	
BIOL 457	Herpetology	
BIOL 458	Fisheries Management	
BIOL 460	Parasitology	
BIOL 470	Pathogenic Microbiology	
BIOL 485	Field Biology	
BIOL 496	Plant Biotechnology	
BIOL 497	Aquatic Field Ecology	
Science Process Courses *		
Select one of the following:		
BIOL 212	Genome Discovery Exploration	
BIOL 312	Bioinformatics	
BIOL 331	Animal Physiology Laboratory	
BIOL 350	Introduction to Recombinant Genetics	
BIOL 355	Ecology Lab	
BIOL 397	Scientific Process	
BIOL 404	Techniques and Theory of Electron Microscopy	
BIOL 407	Virology	
BIOL 412	Cell Biology Laboratory	

BIOL 456	Ichthyology
BIOL 457	Herpetology
BIOL 470	Pathogenic Microbiology
BIOL 495	Molecular Genetics
BIOL 496	Plant Biotechnology
BIOL 497	Aquatic Field Ecology
HON 404	Honors Thesis / Project II
Elective Course Work [2*]	

[1] Must complete with a grade of "C" or better.

[2] Elective Coursework:

- In consultation with their advisor, students select majors-level coursework to obtain a minimum of 48 credits total, provided that at least 24 hours total are upper division courses.
- Students may count up to 6 credit hours of a combination of BIOL 369 and/or BIOL 399, and up to 4 credits of BIOL 485 toward this major.

* The following BIOL courses will not count towards the BIOL electives nor the Biology major requirements: BIOL 113, BIOL 114, BIOL 131, BIOL 231, BIOL 207, BIOL 208, BIOL 295, BIOL 303, BIOL 318, BIOL 390.

Supporting Courses

Because an understanding of the principles of subjects outside of biology, in particular agriculture, chemistry, geography and geology, mathematics, physics and sociology is essential to the study of biology; majors are required to complete support courses.

Code	Title	Hours
MATH 116	College Algebra	3
MATH 117	Trigonometry	3
or MATH 136	Calculus I	
CHEM 120 & CHEM 121	College Chemistry I and College Chemistry I Laboratory	5
Select one of the following:		3
Select one of the following:		4
PHYS 231 & PHYS 232	Introduction to Physics and Biophysics I and Laboratory for Physics and Biophysics I	
PHYS 255 & PHYS 256	University Physics I and University Physics I Lab	
Select two of the following:		6
AGRO 350	Soils	
BIOL 382	Introductory Biostatistics	
CHEM 222 & CHEM 223	College Chemistry II and College Chemistry II Laboratory	
CHEM 340 & CHEM 341	Organic Chemistry I and Organic Chemistry Laboratory I	
BDAN 305	Principles of MIS with Spreadsheets	
CS 146	Introduction to Programming	
GISC 316	Geographic Information Systems I	
GISC 317	Geographic Information Systems II	
MATH 136	Calculus I	
MATH 137	Calculus II	
SOCL 302	Social Research Methods	
Total Hours		**24**

Finish in Four Plan

First Year

Fall	Hours	Spring	Hours
BIOL 120 & BIOL 121	4	BIOL 122 & BIOL 123	4
MATH 116 (or higher)	3	MATH 117 (or higher)	3
ENG 100	3	CHEM 120 & CHEM 121	5
Colonnade - Explorations	3	Colonnade - Explorations	3
	13		**15**

Second Year

Fall	Hours	Spring	Hours
BIOL 222 & BIOL 223 (or BIOL 224/225 or BIOL 226/227)	4	BIOL 319 & BIOL 322 (or BIOL 327/337)	4
BIOL Science Supporting Course	4	ENG 200	3
HIST 101 or HIST 102	3	BIOL Science Supporting Course	4
BIOL upper-division Elective with lab	4	BIOL upper-division Elective with lab	4
	15		**15**

Third Year

Fall	Hours	Spring	Hours
BIOL 315 or BIOL 316	3	BIOL upper-division Elective with lab	4
COMM 145	3	BIOL upper-division Elective with lab	4
Colonnade - Explorations	3	BIOL upper-division Elective	3
Colonnade - Explorations	3	Colonnade - Writing in the Disciplines	3
BIOL upper-division Elective with lab	4	Colonnade - Explorations	3
	16		**17**

Fourth Year

Fall	Hours	Spring	Hours
BIOL 489	1	BIOL upper-division Elective	4
BIOL upper-division Elective	4	BIOL upper-division Elective	4
Colonnade - Connections	3	BIOL upper-division Elective	4
World Language or Elective	3	Colonnade - Connections	3
BIOL Process Elective (see Biology advisor)	3		
	14		**15**

Total Hours 120