

# BIOLOGY, BACHELOR OF SCIENCE (617)

## Program Coordinator

Douglas McElroy, doug.mcelroy@wku.edu, (270) 745-2405

The major in Biology (Reference Number 617) provides an opportunity to acquire broad-based study in biology for students who wish to be certified to teach high school biology. These students must complete both the major in Biology (617) with a teacher education certification (TCHR) and the major in Science and Mathematics Education (reference number 774). Interested students should contact the SKyTeach Office, Kelly Thompson Hall 1011A, 270-745-3900 or visit [www.wku.edu/skyteach](http://www.wku.edu/skyteach) (<https://www.wku.edu/skyteach/>).

In addition to coursework, students may apply up to three credit hours of faculty-guided independent research and/or an internship experience towards their degree.

## Concentrations

- Teacher Education (TCHR)

## Program Requirements (36 hours)

This option for a major in biology requires a minimum of 36 semester hours in biology with 18 hours at the 300 or higher level plus the required supporting courses in addition to a TCHR major. The major/second major combination must be at least 54 total hours with 48 unduplicated hours.

A baccalaureate degree requires a minimum of 120 unduplicated semester hours. More information can be found at [www.wku.edu/registrar/degree\\_certification.php](http://www.wku.edu/registrar/degree_certification.php). ([https://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
<b>Required Courses</b>		<b>9</b>
BIOL 120 & BIOL 121	Biological Concepts: Cells Metabolism and Genetics and Biological Concepts: Cells, Metabolism, and Genetics Lab <sup>1</sup>	
BIOL 122 & BIOL 123	Biological Concepts: Evolution, Diversity, and Ecology and Biological Concepts: Evolution, Diversity, and Ecology Lab <sup>1</sup>	
BIOL 489	Professional Aspects of Biology	
<b>Biology Core <sup>*</sup></b>		<b>27</b>
BIOL 222 & BIOL 223	Plant Biology and Diversity and Plant Biology and Diversity Lab	
or BIOL 224 & BIOL 225	Animal Biology and Diversity and Animal Biology and Diversity Lab	
or BIOL 226 & BIOL 227	Microbial Biology and Diversity and Microbial Biology and Diversity Lab	

BIOL 319 & BIOL 322 Introduction to Molecular and Cell Biology and Introduction to Molecular and Cell Biology Laboratory

or BIOL 327 & BIOL 337 Genetics and Genetics Laboratory

BIOL 315 Ecology  
or BIOL 316 Evolution: Theory and Process

## Laboratory Experience Courses <sup>\*</sup>

Select three 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 325	Insect Biodiversity
BIOL 331	Animal Physiology Laboratory
BIOL 337	Genetics Laboratory
BIOL 338	Immunology Lab (Immunology Laboratory)
BIOL 348	Plant Taxonomy
BIOL 350	Introduction to Recombinant Genetics
BIOL 355	Ecology Lab
BIOL 356	Ornithology Lab
BIOL 404	Techniques and Theory of Electron Microscopy
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 470	Pathogenic Microbiology
BIOL 472	Applied and Environmental Microbiology
BIOL 485	Field Biology
BIOL 496	Plant Biotechnology
BIOL 497	Aquatic Field Ecology

## Science Process Courses <sup>\*</sup>

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

**Required Supporting Courses 12-13**

BIOL 382 or MATH 136 or MATH 183	Introductory Biostatistics Calculus I Introductory Statistics
CHEM 120 & CHEM 121	College Chemistry I and College Chemistry I Laboratory
PHYS 231 & PHYS 232	Introduction to Physics and Biophysics I and Laboratory for Physics and Biophysics I

**Total Hours 48-49**

Biology Connections Course	3
Explorations S&B	3
Elective	4
<b>Total Hours</b>	<b>14</b>

**Total Hours 120**

<sup>1</sup> Must complete with a grade of "C" or better.

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

## Finish in Four Plan

### First Year

Fall	Hours	Spring	Hours
BIOL 120 & BIOL 121		4 BIOL 122 & BIOL 123	4
SMED 101		3 SMED 102	3
ENG 100		3 MATH 183	3
MATH 117		3 COMM 145	3
Explorations A&H		3 Foreign Language or Elective	3
		<b>16</b>	<b>16</b>

### Second Year

Fall	Hours	Spring	Hours
BIOL 222 & BIOL 223 or BIOL 224 <i>and</i> BIOL 225 (Or BIOL 226 & BIOL 227))		4 BIOL 319 & BIOL 322	4
CHEM 120 & CHEM 121		5 PHYS 231 & PHYS 232	4
SMED 310		3 SMED 320	3
ENG 200		3 HIST 101	3
		<b>15</b>	<b>14</b>

### Third Year

Fall	Hours	Spring	Hours
BIOL 315		3 BIOL 316	3
BIOL 327 & BIOL 337		4 BIOL Science Process Elective with Lab	4
SMED 340		3 BIOL Upper-level Elective	3
ENG 300		3 SMED 360	3
Connections		3 Connections	3
		<b>16</b>	<b>16</b>

### Fourth Year

Fall	Hours	Spring	Hours
BIOL 489		1 SEC 490	10
SMED 470		3 SMED 489	3