

# BIOLOGY MAJOR

The biology major is designed to provide students with a versatile, broad-based degree that emphasizes microbiology, cell and molecular biology, genetics, and biological systems. Students with this degree pursue careers in industry or research in a variety of different settings.

## Program Outcomes:

Students completing a Bachelor of Arts degree in Biology will be able to:

- compare favorably in knowledge of the field with those students completing similar programs.
- demonstrate oral and written communication skills.
- demonstrate that they can critically analyze bioethical issues from a Christian worldview.

Code	Title	Hours
<b>Core Classes:</b>		
BIO 111	General Biology <small>May be used to fulfill a general education requirement</small>	4
BIO 112	Biology: Plant and Animal Kingdoms <small>May be used to fulfill a general education requirement</small>	4
BIO 310	Microbiology	4
BIO 315	Genetics	4
BIO 340	Human Anatomy and Physiology I	4
BIO 341	Human Anatomy and Physiology II	4
BIO 400	Origins and Evolution	3
BIO 410	Biology Seminar	1
BIO 420	Cell and Molecular Biology	4
Select one		3
BE 474X	Introduction to Bioethics <small>May be used to fulfill a general education requirement</small>	
	or BE 476 Undergraduate Bioethics Institute	
CH 111	General Chemistry I <small>May be used to fulfill a general education requirement</small>	4
CH 112	General Chemistry II	4
CH 211	Organic Chemistry I	4
CH 212	Organic Chemistry II	4
Select one professional experience:		1-4
BIO 306	Scientific Applications Professional Experience	
BIO 406	Advanced Scientific Applications Professional Experience	
BIO 470	Undergraduate Research	
CH 306	Scientific Applications Professional Experience	
CH 406	Advanced Scientific Applications Professional Experience	
CH 442	Undergraduate Research	
HS 480	Professional Rotation in Health Sciences	
<b>Required emphasis (select one from the three, below)</b>		<b>4-8</b>
<b>Total Hours</b>		<b>56-63</b>

All biology majors must choose at least one emphasis: Biological Science, Pre-Medical, or Pre-Physician Assistant

## Biological Science Emphasis

The biological science emphasis is designed to provide students with a versatile, broad-based degree that emphasizes microbiology, cell and molecular biology, genetics, and biological systems. Students with this degree and emphasis can pursue careers in industry or research in a variety of different settings.

Code	Title	Hours
<b>Required Courses</b>		
BIO 470	Undergraduate Research	1-4
or BIO 406	Advanced Scientific Applications Professional Experience	
MA 321	Mathematical Statistics I	3-4
or MA 285X	Statistics	
or MA 280X	Introductory Statistics	
<b>Highly Recommended Courses:</b>		
BE 475X	Topics in Bioethics	
or BE 477X	Undergraduate National Conference	
or BE 478X	Research Ethics	
CH 320	Biochemistry	
MA 121	Calculus and Analytic Geometry I	
PHY 111	General Physics I	
PHY 112	General Physics II	
<b>Total Hours</b>		<b>4-8</b>

## Pre-Medical Emphasis

The biology major with a pre-medical emphasis is designed to provide students interested in medical school, graduate school, or a variety of health professions with the rigorous scientific background necessary to prepare them for entrance into their chosen field, combined with a strong grounding in bioethics and a liberal arts education from a Christian viewpoint.

Code	Title	Hours
<b>Required Courses:</b>		
PHY 111	General Physics I	4
PHY 112	General Physics II	4
<b>Highly Recommended Courses:</b>		
BE 475X	Topics in Bioethics	
or BE 477X	Undergraduate National Conference	
CH 320	Biochemistry	
MA 121	Calculus and Analytic Geometry I	
PSY 330	Developmental Psychology	
<b>Total Hours</b>		<b>8</b>

## Pre-Physician Assistant Emphasis

This emphasis has been designed to combine a solid theoretical foundation in the sciences with clinical education experiences to prepare students for admission into post-graduate professional physician assistant programs.

Code	Title	Hours
<b>Required Courses:</b>		
CH 320	Biochemistry	3
MA 285X	Statistics	3-4
or MA 280X	Introductory Statistics	
<b>Highly Recommended Courses:</b>		

HS 161 Medical Terminology

HS 165 Responding to Emergencies and Sport Safety  
Training

HS 480 Professional Rotation in Health Sciences

PSY 337 Psychology of Adolescence

**Recommended Courses:**

COM 112 Speech

ENG 210X Business Communication

PSY 310 Abnormal Psychology

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**Total Hours**

**6-7**