

BIOLOGY, B.S.

Learning Outcomes

Upon successful completion of the program of studies for biology, the student will receive a B.S. or B.A. in Biology and will have given evidence of the following outcomes and goals:

- Students will gain knowledge of the key ideas and theories within the field of biology.
- Students will learn to use basic biology laboratory field methods, tools and techniques.
- Students will effectively read and critically evaluate scientific literature as evidenced by rubric driven analysis of signature assignments in BI201 Biological Literature and BI443 Capstone in Biology: BA or BI444 Capstone in Biology: BS.
- Students will learn to communicate biological information effectively as evidence by a) rubric driven analysis of oral presentations in BI120 Biological Diversity & Phylogeny and BI443 Capstone in Biology: BA or BI444 Capstone in Biology: BS, and b) rubric driven analysis of formal written reports prepared in BI201 Biological Literature and upper-level biology elective courses.
- Students will integrate personal and ethical values within the study of biology as evidenced by students' responses on the departmentally generated values survey.

Requirements

To earn this degree, students must successfully complete at least 120 credits, including General Education (<http://catalog.georgian.edu/undergraduate/academic-programs/bridge-general-education-program-requirements/>) requirements and the major requirements below.

Major Sequence

Course Requirements (except for Medical Laboratory Science Track):

A minimum of 40 biology credits, plus courses in related areas, including:

Code	Title	Credits
Biology Courses		
BI120	Biological Diversity & Phylogeny	4.0
BI121	Cellular Organiz., Energetics & Function	4.0
BI201	Biological Literature	1.0
BI203	Experimental Design & Statistics	3.0
BI204	Genetics & Evolution	4.0
Select one of the following:		3.0-4.0
BI305	Biological Interactions: Ecology (4 credits)	
BI310	Ecology & Health (3 credits)	
BI444	Capstone in Biology: BS	2.0
Biology electives		18.0-19.0
Related Courses		
Select one of the following: ¹		3.0-4.0
MA110	Precalculus	
MA115	Calculus I	
MA116	Calculus II	
CH113	General Chemistry I	4.0
CH114	General Chemistry II	4.0

CH223	Organic Chemistry I	4.0
CH224	Organic Chemistry II	4.0
Select one of the following sequences:		8.0
PH115 & PH116	College Physics I and College Physics II	
PH121 & PH122	University Physics I and University Physics II ²	

Total Credits **66.0-69.0**

¹ Students preparing for professional careers that require calculus are strongly advised to also take MA115 Calculus I and MA116 Calculus II.

² Students electing for PH121 University Physics I must take MA115 Calculus I.

For the Medical Laboratory Science Track, either BI203 Experimental Design & Statistics, MA103 Introduction to Statistical Thinking, or SO201 Social Statistics is also required. For the Pre-Med Track, either PS111 Introduction to Psychology or PS113 Foundations of Psychology, and SO101 Principles of Sociology are required.

Requirements for the Pre-Med Track Within the B.S. in Biology Degree

Code	Title	Credits
BI310	Ecology & Health	3.0
BI437/CH311	Biochemistry I	4.0
Any Microbiology course		4.0

Requirements for Medical Laboratory Science Track

Code	Title	Credits
BI121	Cellular Organiz., Energetics & Function	4.0
BI201	Biological Literature	1.0
BI204	Genetics & Evolution	4.0
BI213	Human Anatomy & Physiology I	4.0
BI214	Human Anatomy & Physiology II	4.0
BI219	Microbiology	4.0
BI401	Medical Technology Internship I	16.0
BI402	Medical Technical Internship II	16.0
Select one of the following:		3.0-4.0
BI427	Immunology (4 credits)	
BI428	Fundamentals of Immunology (3 credits)	
BI437	Biochemistry I	4.0
BI444	Capstone in Biology: BS	2.0

Related Courses

Select one of the following: ¹		3.0-4.0
MA110	Precalculus	
MA115	Calculus I	
MA116	Calculus II	
CH113	General Chemistry I	4.0
CH114	General Chemistry II	4.0
CH223	Organic Chemistry I	4.0
CH224	Organic Chemistry II	4.0
Select one of the following sequences:		8.0
PH115 & PH116	College Physics I and College Physics II	

PH121 & PH122	University Physics I and University Physics II ²
Total Credits	89.0-91.0

¹ Students preparing for professional careers that require calculus are strongly advised to also take MA115 Calculus I and MA116 Calculus II.

² Students electing for PH121 University Physics I must take MA115 Calculus I.

For the B.S. degree in all tracks, a minimum of 12 credits of biology coursework must be taken at the 300 or 400 level.

For students seeking teacher certification, in addition to the core of required courses for the biology degree, the department recommends the following courses: BI213 Human Anatomy & Physiology I and BI214 Human Anatomy & Physiology II. For Teacher of Biology (K-12) certification, at least 12 credits must be taken at the 300 or 400 level.

It is recommended that students who have completed General Biology I, II, at another institution, take BI320 Cell Biology in place of BI121 Cellular Organiz., Energetics & Function to satisfy their cell biology requirement.

All biology majors who have completed 16 credits of Georgian Court biology courses will have their status reviewed by the biology faculty members. Those with a Georgian Court biology GPA of less than 2.50 may be advised and required to change their major. A Georgian Court biology GPA of 2.50 is required for graduation.

All majors pursuing the B.S. or B.A. degree in Biology are required to take a department-administered Major Field Test before graduation.

Degree Map(s)

Course	Title	Credits
First Year		
Fall Semester		
GEN101	Pathway to the Bridge ¹	2.0
EN111 or EN221	Academic Writing and Research I ¹ or Honors Argument: Rhetoric & Research	3.0
Select one of the following: ¹		3.0-4.0
MA109	College Algebra	
MA110	Precalculus	
MA115	Calculus I	
MA116	Calculus II	
Mod. Lang. or V&P Arts ¹		3.0
BI120	Biological Diversity & Phylogeny ²	4.0
Credits		15.0-16.0
Spring Semester		
GEN199	WI:Discovering Self in the Universe ¹	3.0
Literature ¹		3.0
Mod. Lang. or V&P Arts ¹		3.0
BI121	Cellular Organiz., Energetics & Function ²	4.0
Social Science 1		3.0
Credits		16.0

Second Year

Fall Semester

MA110	Precalculus (or another course if MA110 or higher level MA course has been taken) ¹	3.0
BI204	Genetics & Evolution ^{1,2}	4.0
BI201	Biological Literature ²	1.0
BI203	Experimental Design & Statistics ²	3.0
CH113	General Chemistry I ²	4.0
Credits		15.0

Spring Semester

PL245	Philosophical Inquiry (or Religious Studies) ¹	3.0
BI Elective ¹		3.0
BI305	Biological Interactions: Ecology ²	4.0
CH114	General Chemistry II ²	4.0
Credits		14.0

Third Year

Fall Semester

PL245	Philosophical Inquiry (or Religious Studies) ¹	3.0
BI Elective ²		4.0
CH223	Organic Chemistry I ²	4.0
Elective ²		3.0
Credits		14.0

Spring Semester

Select one of the following: ¹		3.0
Ethics		
WS311	Shaping Lives: Women & Gender	
GEN400	WI:Visioning a Future	
Social Science 2 or History ¹		3.0
BI Elective ²		4.0
CH224	Organic Chemistry II ²	4.0
Credits		14.0

Fourth Year

Fall Semester

Select one of the following: ¹		3.0
Ethics		
WS311	Shaping Lives: Women & Gender	
GEN400	WI:Visioning a Future	
Select one of the following: ¹		3.0
Ethics		
WS311	Shaping Lives: Women & Gender	
GEN400	WI:Visioning a Future	
PH115	College Physics I ^{2,3}	4.0
Social Science 2 or History ¹		3.0
BI Intern/Research/Elective ²		2.0-4.0
Credits		15.0-17.0

Spring Semester

BI444	Capstone in Biology: BS ²	2.0
PH116	College Physics II ^{2,3}	4.0
BI Elective or Elective ²		3.0-4.0
BI Elective (if needed for 20 cr.)		3.0

Elective	3.0
Credits	15.0-16.0
Total Credits	118.0-122.0

¹ General Education

² Major

³ PH121 University Physics I - PH122 University Physics II may be selected if student has taken MA115 Calculus I.