

# BIOLOGY, BA

Biology offers courses in the life sciences designed to teach students biological concepts and principles with emphasis on individual laboratory experiences. The curriculum provides a sound basis for professional training in biology, biotechnology, medicine, dentistry, veterinary medicine, allied health, and teaching, as well as for general science education. Biology and Allied Health majors with strong academic backgrounds are encouraged to apply to the Roosevelt Scholars Program, the honors curriculum of the university.

See the Allied Health program listing for degree programs leading to clinical licensing for fields such as Medical Technology, Nuclear Medicine Technology and Radiation Therapy Technology.

The BA in Biology is an option for students who wish an in-depth humanistic education in biology without completing all of the science and mathematics courses required for the BS in biology. The biology BA allows the flexibility for students to fashion a customized undergraduate experience; for example, completing a double-major or multiple minors. On the other hand, while a BS degree is not as flexible as a BA, in some respects a BS can be more focused on the development of deeper skills within the major subject areas. The choice of biology degree should be made according to how the specific characteristics of the degree fit the student's aptitude and career goals, and how the student wishes to utilize the undergraduate experience to meet his or her educational objectives.

## Standards

Courses taken for the major must be taken on a letter grade basis.

## Requirements

Requirements for the BA degree include 30 credit hours of acceptable credits in biology and at least one 300-level laboratory course beyond BIOL 301 CELLULAR & MOLECULAR BIOLOGY. Students must also complete three courses that cover the interface between the sciences and other disciplines, such as history or philosophy, or that concern the connections of science and technology with social, political, or moral issues.

- Students must complete the final 30 credit hours of their degree at Roosevelt University; off-site allied health courses do not count towards this requirement.
- At least 20 credit hours in acceptable biology, chemistry, or physics courses must be successfully completed at Roosevelt University; no more than 15 credit hours of acceptable biology courses may be taken completed elsewhere and applied to the BA biology degree.
- Following enrollment, completion of all remaining biology, chemistry, physics and mathematics course requirements for Biology degrees must be accomplished at Roosevelt University. Under special circumstances, written permission to take required courses elsewhere may be granted by Biology advisors.
- Courses in biology must have been taken within the last eight years to be accepted for graduation.
- No more than six credit hours total of independent study (BIOL 395 INDEPENDENT STUDY), (BIOL 392 RESEARCH IN BIOLOGY), and internships (BIOL 391 MEDICAL INTERNSHIP, BIOL 393 VETERINARY INTERNSHIP or BIOL 396 BIOLOGY INTERNSHIP) in biology may be used to fulfill the requirements of the major.
- Technical and/or clinical courses are not acceptable for transfer credit.

- AP biology credit with a score of 3.0 or higher may apply toward the major in biology or the general education requirements, after consultation with an advisor.
- AP chemistry credit with a score of 4 or higher satisfies the requirements for CHEM 201 with lab.
- At least one biology course with a laboratory above BIOL 301 CELLULAR & MOLECULAR BIOLOGY (not including independent research).
- A grade of C- is the minimal acceptable grade for a course to be applied to the major and the supporting sequence, or to be acceptable as a prerequisite for subsequent courses.
- A minimum GPA of 2.0 is required for all courses in the major.

### Courses Required for the Biology BA

BIOL 201	ORGANISMIC BIOLOGY (with lab)	5
BIOL 202	ECOLOGY, EVOLUTION, AND GENETICS (with lab)	5
BIOL 301	CELLULAR & MOLECULAR BIOLOGY (with lab)	5
CHEM 201	GENERAL CHEMISTRY I (with lab)	5
CHEM 202	GENERAL CHEMISTRY II (with lab)	5
CHEM 211	ORGANIC CHEMISTRY I (with lab)	5
MATH 121	COLLEGE ALGEBRA	3
MATH 217	ELEMENTARY STATISTICS	3

### Electives

Select additional biology electives to bring total to a minimum of 30 semester hours: <sup>1</sup> 30

BCHM 354	EXPERIMENTAL METHODS IN BIOCHEMISTRY & BIOTECHNOLOGY	
BCHM 355	BIOCHEMISTRY	
BCHM 357	ADVANCED BIOCHEMISTRY	
BIOL 123	ANATOMY & PHYSIOLOGY I	
BIOL 124	ANATOMY & PHYSIOLOGY II	
BIOL 221	KINESIOLOGY	
BIOL 302	DIVERSITY AND EVOLUTION	
BIOL 310	FUNDAMENTALS OF BEHAVIOR NEUROSCIENCE	
BIOL 314	QUANTITATIVE ECOLOGY AND CONSERVATION	
BIOL 315	ECOLOGY	
BIOL 322	BOTANY	
BIOL 323	TROPICAL MARINE BIOLOGY	
BIOL 324	MARINE BIOLOGY	
BIOL 332	ECOLOGY OF TALLGRASS PRAIRIE	
BIOL 350	CANCER BIOLOGY	
BIOL 351	GENERAL GENETICS	
BIOL 360	MICROBIOLOGY	
BIOL 367	IMMUNOLOGY	
BIOL 371	THE BIOLOGY OF AGING	
BIOL 391	MEDICAL INTERNSHIP	

Select three courses from the following: <sup>1</sup> 9-15

CHEM 212	ORGANIC CHEMISTRY II	
HIST 348	SOCIAL & CULTURAL HISTORY OF MEDICINE 1500-PRESENT	
MATH 231	CALCULUS I	

MATH 232	CALCULUS II
MATH 280	MATHEMATICAL MODELING
MATH 316	HISTORY OF MATHEMATICS
PHIL 209	CRITICAL THINKING
PHIL 210	LOGIC
PHIL 230	ETHICS
PHIL 331	PHILOSOPHY OF TECHNOLOGY
PHYS 201	INTRODUCTION TO NON-CALCULUS BASED PHYSICS I
PHYS 202	INTRO TO NON-CALCULUS PHYSICS II
PSYC 285	RESEARCH METHODS
PSYC 310	FUNDAMENTALS OF BEHAVIORAL NEUROSCIENCE
PSYC 336	BRAIN AND BEHAVIOR
SOC 360	THE BODY

### General Education, University Writing Requirement, and Electives

Courses to total 120	45
Total Credit Hours	120-126

<sup>1</sup> Must be selected in consultation with an advisor

## General Education Requirements

Code	Title	Credit Hours
<b>Academic Communities of Practice</b>		
ACP 101	FIRST YEAR SEMINAR <sup>1</sup>	3
ACP 110	PRIMARY TEXTS	3
ACP 250	FOUNDATIONS FOR CHANGE	3
<b>English Composition <sup>2</sup></b>		
ENG 101	COMPOSITION I: CRITICAL READING & WRITING	3
ENG 102	COMPOSITION II: INTRODUCTION TO ACADEMIC RESEARCH	3
<b>Humanities</b>		
Select 9 credits from the following subject areas: African-American Studies, Art History, English (excluding ENG 101 and ENG 102), History, Languages, Music, Philosophy, Theatre, Speech and Women's and Gender Studies		9
<b>Mathematics</b>		
MATH 110	QUANTITATIVE LITERACY (or above) <sup>3</sup>	3
<b>Non-Western requirement</b>		
Non-Western course (can be used for Humanities or Social Sciences general education requirements)		3
<b>RU mission-related course <sup>2</sup></b>		
LIBS 201	WRITING SOCIAL JUSTICE	3
<b>Science</b>		
One biological science and one physical science required (at least one must be a four-hour lab (not applicable for science majors))		7-8
<b>Social Sciences</b>		

Select 9 credits from the following subject areas: African-American Studies, Anthropology, Economics, History, Journalism, Philosophy, Political Science, Psychology, Sociology and Women's and Gender Studies

Total Credit Hours	49-50
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<sup>1</sup> Required for students who enter RU with fewer than 12 credit hours

<sup>2</sup> Minimum grade of C- required

<sup>3</sup> Math, Computer Science & Technology, and Science majors have different requirements—see advisor

These quantitative requirements also apply to degrees in the College of Arts and Sciences:

- Students may apply no more than 60 credit hours of 100-level courses toward the degree.
- Students must apply no fewer than 60 credit hours of 200- and 300-level courses toward the degree.
- Students must have at least 18 credit hours (of the 60 credit hours above) at the 300 level.
- Students may transfer in no more than 66 credit hours from community colleges.
- Students must take their final 30 hours at Roosevelt University. Note that some majors have additional requirements for RU hours.
- Students must have a grade point average of 2.0 or higher to graduate. Note that some majors have additional GPA requirements.
- Students must have a minimum of 90 hours in Arts and Sciences.
- Students may apply no more than 51 hours in the major (BA) or 57 hours in the major (BS)

Your degree map is a general guide suggesting courses to complete each term on the academic pathway to your degree. It is based on the most current scheduling information from your academic program. Your program's degree map is reviewed annually and updated as schedules change (although you retain the same course requirements as long as you are continuously enrolled in your degree program).

Always work closely with your academic advisor to understand curriculum requirements and scheduling, as each student's academic plan can look slightly different.

### Year 1

Fall	Credit Hours	Spring	Credit Hours
ACP 101	3	ACP 110	3
ENG 101	3	ENG 102	3
CHEM 201	5	BIOL 201	5
MATH 121	3	CHEM 202	5
		14	16

### Year 2

Fall	Credit Hours	Spring	Credit Hours
BIOL 202	5	BIOL 301	5
CHEM 211	5	Social Science #1	3
MATH 217	3	Humanities #1	3
Non-Western Studies Course <sup>4</sup>	3	General Elective <sup>1</sup>	3
		16	14

16

14

**Year 3**

<b>Fall</b>	<b>Credit Hours Spring</b>	<b>Credit Hours</b>
BIOL 3XX with Lab <sup>3</sup>	5 BIOL 3XX Elective	3
LIBS 201 or ACP 250	3 Biology Elective	3
Humanities #2	3 ACP 250 or LIBS 201	3
General Elective <sup>1</sup>	3 Social Science #2	3
General Elective <sup>1</sup>	1 General Elective <sup>1</sup>	3
	15	15

**Year 4**

<b>Fall</b>	<b>Credit Hours Spring</b>	<b>Credit Hours</b>
BIOL 3XX Elective	3 BIOL 3XX Elective <sup>3</sup>	3
Humanities #3	3 Social Science #3	3
General Elective <sup>1</sup>	3 General Elective <sup>1</sup>	3
General Elective <sup>1</sup>	3 General Elective <sup>1</sup>	3
General Elective <sup>1</sup>	3 General Elective <sup>1</sup>	3
	15	15

Total Credit Hours 120

- <sup>1</sup> Or course towards an optional Minor.
- <sup>2</sup> Any course at the 200 level within the discipline.
- <sup>3</sup> Any course at the 300 level within the discipline.
- <sup>4</sup> This requirement can be fulfilled by other requirements.
- <sup>5</sup> One Natural Science course must have a lab.