

35 credits of biology required

Grades of C or better are required in biology and cognate courses

△ Fall, □ Spring, ● Summer

<i>1 Core Courses (Required)</i>			<i>Prereqs</i>	<i>Sem</i>	<i>Grade</i>
General Biology I (4cr)	△	R120:101			
General Biology II (4cr)	□	R120:102			
Foundations of Biol Lect (3cr)	△□●	R120:201	101&102		
Foundations of Biol Lab (1cr)	△□●	R120:202			

2A Ecology and Evolution - 3cr (Choose one class)

Evolution	△	BIOL 222			
Ecol and Evol of Disease	□	BIOL 368			
Plant Ecology	□	R120:270	101&102		
Animal Ecology	△	R120:280	101&102		
Animal Behavior	□	R120:382	101&102		

2B Functional Organism - 4cr (Choose one class)

Plant Kingdom	□	R120:211	101&102		
Biology of Seed Plants	△	R120:230	201&202		
Plant Physiology	△	R120:330	201&202		
General Microbiology	△	R120:335	101&102		
Mammalian Physiology	△□●	R120:340	201&202		
Developmental Biol & Lab	△	R120:342/3	201&202		

2C Molecular and Cellular - 3cr (Choose One)

Genetics (3cr)	□●	R120:352	201&202		
Cell Biology (3cr)	□	R120:355	201&202		
Molecular Biology (3cr)	△	R120:356	201&202		
Biochem (3cr) BIOL 473 or	△●	R120:360	201&202		

2D Computational BS Students Only - 3cr (Choose one)

Physiology & Medicine		Math 371	Math 222		
Population Biology		Math 372	Math 222		
Intro. Mathematical Biology		Math 373	211 and 337		
Computational Neuroscience		Math 430	See Advisor		

3 Two Additional Laboratory Courses Chosen From Section

2B or from below. All courses 4cr unless otherwise noted.

Taxonomy of Vasc. Plants	△●	R120:311	211 or 230		
Comparative Vert. Anatomy	△	R120:285	101&102		
Mycology (3cr)	□	R120:313	101&102		
Animal Parasites and Lab	△	R120:325/6	201&202		
Biology of Invertebrates	△	R120:227	101&102		
Microanatomy of Cells	□	R120:358	201&202		
Plant Growth & Development	□	R120:430	201&202		
Ecology of Birds (3cr)		R120:328	280		
Field Studies Plant Ecol (3cr)	△	R120:371	270		
Field Studies Animal Ecol (3cr)	□	R120:381	280		
Field Ecology (3cr)	△□	R120:380	270 or 280		
Annalytical Field Methods	△□	BIOL 475	270 or 280		
Marine Biology	△	R120:481	101&102		
Tropical Field Biology (2cr)	●	R120:486			
Cell Phys & Imaging (4cr)	□	BIOL 405	355,Phys 111		

4 Additional courses - 3cr

			<i>Prereqs</i>	<i>Sem</i>	<i>Grade</i>
Insects and Human Society	□	BIOL 225	101&102		
Neurobiology	□	R120:346	355		
Conservation Biology	△	BIOL 375	101&102		
Neuronal Basis of Behav (3cr)	□	BIOL 383	201		
Biological Invasions	△□	R120:422	222or370or380		
Microbial Phys & Metab		R120:435			
Immunology	□	R120:443	201&202		
Endocrinology	△□	R120:445	201&202		
Systems Neuroscience	□	BIOL 447	201&202		
Cellular Biophysics (4cr)		R120:451			
Molecular Biotechnol (4cr)		R120:452			
Molecular Cell Biology	△	R120:455	355&356		
Virology		R120:456			
Ecological Physiology		R120:471			
Environmental Assessment		R120:472			
Ecological Microorganisms		R120:473	335		
Systems Ecology		R120:487			
Problems in Biology I/II	△□●	BIOL 491/492	See Dept.		

Total Biology Credits: _____

5 Cognate Courses

General Chem Lab	△□●	CHEM 124			
General Chemistry I (3cr)	△□●	CHEM 125			
General Chemistry II (3cr)	△□●	CHEM 126			

Organic Chemistry I (3cr)	△□●	CHEM 243			
Organic Chemistry II (3cr)	△□●	CHEM 244			
Organic Chemistry Lab (2cr)	△□●	CHEM 244A			

Physics I Lab (3cr)	△□●	PHYS 111			
Physics I Lab (1cr)	△□●	PHYS 111A			
Physics II (3cr)	△□●	PHYS 121			
Physics II Lab (1cr)	△□●	PHYS 121A			

Chem 121, 122 and 123 are equivalent to Chem 125 and 126.

Phys 105, 106 and 121 are equivalent to Phys 111 and 121.

Placement test results determine the appropriate sequence of courses

The courses below are required for BS Students only

Computer Sci Elective	△□	BNFO 136			
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Calculus II (4cr)	△□●	MATH 112			
Calculus IIIA (3cr)	△□●	MATH 211			

*Choose **one** of the following:*

Differential Equations (4cr)	△□●	MATH 222			
Mathematical Modeling	△□●	MATH 227			
Linear Algebra (3cr)	△□●	MATH 337			
Applied Num Methods (3cr)	△□●	MATH 340			

General University Requirements for Biology Majors

<i>Requirement</i>	<i>Course</i>	<i>Semester</i>	<i>Grade</i>
English I	HUM 101		
English II	HUM 102		

English, Communication or Cultural History (2**)	HIST 213		
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Choice of Hum 211, 212, HIST 213, or any 200-level history courses at Rutgers Newark

Mathematics

Calculus I	Math 111		
Probability and Statistics - BA and BS Must Take Math 333	Math 105		

Computer Science

BA: Introduction to Computer Science (BNFO 135)	BNFO 135		
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Physical Education			
Physical Education			

Basic Social Sciences			
Basic Social Sciences			

Choice of SS 201, ECON 265, 266, STS 257, 258 or an approved course at Rutgers Newark

Management	MGMT 390		
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Humanities and Social Science Upper Level Electives - Two Courses

Lit/Hist/Phil/STS - 300 and above			
Eng/Lit/Hist/Phil/STS/SS/Thtr - 300 and above			

Students may also take approved 300-level courses at Rutgers Newark

Capstone in Humanities and Social Science			
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Choice of HSS 403, 404, 405, 406, 407, 408, 409, 491

Technical Electives

Any additional course in chemistry, mathematics or physics beyond what is required for the major. Any course in environmental science, computer science or engineering; or six additional credits of biology. [BA students opting not to take Math 112 must take three technical electives.](#)

1.			
2.			
3.			

Free Electives

The number of free electives depends on the specific biology program.

Accelerated: 3 Free Electives

BS: 4 Free Electives

BA: 6 Free Electives

1.			
2.			
3.			
4.			
5.			
6.			

Notes and Comments: