BACHELOR OF ARTS IN BIOLOGY

Total Minimum Credits: 123

All biology and cognate courses require grades of C or better.

YEAR 1

Fall Semester		Cr.	Spring Semester		Cr.
BIOL 200	Concepts in Biology	4	BIOL 205/206	Foundation of Ecol/Evol	4
Chem 121 or 125	General Chemistry I	3	Chem 124	General Chem. Lab	1
Math 138	General Calculus I	3	Chem 122 or 126	General Chemistry II	3
HUM 101	English I	3	Math 238	General Calculus II	3
BNFO 135	Bioinformatics I	3	HUM 102	English II	3
Frsh Sem	Freshman Seminar	0	GUR Elective	Physical Education	1
		16			15

YEAR 2

Fall Semester		Cr.	Spring Semester		Cr.
R120:201/202	Foundations of Cell/Molec	4	Biology Elective	Cluster Elective [Ecol/Evol or Molec/Cell]	3
Chem 243	Organic Chemistry I	3	Chem 244	Organic Chemistry II	3
Phys 102	General Physics I	3	Chem 244A	Organic Chemistry II Lab	2
Phys 102A	General Physics I Lab	1	Phys 103	General Physics II	3
Math 105	Elem. Probability & Statistics	3	Phys 103A	General Physics II Lab	1
GUR Elective	Physical Education	1	GUR Elective	English and Cultural History[1]	3
		15			15

YEAR 3

Fall Semester		Cr.	Spring Semester		Cr.
Biology Elective	Cluster Elective - Functional Org	4	Biology Elective	Laboratory Elective[5]	4
Biology Elective	Cluster Elective [Ecol/Evol or Molec/Cell]	3	Biology Elective	Biology Elective	3
MGMT 390	Principles of Management	3	GUR Elective	HSS Upper Level[3]	3
GUR Elective	Social Sciences[2]	3	GUR Elective	Social Sciences[2]	3
GUR Elective	HSS Upper Level[3]	3	Elective	Technical Elective[4]	3
		16			16

YEAR 4

Fall Semester		Cr.	Spring Semester		Cr.
Biology Elective	Laboratory Elective[5]	3	Biology Elective	Biology Elective	3
Biology Elective	Biology Elective	3	Elective	Technical Elective[4]	3
GUR Elective	HSS Senior Seminar	3	Elective	Free Elective	3
Elective	Technical Elective[4]	3	Elective	Free Elective	3
Elective	Free Elective	3	Elective	Free Elective	3
		15			15

Total Credits: 123

Biology Credits: 38

[1] English and Cultural History: Choice of HUM 211, HUM 212 or HIST 213; approved Rutgers course.

[2] Social Science Electives: Two courses: EPS 202, ECON 201, ECON 265, ECON 266, STS 257, STS 258; approved Rutgers courses.

[3] HSS Upper Level Electives: Two courses: 300-level courses in COM, ENG, HIST, LIT, PHIL, STS, THTR; approved Rutgers courses.

[4] Technical Electives: *Three courses:* Any course in biology, chemistry, math or physics beyond major requirements. Any course in environmental science, computer science or engineering.

[5] Laboratory Electives: Choice of *one* 3 credit *and one* 4 credit laboratory.

BACHELOR OF ARTS IN BIOLOGY

Biology Credits: 38

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REQUIRED CORE COURSES ~ 12 Credits

- ❑ R120/BIOL 200 Concepts in Biology* (4cr) ***Effective from Fall 2011***
- ❑ R120:201 Foundations of Cell & Molecular Biology Lecture (3cr)
- ❑ R120:202 Foundations of Cell & Molecular Biology Laboratory (1cr)
- ❑ BIOL 205 Foundations of Ecology and Evolution Lecture (3cr)
- ❑ BIOL 206 Foundations of Ecology and Evolution Laboratory (1cr)

CONCEPT CLUSTER COURSES ~ 10 Credits

*Majors must complete **one course from each** of the following **three** concept cluster elective categories:*

❑ **Ecological and Evolutionary Framework** (3cr)
- Evolution (BIOL 222)
- Ecology (R120:280)
- Animal Behavior (R120:282)
- Plant Ecology (R120:370)

❑ **The Functional Organism** (4cr)
- Plant Kingdom (R120:211)
- Biology of Seed Plants (R120:230)
- Plant Physiology (R120:330)

❑ **Molecular and Cellular Mechanisms** (3cr)
- Genetics (R120:352)
- Cell Biology (R120:355)
- Molecular Biology (R120:356)
- Biochemistry (R120:360)

***The Functional Organism** (4cr)*
- General Microbiology (R120:335)
- Mammalian Physiology (R120:340)
- Developmental Biology & Lab (R120:342/343)

BIOLOGY ELECTIVES ~ 9 Credits

*Majors must complete **three courses** from the following list of (**3-credit**) biology elective courses or any concept cluster course beyond requirements:*

- Insects in Society (BIOL 225)
- Animal Parasites (R120:325)
- Ecology of the Dining Hall (BIOL 338)
- Introduction to Neurophysiology (BIOL 341)
- Developmental Biology (R120:342)
- Physiological Mechanisms (BIOL 344)
- Comparative Physiology (R120:345)
- Neurobiology (R120/BIOL 346)
- Immunology (R120:350)
- Human Ecology (R120:365)
- Ecology and Evolution of Disease (BIOL 368)
- Conservation Biology (BIOL 375)
- Neural Basis of Behavior (BIOL 383)
- Biology of Cancer (R120:402)
- Biological Invasions (R120:422)
- Cell Biology of Disease (BIOL 440)
- Endocrinology (R120:445)
- Cellular and Systems Neuroscience (BIOL 447)
- Neuropathophysiology (BIOL 448)
- Molecular Cell Biology (R120:455)
- Virology (R120:456)
- Environmental Assessment (R120:472)
- Research and Independent Study (BIOL 491)
- Research and Independent Study (BIOL 492)
- Seminar in Biology (R120:493/494)
- Honors Seminar in Biology (BIOL 495)

LABORATORY/FIELD EXPERIENCE ~ 7 Credits

*Majors must complete **at least one 4-credit lab** in this category:*

❑ **Four Credit Laboratories** (4cr)
- Plant Kingdom (R120:211)
- Biology of Invertebrates (R120:227)
- Biology of Seed Plants (R120:230)
- Comparative Vertebrate Anatomy (R120:285)
- Taxonomy of Vascular Plants (R120:311)
- Mycology (R120:313)
- Animal Parasites & Parasitology Lab (R120:325/326)

❑ **Three Credit Laboratories** (3cr)
- R120:328 Ecology of Birds
- R120:371 Field Plant Ecology
- R120:380 Field Ecology

***Four Credit Laboratories** (4cr)*
- Plant Physiology (R120:330)
- General Microbiology (R120:335)
- Mammalian Physiology (R120:340)
- Developmental Biology & Lab (R120:342/343)
- Microanatomy of Tissues (R120:405)
- Plant Growth and Development (R120:430)
- Cell Physiology and Imaging (BIOL 451)

***Three Credit Laboratories** (3cr)*
- R120:381 Field Animal Ecology
- BIOL 475 Analytical Field Ecology
- R120:485 Tropical Field Ecology (2cr)