Accelerated B.A. in Biology/M.D.

(120 Minimum credits)

First Year		
1st Semester		**Credits**
BIOL 200	Concepts in Biology	4
CHEM 125 or CHEM 121	General Chemistry I [3] or Fundamentals of Chemical Principles I	3
CHEM 125A	General Chemistry Lab I	1
PHYS 102	General Physics I	3
PHYS 102A	General Physics I Lab	1
MATH 138	General Calculus I	3
ENGL 101	English Composition: Introduction to Academic Writing	3
FYS SEM	First-Year Student Seminar	0
	Term Credits	**18**
2nd Semester		
BIOL 205	Foundations of Biology: Ecology and Evolution Lecture	3
BIOL 206	Foundations of Biology: Ecology and Evolution Lab	1
CHEM 126 or CHEM 122	General Chemistry II [3] or Fundamentals of Chemical Principles II	3
CHEM 126A	Gen Chemistry Lab II	1
PHYS 103	General Physics II	3
PHYS 103A	General Physics II Lab	1
MATH 238	General Calculus II	3
ENGL 102	English Composition: Introduction to Writing for Research	3
	Term Credits	**18**
Summer		
CHEM 243	Organic Chemistry I [1]	3
	Term Credits	**3**
Second Year		
1st Semester		
BIOL 201	Found of Biol: Cell & Molecula	3
BIOL 202	Found of Biol: Cell & Molecula	1
CHEM 244	Organic Chemistry II	3
CHEM 244A	Organic Chemistry I Laboratory	2
BNFO 135 or CS 101	Programming for Bioinformatics or Computer Programming and Problem Solving	3
PSY 210	Introduction to Psychology	3
Social Science GER (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/social-science-ger/)		3
	Term Credits	**18**
2nd Semester		
Biology Functional Laboratory Cluster B Elective		4
MATH 105	Elementary Probability and Statistics	3
CHEM 473 or R120 360	Biochemistry or Biochemistry	3
STS 221	Introduction to Sociology [2]	3
History and Humanities GER 300+ level (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level/)		3
	Term Credits	**16**

Third Year		
1st Semester		
Biology Laboratory Elective [4]		4
Biology Cluster - Ecology and Evolution Elective		3
Biology Elective		3
History and Humanities GER 300+ level (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level/)		3
Technical Elective [5]		3
	Term Credits	**16**
2nd Semester		
Biology Laboratory Elective [4]		3
Biology Elective		3
Biology Elective		3
Humanities and Social Science Senior Seminar GER (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/hss-capstone/) [2]		3
Technical Elective [5]		3
Free Elective [4]		3
	Term Credits	**18**
	Total Credits	**107**

Code	Title	Credits
Technical Elective [5]		4
Technical Elective [5]		3
Free Elective [4]		3
Free Elective [4]		3

* Rutgers New Jersey Medical School, St. Georges's University Medical School, American University of Antigua Medical School.

1 Organic Chemistry I may be taken at NJIT or Rutgers Newark in the summer. Out of state students must consult with the Chemistry department to find an equivalent course.

2 Required to take MCAT

3 CHEM 121 and CHEM 122 require permission from the academic adviser

4 Free Elective – Any course in any subject at any level

5 Technical Elective – Any STEAM course

6 Laboratory Elective – 3 or 4 credits biology laboratory

Code	Title	Credits
NJIT Credits		107
Transfer Credits		13
Biology Credits		38

Biology Electives

One course must be taken from each cluster.

Cluster A – Ecology and Evolution

Code	Title	Credits
BIOL 222	Evolution	3
or R216 222	Evolution	
R216 280	Ecology	3
R120 370	Plant Ecology	3
BIOL 382	Animal Behavior	3

Cluster B – Functional Organism

Code	Title	Credits
R216 211	Plant Kingdom	4
R216 230	Biology Of Seed Plants	4
R216 330	Plant Physiology	4
R120 335	General Microbiology	4
BIOL 340	Mammalian Physiology	4
or R120 340	Mammalian Physiology	
R120 342 & R120 343	Developmental Biology and Developmental Biology Lab	4

Cluster C – Molecular and Cellular

Code	Title	Credits
BIOL 352	Genetics	3
or R120 352	Genetics	
R120 355	Cell Biology	3
R120 356	Molecular Biology	3
CHEM 473	Biochemistry	3
or R120 360	Biochemistry	

Biology Electives

Code	Title	Credits
Any concept cluster or lab course or any of the following		
BIOL 315	Principles of Neurobiology	3
BIOL 320	Discovering Biological Research	3
BIOL 337	Collective Intel in Biol Syst	3
BIOL 338	Ecology of the Dining Hall	3
BIOL 441	Neurophysiology	3
BIOL 342	Developmental Biology (Embryology)	3
BIOL 423	Physiological Mechanisms	3
BIOL 424	Comparative Physiology	3
R120 346	Neurobiology	3
BIOL 350	Immunology	3
R216 365	Evolutions of Humans	3
BIOL 468	Disease Ecology & Evolution	3
BIOL 375	Conservation Biology	3
BIOL 383	Neural Basis of Behavior	3
BIOL 400	Biology in Science Fiction	3
R120 402	Biology of Cancer	3
R216 422	Biological Invasions	3
BIOL 432	Intro to Comp Neuroscience	3
BIOL 436	Advanced Neuroscience Modeling	3
BIOL 440	Cell Biology of Disease: Cells gone Bad!	3
BIOL 445	Endocrinology	3
BIOL 447	Systems Neurobiology	3
BIOL 448	Neuropathophysiology: Nervous System Gone Bad!	3
BIOL 453	Applied Genetics & Genomics	3
R120 455	Molec Cell Biology	3
R120 456	Virology	3
BIOL 462	Comparative Biomechanics	3
BIOL 470	Dynamic Princ in Systems BIOL	3
BIOL 491	Research and Independent Study	3

BIOL 492	Research and Independent Study	3
R120 493	Seminar In Biology	1
R120 494	Seminar In Biol	1
BIOL 495	Honors Seminar in Biology	3
BIOL 498	Special Topics in Biology	3

Laboratory Experience Courses

(7 Credits, At Least One 4-Credit Lab)

Code	Title	Credits
Four Credit Laboratories		**4**
R216 211	Plant Kingdom	
R120 227	Biol Invertebrates	
R216 230	Biology Of Seed Plants	
R120 311	Flora of New Jersey	
R120 313	Mycology	
BIOL 421	Comparative Vertebrate Anatomy	
R120 325 & R120 326	Animal Parasites and Parasitology Lab	
R216 330	Plant Physiology	
R120 335	General Microbiology	
BIOL 340	Mammalian Physiology	
or R120 340	Mammalian Physiology	
R120 342 & R120 343	Developmental Biology and Developmental Biology Lab	
R120 358	Microanatomy Cells	
BIOL 347	Lab Approaches in Neuroscience	
R120 404	Intro to Neuroanatomy	
R120 405	Microanatomy of Cells	
R216 430	Plant Growth & Development	
BIOL 451	Cell Physiology and Imaging	
Three Credit Laboratories		**3**
R216 328	Ornithology	
R216 371	Field Study Plant Ecology	
R216 380	Field Ecology	
R216 381	Ecological History of North Am	
BIOL 484	Evolution of Animal Behavior Laboratory	
BIOL 475	Ecological Field Methods and Analysis	
R120 485	Tropical Field Ecology	