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

(120 credits minimum)

First Year		
1st Semester		**Credits**
BIOL 200	Concepts in Biology	4
CHEM 125 or CHEM 121	General Chemistry I [1] 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 [1] 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**
Second Year		
1st Semester		
BIOL 201	Found of Biol: Cell & Molecula	3
BIOL 202	Found of Biol: Cell & Molecula	1
CHEM 243	Organic Chemistry I	3
BNFO 135 or CS 101	Programming for Bioinformatics or Computer Programming and Problem Solving	3
MATH 105	Elementary Probability and Statistics	3
History and Humanities GER 200 level (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-200-level/)		3
Free Elective [2]		3
	Term Credits	**19**
2nd Semester		
Biology Functional Laboratory Cluster Elective		4
Biology Cluster A or C Elective		3
CHEM 244	Organic Chemistry II	3
CHEM 244A	Organic Chemistry I Laboratory	2
Social Science GER (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/social-science-ger/)		3
History and Humanities GER 300+ level (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level/)		3
	Term Credits	**18**
Third Year		
1st Semester		
Biology Laboratory Elective [4]		4
Biology Cluster A or C 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
BIOL 310	Work Experience I	3
or Technical Elective [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/)		3
Technical Elective [3]		3
Free Elective [2]		3
	Term Credits	**18**
	Total Credits	**107**

Code	Title	Credits
Technical Elective		4
Technical Elective		3
Field Elective		3
Free Elective [1]		3
Total Credits		**13**

1 CHEM 121 and CHEM 122 require permission from the academic adviser
2 Free Elective- Any course in any subject at any level.
3 Technical Elective- Any STEAM course. Optometry students must take Co-op, BIOL 310
4 Laboratory Elective- 3 or 4 credit laboratory

BIOLOGY ELECTIVES MUST BE CHOSEN AS OUTLINED BELOW:

Code	Title	Credits
Concept Cluster Ecology and Evolution		
BIOL 222	Evolution	3
or R216 222	Evolution	
R216 280	Ecology	3
R120 370	Plant Ecology	3
BIOL 382	Animal Behavior	3
Concept Cluster Functional Organism		
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
Concept Cluster Molecular and Cellular		
BIOL 352	Genetics	3
R120 355	Cell Biology	3
R120 356	Molecular Biology	3
R120 360	Biochemistry	3
Biology Electives		
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 423	Physiological Mechanisms	3
R120 346	Neurobiology	3
BIOL 424	Comparative Physiology	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 440	Cell Biology of Disease: Cells gone Bad!	3
BIOL 432	Intro to Comp Neuroscience	3
BIOL 436	Advanced Neuroscience Modeling	3
BIOL 445	Endocrinology	3
or R120 445	Endocrinology	
BIOL 447	Systems Neurobiology	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
R120 472	Environmental Assessment	3
BIOL 491	Research and Independent Study	3
or BIOL 492	Research and Independent Study	
R120 493	Seminar In Biology	1
or R120 494	Seminar In Biol	
BIOL 495	Honors Seminar in Biology	3
BIOL 498	Special Topics in Biology	3
Laboratory/ Field Experience		
(7 Credits, at least one 4-credit lab)		
Four Credit Laboratories		
R216 211	Plant Kingdom	4
R120 227	Biol Invertebrates	4
R216 230	Biology Of Seed Plants	4
R120 311	Flora of New Jersey	4
R120 313	Mycology	4
BIOL 421	Comparative Vertebrate Anatomy	4
R120 325	Animal Parasites	1-3
or R120 326	Parasitology Lab	
R216 330	Plant Physiology	4
R120 335	General Microbiology	4
BIOL 340	Mammalian Physiology	4
or R120 340	Mammalian Physiology	
R120 342	Developmental Biology	1-3

or R120 343	Developmental Biology Lab	
BIOL 347	Lab Approaches in Neuroscience	4
R120 404	Intro to Neuroanatomy	4
R120 405	Microanatomy of Cells	4
R216 430	Plant Growth & Development	4
BIOL 451	Cell Physiology and Imaging	4
Three Credit Laboratories		
R216 328	Ornithology	3
R216 371	Field Study Plant Ecology	3
R216 380	Field Ecology	3
R216 381	Ecological History of North Am	3
BIOL 484	Evolution of Animal Behavior Laboratory	3
BIOL 475	Ecological Field Methods and Analysis	3
R120 485 Tropical field Biology		3
Optometry Transfer Courses *		13
BVS 121		3
BVS 106		3
BVS 131		3
BVS 181		3
Dental Transfer Courses(13 Credits) *		
ANAT 7109		
NEUR 7109		

* Other courses may be substituted as necessary