Neurobiology Concentration

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
MATH 138	General Calculus I	3
ENGL 101	English Composition: Introduction to Academic Writing	3
FYS SEM	First-Year Student Seminar	0
	Term Credits	**14**
2nd Semester		
BIOL 201	Found of Biol: Cell & Molecula	3
BIOL 202	Found of Biol: Cell & Molecula	1
CHEM 126 or CHEM 122	General Chemistry II [1] or Fundamentals of Chemical Principles II	3
CHEM 126A	Gen Chemistry Lab II	1
MATH 238	General Calculus II	3
ENGL 102	English Composition: Introduction to Writing for Research	3
	Term Credits	**14**
Second Year		
1st Semester		
BIOL 205	Foundations of Biology: Ecology and Evolution Lecture	3
BIOL 206	Foundations of Biology: Ecology and Evolution Lab	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
	Term Credits	**16**
2nd Semester		
CHEM 244	Organic Chemistry II	3
CHEM 244A	Organic Chemistry II Laboratory	2
BIOL 315	Principles of Neurobiology	3
BIOL 340 or R120 340	Mammalian Physiology or Mammalian Physiology	4
Social Science GER (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/social-science-ger/)		3
	Term Credits	**15**
Third Year		
1st Semester		
PHYS 102	General Physics	3
PHYS 102A	General Physics Lab	1
BIOL 222	Evolution	3
Cellular and Systems Neuroscience Elective		3
History and Humanities GER 300+ level (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level/)		3
Free Elective [2]		3
	Term Credits	**16**

2nd Semester		
PHYS 103	General Physics	3
PHYS 103A	General Physics Lab	1
Cellular and Systems Neuroscience Elective		3
Neurobiology Laboratory Elective		4
Technical Elective [3]		3
History and Humanities GER 300+ level (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level/)		3
	Term Credits	**17**
Fourth Year		
1st Semester		
Neurobiology Laboratory Elective		4
Technical Elective [3]		3
Technical Elective [3]		3
Free Elective [2]		3
Humanities and Social Science Senior Seminar GER (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/hss-capstone/)		3
	Term Credits	**16**
2nd Semester		
Neuroscience Elective		3
Technical Elective [3]		3
Free Elective [2]		3
Free Elective [2]		3
	Term Credits	**12**
	Total Credits	**120**

Biology Credits: 39

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 course in BIOL, CHEM, CS, EVSC, IT, IS, PHYS, or any engineering course.

Electives

Technical Electives

Any course in chemistry, math or physics beyond major requirements. Any course in environmental science, computer science or engineering. Additional biology electives can be used as technical electives.

Free Electives

Any course in any subject at any level.

NEUROBIOLOGY LABORATORY ELECTIVES (Two Required)

Code	Title	Credits
BIOL 321	Comp Vertebrate Anatomy	4
R120 342 & R120 343	Developmental Biology and Developmental Biology Lab	4
BIOL 347	Lab Approaches in Neuroscience	4
BIOL 484	Evolution of Animal Behavior Laboratory	3
BIOL 451	Cell Physiology and Imaging	4
R120 452	Molecular Biol Techniques	4

CELLULAR AND SYSTEMS NEUROSCIENCE ELECTIVES (Two Required)

Code	Title	Credits
R120 444	Cell Neurobiology	3
BIOL 447	Systems Neurobiology	3
BIOL 441	Neurophysiology	3

ADDITIONAL NEUROBIOLOGY ELECTIVES

Code	Title	Credits
BIOL 337	Collective Intel in Biol Syst	3
BIOL 441	Neurophysiology	3
BIOL 423	Physiological Mechanisms	3
BIOL 424	Comparative Physiology	3
BIOL 352	Genetics	3
BIOL 382	Animal Behavior	3
BIOL 383	Neural Basis of Behavior	3
BIOL 432	Intro to Comp Neuroscience	3
BIOL 436	Advanced Neuroscience Modeling	3
R120 444	Cell Neurobiology	3
BIOL 445	Endocrinology	3
or R120 445	Endocrinology	
BIOL 447	Systems Neurobiology	3
BIOL 448	Neuropathophysiology: Nervous System Gone Bad!	3
BIOL 453	Applied Genetics & Genomics	3
BIOL 462	Comparative Biomechanics	3
BIOL 470	Dynamic Princ in Systems BIOL	3
BIOL 491	Research and Independent Study	1-3
or R120 491	Problems In Biology	
BIOL 492	Research and Independent Study	3
or R120 492	Problems In Biology	