

# Accelerated B. A. in Biology/Doctor in Physical Therapy (DPT)

<sup>1</sup> CHEM 121 and CHEM 122 require permission from the academic adviser

(120 Minimum credits)

## First Year

1st Semester		Credits
BIOL 200	Concepts in Biology	4
CHEM 125 or CHEM 121	General Chemistry I <sup>1</sup> 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
BNFO 135 or CS 101	Programming for Bioinformatics or Computer Programming and Problem Solving	3
FYS SEM	First-Year Student Seminar	0
<b>Term Credits</b>		<b>17</b>

## 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 <sup>1</sup> 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
PSY 210	Introduction to Psychology	3
<b>Term Credits</b>		<b>17</b>

## Summer

BIOL 310	Work Experience I	3
BIOL 410	Work Experience II	3
<b>Term Credits</b>		<b>6</b>

## 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
MATH 105	Elementary Probability and Statistics	3
Social Science GER ( <a href="http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/social-science-ger/">http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/social-science-ger/</a> )		3
History and Humanities GER 300+ level ( <a href="http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level/">http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level/</a> )		3
<b>Term Credits</b>		<b>16</b>

### 2nd Semester

Biology Cluster A or C Elective		3
BIOL 340	Mammalian Physiology	4
CHEM 244	Organic Chemistry II	3
CHEM 244A	Organic Chemistry II Laboratory	2
Technical Elective		3

History and Humanities GER 300+ level ( <a href="http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level/">http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level/</a> )	3
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<b>Term Credits</b>	<b>18</b>
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**Third Year****1st Semester**

BIOL 321	Comp Vertebrate Anatomy	4
	Biology Cluster A or C Elective	3
	Biology Elective	3
PHYS 102	General Physics	3
PHYS 102A	General Physics Lab	1
	Humanities and Social Science Senior Seminar GER ( <a href="http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/hss-capstone/">http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/hss-capstone/</a> )	3

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<b>Term Credits</b>	<b>17</b>
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**2nd Semester**

	Biology Laboratory Elective	3
	Biology Elective	3
	Biology Elective	3
PHYS 103	General Physics	3
PHYS 103A	General Physics Lab	1
	Free Elective	3

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<b>Term Credits</b>	<b>16</b>
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<b>Total Credits</b>	<b>107</b>
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Code	Title	Credits
Technical Elective	PTDR 5110 Gross Anatomy	4
Technical Elective	PTDR 5120 Gross Anatomy	3
Free Elective	PTDR 5130 Pathophysiology I	3
Free Elective	PTDR 5310 Examination and Measurement	3

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<b>Total Credits</b>	<b>13</b>
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**Biology Electives**

One course must be taken from each cluster.

**Cluster A – Ecology and Evolution**

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

**Cluster B – Functional Organism**

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

**Cluster C – Molecular and Cellular**

<b>Code</b>	<b>Title</b>	<b>Credits</b>
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	

**Laboratory Experience Courses**

<b>Code</b>	<b>Title</b>	<b>Credits</b>
R120 227	Biol Invertebrates	4
R120 285	Comparative Vertebrate Anatomy	4
R120 311	Flora of New Jersey	4
R120 313	Mycology	4
R120 325 & R120 326	Animal Parasites and Parasitology Lab	4
BIOL 347	Lab Approaches in Neuroscience	4
R120 358	Microanatomy Cells	4
R120 430	Plant Growth & Development	4
R120 481	Marine Biology	4
Any course from Functional Organism Cluster		4
R120 328	Ornithology	3
R120 371	Field Study Plant Ecology	3
R120 381	Ecological History of North Am	3
R120 380	Field Ecology	3
BIOL 475	Ecological Field Methods and Analysis	3
R120 486	Tropical Field Biology	2

**Biology Electives**

<b>Code</b>	<b>Title</b>	<b>Credits</b>
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
R120 365	Evolutions of Humans	3
BIOL 468	Disease Ecology & Evolution	3
MATH 371	Physiology And Medicine	3
MATH 372	Population Biology	3
MATH 373	Introduction to Mathematical Biology	3
BIOL 375	Conservation Biology	3
BIOL 383	Neural Basis of Behavior	3
BIOL 400	Biology in Science Fiction	3
R120 403	Biological Ultrastructure	3
R120 404	Intro to Neuroanatomy	4
R120 422	Biological Invasions	3

MATH 430	Analytical and Computational Neuroscience	3
BIOL 436	Advanced Neuroscience Modeling	3
BIOL 432	Intro to Comp Neuroscience	3
BIOL 440	Cell Biology of Disease: Cells gone Bad!	3
R120 445	Endocrinology	3
BIOL 447	Systems Neurobiology	3
BIOL 448	Neuropathophysiology: Nervous System Gone Bad!	3
R120 451	Lab Cell Biophysics	4
R120 452	Molecular Biol Techniques	4
BIOL 453	Applied Genetics & Genomics	3
R120 455	Molec Cell Biology	3
BIOL 462	Comparative Biomechanics	3
BIOL 470	Dynamic Princ in Systems BIOL	3
R120 471	Ecological Physiology	3
R120 487	Syst Ecol:Ecosys in Landscape	3
BIOL 491 & BIOL 492	Research and Independent Study and Research and Independent Study	6