

# B.S. in Applied Physics & B.S. in Mathematical Sciences, Applied Mathematics

(122 Credits)

**First Year**

<b>1st Semester</b>		<b>Credits</b>
MATH 111	Calculus I	4
CS 100 or CS 115	Roadmap to Computing or Introduction to Computer Science I in C++	3
CHEM 125	General Chemistry I	3
PHYS 111	Physics I	3
PHYS 111A	Physics I Lab	1
ENGL 101	English Composition: Introduction to Academic Writing	3
FYS SEM	First-Year Student Seminar	0
<b>Term Credits</b>		<b>17</b>

**2nd Semester**

MATH 112	Calculus II	4
PHYS 114	Introduction to Data Reduction with Applications	3
PHYS 121 or PHYS 122	Physics II or Electricity & Magnetism ECE Appl	3
PHYS 121A	Physics II Lab	1
CHEM 125A	General Chemistry Lab I	1
CHEM 126	General Chemistry II	3
<b>Term Credits</b>		<b>15</b>

**Second Year****1st Semester**

MATH 213	Calculus III B	4
MATH 244	Introduction to Probability Theory	3
PHYS 234	Physics III	3
PHYS 231A	Physics III Lab	1
ENGL 102	English Composition: Introduction to Writing for Research	3
<b>Term Credits</b>		<b>14</b>

**2nd Semester**

MATH 222	Differential Equations	4
MATH 335	Vector Analysis	3
MATH 337	Linear Algebra	3
PHYS 335	Introductory Thermodynamics	3
History and Humanities GER 200 level ( <a href="https://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-200-level/">https://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-200-level/</a> )		3
<b>Term Credits</b>		<b>16</b>

**Third Year****1st Semester**

MATH 331	Introduction to Partial Differential Equations	3
MATH 332	Introduction to Functions of a Complex Variable	3
PHYS 430	Classical Mechanics I	3
PHYS 432	Electromagnetism I	3
<b>Term Credits</b>		<b>12</b>

**2nd Semester**

MATH 340	Applied Numerical Methods	3
PHYS 433	Electromagnetism II	3

Physics/OPSE Elective		3
History and Humanities GER 300+ level ( <a href="https://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level/">https://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level/</a> )		3
<b>Term Credits</b>		<b>12</b>
<b>Fourth Year</b>		
<b>1st Semester</b>		
MATH 450	Methods Of Applied Math	3
MATH 473	Intermediate Differential Equations	3
MATH 480	Introductory Mathematical Analysis	3
PHYS 442	Introduction to Quantum Mechanics	3
<b>Term Credits</b>		<b>12</b>
<b>2nd Semester</b>		
MATH 451	Methods Appl Math II	3
PHYS 450	Advanced Physics Lab	3
Phys/OPSE Elective		3
History and Humanities GER 300+ level ( <a href="https://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level/">https://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level/</a> )		3
<b>Term Credits</b>		<b>12</b>
<b>Fifth Year</b>		
<b>1st Semester</b>		
Math 300+ Elective		3
Physics/OPSE Elective		3
Social Sciences GER ( <a href="https://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/social-science-ger/">https://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/social-science-ger/</a> )		3
Humanities and Social Science Senior Seminar GER ( <a href="https://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/hss-capstone/">https://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/hss-capstone/</a> )		3
<b>Term Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>122</b>