

B.S. in Applied Mathematics and B.S. in Applied Physics

(122 Credits)

Course	Title	Credits
First Year		
1st Semester		
HUM 101	English Composition: Writing, Speaking, Thinking I	3
PHYS 111	Physics I	3
PHYS 111A	Physics I Laboratory	1
MATH 111	Calculus I	4
CS 100 or CS 115	Roadmap to Computing or Intro. to CS I in C++	3
CHEM 125	General Chemistry I	3
FRSH SEM	Freshman Seminar	0
Term Credits		17
2nd Semester		
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 Laboratory	1
MATH 112	Calculus II	4
CHEM 126	General Chemistry II	3
CHEM 124	General Chemistry Laboratory	1
Term Credits		15
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 Laboratory	1
HUM 102	English Composition: Writing, Speaking, Thinking II	3
Term Credits		14
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 (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-200-level)		3
Term Credits		16
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
Social Science GER (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/social-science-ger)		3
Term Credits		15

2nd Semester

MATH 340	Applied Numerical Methods	3
History and Humanities GER 300+ level (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level)		3
Physics/OPSE Elective		3
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PHYS 433	Electromagnetism II	3
Term Credits		15

Fourth Year**1st Semester**

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
History and Humanities GER 300+ level (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level)		3
Term Credits		15

2nd Semester

Math Elective 300+		3
MATH 451	Methods Appl Math II	3
Humanities and Social Science Senior Seminar GER (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/hss-capstone)		3
Phys/OPSE Elective		3
PHYS 450	Advanced Physics Laboratory	3
Term Credits		15
Total Credits		122

General Education Requirements and Electives

All students are required to satisfy the General Education Requirements (GER). All GER courses and additional mathematics, technical, and free electives are to be selected in consultation with a faculty advisor in the Department of Mathematical Sciences. Refer to the General Education Requirements (<http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-university-requirements>) section of this catalog for further information on electives.

Co-op Courses

In Mathematical Sciences, the co-op courses, MATH 310 Co-op Work Experience I and MATH 410 Co-op Work Experience II, bear degree credit and count as technical or free electives, subject to approval by a faculty advisor in the Department of Mathematical Sciences.

Electives

All electives should be selected after consultation with a Mathematical Sciences faculty advisor. Any mathematics course numbered 331 or above may be used as a mathematics, technical, or free elective. Any NJIT course at or above the 100 level may be used as a technical or free elective; except a technical elective is a course that has a significant mathematical and/or scientific content. All elective courses are to be chosen in consultation with a faculty advisor in the Department of Mathematical Sciences.