

BS in Computer Science and BS in Mathematical Sciences, Computational Mathematics

(132 credits)

First Year

1st Semester		Credits
MATH 111	Calculus I	4
CS 100	Roadmap to Computing	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
Term Credits		14

2nd Semester

MATH 112	Calculus II	4
CS 113	Introduction to Computer Science I	3
PHYS 121	Physics II	3
PHYS 121A	Physics II Lab	1
ENGL 102	English Composition: Introduction to Writing for Research	3
Term Credits		14

Second Year**1st Semester**

MATH 213	Calculus III B	4
MATH 333	Probability and Statistics	3
CS 114	Introduction to Computer Science II	3
History and Humanities GER 200 level (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-200-level/)		3
Social Sciences GER (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/social-science-ger/)		3
Term Credits		16

2nd Semester

MATH 222	Differential Equations	4
MATH 337	Linear Algebra	3
CS 241	Foundations of Computer Science I	3
CS 280	Programming Language Concepts	3
CS 301	Introduction to Data Science	3
Term Credits		16

Third Year**1st Semester**

MATH 340	Applied Numerical Methods	3
MATH 480	Introductory Mathematical Analysis	3
CS 288	Intensive Programming in Linux	3
CS 332	Principles of Operating Systems	3
CS 356	Introduction to Computer Networks	3
Term Credits		15

2nd Semester

MATH 331	Introduction to Partial Differential Equations	3
MATH 332	Introduction to Functions of a Complex Variable	3
CS 331	Database System Design & Mgmt	3
CS 341	Foundations of Computer Science II	3

CS 350	Intro to Computer Systems	3
Term Credits		15
Fourth Year		
1st Semester		
MATH 391	Numerical Linear Algebra	3
MATH 450	Methods Of Applied Math	3
CS 435	Advanced Data Structures and Algorithm Design	3
CS 490	Guided Design in Software Engineering	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 451	Methods Appl Math II	3
MATH 453	High-Performance Numerical Computing	3
CS 351	Introduction to Cybersecurity	3
CS 491	Senior Project	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
Fifth Year		
1st Semester		
MATH 440 or MATH 448	Advanced Applied Numerical Methods or Stochastic Simulation	3
MATH 300+ Elective		3
IS 350	Computers, Society and Ethics	3
Humanities and Social Science Senior Seminar GER (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/hss-capstone/)		3
Term Credits		12
Total Credits		132