B.S. in Computer Science

(120 credits minimum)

First Year		
1st Semester		**Credits**
CS 100	Roadmap to Computing	3
MATH 111	Calculus I	4
ENGL 101	English Composition: Introduction to Academic Writing	3
PHYS 111	Physics I	3
PHYS 111A	Physics I Lab	1
FYS SEM	First-Year Student Seminar	0
	Term Credits	**14**
2nd Semester		
CS 113	Introduction to Computer Science I	3
MATH 112	Calculus II	4
ENGL 102	English Composition: Introduction to Writing for Research	3
PHYS 121	Physics II	3
PHYS 121A	Physics II Lab	1
	Term Credits	**14**
Second Year		
1st Semester		
CS 114	Introduction to Computer Science II	3
CS/IS/IT Elective 200 or above [1]		3
MATH 333	Probability and Statistics	3
Science Elective (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/natural-science-ger/)		3
History and Humanities GER 200 level (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-200-level/)		3
	Term Credits	**15**
2nd Semester		
CS 241	Foundations of Computer Science I	3
CS 280	Programming Language Concepts	3
IS 350	Computers, Society and Ethics	3
COM 312 or COM 313	Oral Presentations or Technical Writing	3
MATH 337	Linear Algebra	3
YWCC 207	Computing & Effective Com	1
	Term Credits	**16**
Third Year		
1st Semester		
CS 288	Intensive Programming in Linux	3
CS 332	Principles of Operating Systems	3
Social Sciences GER (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/social-science-ger/)		3
CS 301	Introduction to Data Science	3
CS 356	Introduction to Computer Networks	3
	Term Credits	**15**
2nd Semester		
CS 331	Database System Design & Mgmt	3
YWCC 307	Professional Dev in Computing	1
CS Elective 300 or above		3

CS 341	Foundations of Computer Science II	3
CS 350	Intro to Computer Systems	3
CS 351	Introduction to Cybersecurity	3
	Term Credits	**16**
Fourth Year		
1st Semester		
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
CS Elective 300 or above		3
CS Elective 300 or above		3
	Term Credits	**15**
2nd Semester		
CS 491	Senior Project	3
Humanities and Social Science Senior Seminar GER (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/hss-capstone/)		3
CS Elective 300 or above		3
General Elective [2]		3
CS/IS/IT Elective 200 or above [1]		3
	Term Credits	**15**
	Total Credits	**120**

1 CS/IS/IT Elective: Two 3-credit CS/IS/IT electives (200-level or above).

2 A general elective is any 3 credit course except a course that is already required for your program or any course covering prerequisite material for first semester courses in your program.

3 The following cannot count as elective courses:
ENGL 099 Reading, Writing, Language
PHYS 102 General Physics I
MATH 105 Elementary Probability and Statistics
MATH 107 University Mathematics A
MATH 244 Introduction to Probability Theory
MATH 226 Discrete Analysis
MATH 326 Discrete Analysis for Computer Engineers
MATH 341 Statistical Methods II
DS 340 Fundamentals and Principles of Data Science
IS 331 Database Design Management and Applications

4. ***CS/IS/IT 485 special topic courses***: Students can only use up to 6 credits from CS/IS/IT 485 with at most 3 credits of IS/IT 485 as electives towards graduation.

Minimum Grades

Prerequisite grade requirement for Computer Science majors:

Students are expected to earn a grade of B or better in CS 100. Students are expected to earn a grade of C or better in all CS courses that serve as prerequisites in a sequence of courses

Co-op

A GPA of 2.7 is required to enroll in co-op. Students may use up to 6 credits of co-op toward their general elective requirements.

See the **General Education Requirements** "Refer to the General Education Requirements for specific information for GER courses"

This curriculum represents the maximum number of credits per semester for which a student is advised to register. A full-time credit load is 12 credits. First-year students are placed in a curriculum that positions them for success which may result in additional time needed to complete curriculum requirements. Continuing students should consult with their academic advisor to determine the appropriate credit load.