

# B.A. in Computer Science

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(120 credits minimum)

**First Year**

<b>1st Semester</b>		<b>Credits</b>
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
<b>Term Credits</b>		<b>14</b>

**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
Science with Lab Elective ( <a href="http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/natural-science-ger/">http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/natural-science-ger/</a> )		4
<b>Term Credits</b>		<b>14</b>

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

CS 114	Introduction to Computer Science II	3
MATH 333	Probability and Statistics	3
CS/IS/IT Elective 200 or above <sup>3</sup>		3
Science Literacy GER ( <a href="http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/natural-science-ger/">http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/natural-science-ger/</a> )		3
History and Humanities GER 200 level ( <a href="http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-200-level/">http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-200-level/</a> )		3
<b>Term Credits</b>		<b>15</b>

**2nd Semester**

CS 280	Programming Language Concepts	3
IS 350	Computers, Society and Ethics	3
CS 241	Foundations of Computer Science I	3
COM 312 or COM 313	Oral Presentations or Technical Writing	3
Free Elective <sup>1</sup>		3
YWCC 207	Computing & Effective Com	1
<b>Term Credits</b>		<b>16</b>

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

Free Elective <sup>1</sup>		3
CS 331	Database System Design & Mgmt	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
CS 288	Intensive Programming in Linux	3
CS 332	Principles of Operating Systems	3
<b>Term Credits</b>		<b>15</b>

**2nd Semester**

CS 356	Introduction to Computer Networks	3
YWCC 307	Professional Dev in Computing	1
CS Elective 300 or above		3

Math/Science Elective <sup>2</sup>		3
CS 350	Intro to Computer Systems	3
CS Elective 300 or above		3
<b>Term Credits</b>		<b>16</b>
<b>Fourth Year</b>		
<b>1st Semester</b>		
CS 490	Guided Design in Software Engineering	3
CS 435	Advanced Data Structures and Algorithm Design	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
Math or Science Elective <sup>2</sup>		3
Free Elective <sup>1</sup>		3
<b>Term Credits</b>		<b>15</b>
<b>2nd Semester</b>		
CS 491	Senior Project	3
CS Elective 300 or above		3
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
Free Elective <sup>1</sup>		3
CS/IS/IT Elective 200 or above <sup>3</sup>		3
<b>Term Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>120</b>

<sup>1</sup> Free Elective: A minimum of 4 courses (12 credits minimum). Please consult your advisor for appropriate general electives.

<sup>2</sup> Math or Science Elective:

If you took MATH 244 (<http://catalog.njit.edu/search/?P=MATH%20244>) Introduction to Probability Theory you must take MATH 341 (<http://catalog.njit.edu/search/?P=MATH%20341>) Statistical Methods II.

If you took MATH 333 (<http://catalog.njit.edu/search/?P=MATH%20333>) Probability and Statistics you may take any of the following:

CS 337 (<http://catalog.njit.edu/search/?P=CS%20337>) Performance Modeling in Computing,

MATH 211 (<http://catalog.njit.edu/search/?P=MATH%20211>) Calculus III A

MATH 213 (<http://catalog.njit.edu/search/?P=MATH%20213>) Calculus III B,

MATH 222 (<http://catalog.njit.edu/search/?P=MATH%20222>) Differential Equations

or any Math 300/400 level except MATH 305 (<http://catalog.njit.edu/search/?P=MATH%20305>) Statistics for Technology.

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

<sup>4</sup> The following cannot count as elective courses:

MATH 107 University Mathematics A

MATH 108 University Mathematics B

MATH 110 University Mathematics B II - Trigonometry

MATH 226 Discrete Analysis

MATH 326 Discrete Analysis for Computer Engineers

## 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 free elective requirements.

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