

Computer Science

Degree Type

Associate in Science

Type

Transfer

Division of STEAM

Associate Dean: Bradley Cole

Students in the Computer Science program are educated in the design and implementation of system software. The program provides the first two years of a baccalaureate computer science degree with transfer options that include scientific programming, systems programming, systems design, computer engineering, and other computer-related disciplines. Graduates of computer science programs commonly seek employment with computer manufacturers or software houses that specialize in system software.

Students in this program must meet 7 of the 10 SUNY Knowledge and Skills areas, 2 core competencies (Critical Thinking and Information Literacy), and have 30 SUNY General Education credits. Please note that of the 7 Knowledge and Skills areas, the following 4 are required: Communication-Written and Oral; Mathematics and Quantitative Reasoning; Natural Sciences and Scientific Reasoning; and Diversity, Equity, Inclusion, and Social Justice. For more information on the SUNY General Education requirements please see General Education Requirements.

Graduates will be able to:

- Demonstrate knowledge and understanding of essential facts, concepts, principles, and theories relating to computer science;
- Understand and demonstrate the structure of mathematics in its relation and application to computer science;
- Apply knowledge and skills to solve problems effectively and efficiently;
- Communicate effectively with a range of audiences;
- Understand the professional, ethical, security and social issues and responsibilities in computer science.

Program Requirements

Item #	Title	Credits
ENGL 1110	College Communication	3.0
ENGL 1020	College Composition II	3.0
	MATH 1413 or higher	8
	Laboratory Science Electives	6
	Social Sciences Elective	3
	Liberal Arts & Sciences Electives	3
	Humanities Elective	3
	Diversity, Equity, Inclusion, Social Justice (DEI/SJ) Course	3
CSCS 1200	Computer Essentials	0.0-4
CSCS 1240	Structured and Object-Oriented Problem Solving	0.0-3
CSCS 1320	C/C++ Programming	0.0-4
CSCS 1730	UNIX/Linux Fundamentals	0.0-4
CSCS 2320	Data Structures	0.0-3
CSCS 2330	Discrete Structures	3.0
CSCS 2650	Computer Organization	0.0-4
	Computer Science Electives	6
	Wellness (Activity or Awareness)	1
	Total Credits	42-64

Course Sequencing

First Semester

Intended as a guide for academic planning. It need not be followed exactly or completed in four semesters.

Item #	Title	Credits
ENGL 1110	College Communication	3.0
MATH 1413	Pre-Calculus	4.0
CSCS 1240	Structured and Object-Oriented Problem Solving	0.0-3
CSCS 1200	Computer Essentials	0.0-4
	Computer Science Elective	3

Second Semester

Item #	Title	Credits
ENGL 1020	College Composition II	3.0
MATH 1610	Calculus I	4.0
CSCS 1320	C/C++ Programming	0.0-4
CSCS 1730	UNIX/Linux Fundamentals	0.0-4

Third Semester

Item #	Title	Credits
CSCS 2320	Data Structures	0.0-3
CSCS 2330	Discrete Structures	3.0
	Humanities Elective	3
	Laboratory Science Elective	3
	Liberal Arts & Sciences Electives	3

Fourth Semester

Item #	Title	Credits
CSCS 2650	Computer Organization	0.0-4
	Computer Science Elective	3
	Diversity, Equity, Inclusion, Social Justice (DEI/SJ) Course	3
	Laboratory Science Elective	3
	Social Sciences Elective	3
	Wellness	2

Footnotes

1. Electives: Select to fulfill requirements of transfer college. If using PHYS for laboratory science elective, select PHYS 1010 or higher

2. Computer Science Electives: Select from CSCS, CSIT, CSNT, CSNS, or CSWT. Select to fulfill requirements of transfer college.

3. Mathematics: A transfer college will typically require Calculus II or higher levels of math for Computer Science. Select to fulfill requirements of transfer college.

4. Diversity, Equity, Inclusion, Social Justice (DEI/SJ) Course: See General Education Requirements for courses that meet this requirement.

5. Liberal Arts & Sciences Elective: Should be chosen from The Arts, US History & Civic Engagement, World History & Global Awareness, or World Languages. For a list of courses, see General Education Requirements.

6. ENGL 111Q: Students may take ENGL 1010 and SPCH 1080 in place of ENGL 1110.

7. Program Elective: CSNT 1200 recommended.

* Based on placement, students might be required to take developmental and/or prerequisite classes before taking the required English and Math courses.

* Students in this program who plan to transfer to a SUNY college can meet 7 of the 10 SUNY Knowledge and Skills areas and 30 SUNY General Education credits. For more information on SUNY General Education requirements, refer to the catalog index or see an advisor.

* Since programs at transfer colleges vary greatly, it is essential that students meet early with their advisor in order to select appropriate electives.

* High school or equivalent preparation required: biology, chemistry or physics and four years of mathematics, including algebra, geometry or intermediate algebra, trigonometry, and pre-calculus. Students who don't have this preparation will be able to get it here, but it may take longer to complete the program.