

Computer Science Program

A Dual Admissions Program with NJIT

Division of Engineering Technologies and Computer Sciences — Curriculum Code: 2302

Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in Computer Science?

This program prepares students for transfer upon graduation to four-year institutions to pursue a baccalaureate degree in Computer Science or a related field, or to enter the computer technology job market directly. The program emphasizes mathematically-oriented computer applications. Employment opportunities for positions such as application programmer, systems programmer, systems analyst, and software engineer have traditionally been reserved for graduates with a B.S. or B.A. in Computer Science. However, due to the rapid growth in computer technology, there are now many job opportunities for A.S. graduates; typical entry level positions include technical support specialist, network technician, database application specialist, PC technician and Help Desk technician.

If I major in Computer Science, can I transfer to an upper-division college or university?

Yes. You may choose to participate in the Dual Admissions program with New Jersey Institute of Technology and have all your credits applied to the first two years of the bachelor's degree program in Computer Science. Or you may transfer to another four-year institution and apply most or all of your courses toward a bachelor's degree program.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in reading, English, and/or mathematics.

How long will it take for me to complete this degree?

If you do not need developmental coursework and you attend full time, you can complete the degree in two years. Part-time students can complete the program in three or four years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400.

Upon completion of this program, graduates will be able to:

- ◆ Design applications programs in an object-oriented language using a variety of dynamic and static data structures;
- ◆ Design digital circuitry;
- ◆ Utilize multitasking, pre-emptive scheduling, time sharing operating system concepts and associated communications, networking, and security issues;
- ◆ Design and implement a relational database with supporting applications;
- ◆ Demonstrate multi-user database processing on LANs in client-server systems;
- ◆ Demonstrate object-oriented design techniques utilizing encapsulation, abstraction, inheritance, and reusability; and
- ◆ Work with computer software applications used in engineering such as spreadsheets, word processing and basic programming.

Computer Science — A.S. Degree Program

<p>GENERAL EDUCATION REQUIREMENTS: (33 credits)</p> <p>Communications (6 credits) ENG 101 College Composition I 3 ENG 102 College Composition II 3</p> <p>Social Science (6 credits) Select two courses from: ANT 101, 105; ECO 101, 102; POL 101, 104; PSY 101, 102 219; SOC 101, 108, 219 6</p> <p>Lab Science/Math (12 credits) PHY 103 General Physics I 4 MTH 121 Calculus with Analytic Geom. I 4 MTH 122 Calculus with Analytic Geom. II 4</p> <p>Humanities (9 credits) Select one History course from: HST 101, 102, 111, 112, 121, 122, 131, 132, 134-137, 161, 162 3 One of the following 200-level English lit. courses: ENG 205, 208, 215, 221, 222, 232, 237, 238, 242, 250, 263, or 264 3 ART 100, 101, or 102 or MUS 100, 108, or 109 3</p> <p>MAJOR COURSE REQUIREMENTS: (24 credits)</p> <p>CSC 121 Computer Science I 4 CSC 122 Computer Science II 4 CSC 221 Computer Systems & Architecture 4 CSC 225 Data Structures 4 CSC 228 Operating Systems 4 CSC 231 Database Design or CSC 235 Advanced Object-Oriented Prog. 4</p> <p>ADDITIONAL COURSE REQUIREMENTS: (10 credits)</p> <p>MTH 136 Discrete Mathematics 3 MTH 239 Intro. to Linear Algebra 3 PHY 104 General Physics II 4</p> <p>Total Credits Required for Degree 67</p>	<p>RECOMMENDED SEQUENCE OF COURSES:*</p> <p><u>First Semester</u></p> <p>ENG 101 College Composition I 3 CSC 121 Computer Science I 4 MTH 121 Calculus with Analytic Geom. I 4 PHY 103 General Physics I 4</p> <p><u>Second Semester</u></p> <p>ENG 102 College Composition II or ENG 105 Technical Writing 3 CSC 122 Computer Science II 4 MTH 122 Calculus with Analytic Geom. II 4</p> <p><u>Summer</u></p> <p>Social Science requirement 3 Humanities requirement 3</p> <p><u>Third Semester</u></p> <p>CSC 221 Computer Systems & Architecture 4 CSC 225 Data Structures 4 MTH 136 Discrete Mathematics 3 English literature requirement 3 Social Science requirement 3</p> <p><u>Fourth Semester</u></p> <p>CSC 228 Operating Systems 4 CSC 231 Database Design or CSC 235 Advanced Object-Oriented Prog. 4 MTH 239 Intro. to Linear Algebra 3 Art/Music requirement 3</p>
---	---

***NOTE:** This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section.