Applied Computer Science Program

Division of Engineering Technologies and Computer Sciences — Curriculum Code: 2303
Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in Applied Computer Science?

Students wishing to pursue management or other business oriented positions in the information technology field should consider Applied Computer Science. The computer science courses in the applied program are the same as those in the computer science program, but the science and mathematics requirements are less theoretical. Due to the rapid growth in computer technology, there are abundant employment opportunities for A.S. graduates. Typical entry-level positions include: Technical support specialist, network technician, database application specialist, PC technician and help desk technician. ECC's Applied Computer Science program is designed to prepare students to transfer to a four-year institution as well as to directly enter the Information Technology field.

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

Yes. The Applied Computer Science program prepares students to transfer to institutions offering a B.A. degree in Computer Science, a B.S. degree in a less theoretical computer science program, or a B.S. degree in Information Systems.

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
- Utilize computer software applications used in engineering such as spreadsheets, word processing, and basic programming.

Applied Computer Science — A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS: (33 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

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

Lab Science/Math (12 credits)

MTH	113	College Algebra with Trigonometry	4
PHY	101	College Physics I	4
PHY	102	College Physics II	4

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

MAJOR COURSE REQUIREMENTS: (24 credits)

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

ADDITIONAL COURSE REQUIREMENTS: (9 credits)

MTH	114	Unified Calculus I	3
MTH	136	Discrete Mathematics	3
MTH	213	Unified Calculus II	3

Total Credits Required for Degree **66**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
CSC	121	Computer Science I	4
MTH	113	College Algebra with Trigonometry	4
PHY	101	College Physics I	4

Second Semester

ENG	102	College Composition II	3
CSC	122	Computer Science II	4
MTH	114	Unified Calculus I	3
PHY	102	College Physics II	4

Summer

Social Science requirement	3
History requirement	3

Third Semester

CSC	221	Computer Systems & Architecture	4
CSC	225	Data Structures	4
MTH	136	Discrete Mathematics	3
English literature requirement			3
Social Science requirement			3

Fourth Semester

CSC	228	Operating Systems	4
CSC	231	Database Design **or**	
CSC	235	Advanced Object-Oriented Prog.	4
MTH	213	Unified Calculus II	3
Art/Music requirement			3

***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.