COMPUTER SCIENCE: PROGRAMMING

Associate of Science Degree

Program Description

The Computer Science Program is designed to prepare students for a variety of entry-level positions in a networked environment within the computer science industry, and to provide additional training or further advancement to those already employed in the computer science profession. The program design includes the general education curriculum, a general computer science core, skills courses, and courses specific to the computer science areas.

Program Outcomes

At the completion of this program, the student should be able to:

- Summarize how computers, data processing, and networking have changed practices in society, business, science and medicine.
- Describe the role of major hardware and software components of a computer.
- Apply structured methodologies to design, implement, document, test, and debug computer programs.
- Differentiate between procedural and object-oriented programming.
- Evaluate and implement various data structures to solve coding problems.
- Design a relational database with queries, forms, and reports.
- Describe the technologies used in computer networks.

General Education Requirements – see p. 98	Credits
Computer Science	3 credits
ENG 101 English Composition I	3 credits
ENG 102 English Composition II[1]	3 credits
History/Government	3 credits
IDS 167 First Year Seminar	3 credits
MAT 103 College Algebra	3 credits
PHY 111 General Physics I w/Lab[1]	4 credits
Social Science/Psychology	3 credits

Program Requirements – 36 credits total	Credits
CSA 213 Database Management	3 credits
CSI 104 Introduction to Programming with Python	3 credits
CSI 107 C++ Programming[1]	3 credits
CSI 213 Advanced C++[1]	3 credits
CSI 218 Data Structures and Algorithms[1]	3 credits
CSI 226 UNIX with Linux	3 credits
CSI 244 Networking I	3 credits
Program Electives (see below)	15 credits

Total credits required for graduation **61 credits**

Program Electives	Credits
ACC 101 Accounting I	3 credits
CSA 217 Spreadsheet Design[1]	3 credits
CSA 227 Website Design	3 credits
CSA 229 Web and Mobile Development with JavaScript and React[1] (F)	3 credits
CSI 150 Introduction to Game Development with Unity[1] (S)	3 credits
CSI 204 Web Programming with PHP and MySQL[1] (S)	3 credits
CSI 217 Introduction to Operating Systems (F)	3 credits
CSI 233 Java Programming[1] (F)	3 credits
CSI 235 Computer Architecture[1]	3 credits
CSI 237 Advanced Java[1] (S)	3 credits
CSI 255 C# Programming[1] (F)	3 credits
CSI 261 Robotics Programming[1] (F)	3 credits
CSI 262 Advanced Robotics Programming[1] (S)	3 credits
CSI 265 Linux System Administration[1]	3 credits
CSI 267 Amazon Web Services Academy Cloud Foundations[1] (S)	3 credits
CSI 311 Computer Organization[1] (F)	3 credits
MAT 113 Precalculus[1]	3 credits
MAT 204 Calculus I B[1]	4 credits
EXP 297 Internship I	3 credits

Prior Learning Assessment Opportunity

CompTIA and QC Courses

Network+ is equivalent to CSI 244 Networking I

Security+ is equivalent to CSI 242 Computer Systems Security

Students with proof of completion are not required to repeat the equivalent QC course but should choose an elective in consultation with an advisor and department faculty.

Additional Information

1. Indicates course requires the completion of a prerequisite.

NOTE: All classes are offered in the fall and the spring unless otherwise designated:

F=Class is only offered in the Fall
S=Class is only offered in the Spring

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Semester 1	Credits	Pre-Requisites
Computer Science	3 credits	
CSI 104 Introduction to Programming with Python	3 credits	
ENG 101 English Composition I	3 credits	
IDS 167 First Year Seminar	3 credits	
MAT 103 College Algebra	3 credits	
Total	**15 credits**	

Semester 2	Credits	Pre-Requisites
CSA 213 Database Management	3 credits	
CSI 107 C++ Programming	3 credits	CSI 104 or CSI 116
CSI 244 Networking I	3 credits	
ENG 102 English Composition II	3 credits	ENG 101
PHY 111 General Physics I w/Lab	4 credits	MAT 103
Total	**15 credits**	

Semester 3	Credits	Pre-Requisites
CSI 213 Advanced C++[1]	3 credits	CSI 107
CSI 226 UNIX w/ LINUX	3 credits	
History/Government	3 credits	
Social Science/Psychology	3 credits	
Program Elective	3 credits	
Total	**15 credits**	

Semester 4	Credits	Pre-Requisites
CSA 218 Data Structures and Algorithms	3 credits	CSI 213
Program Elective	3 credits	
Program Elective	3 credits	
Program Elective	3 credits	
Program Elective	3 credits	
Total	**15 credits**	

Semester Path:

Recommended course of study for a full-time student. It is recommended that students speak to an Academic Advisor before registering for courses each semester.

Student Resources:

Academic Advising
617-984-1720

Dean's Office of Arts and Sciences & Professional Programs
617-405-5920

Dean's Office of Allied Health
617-405-5960

Dean's Office of Nursing
617-405-5990

Financial Aid Office
617-984-1620

Registrar's Office
617-984-1650

Student Accessibility and Academic Support Services
617-405-5915