

# Computer Science

## Associate in Science

### ***DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS***

This program enables students to practice developing larger applications and study computer architecture and operating systems. Students learn object-oriented and modular programming techniques, including the use, design, and analysis of data structures and associated algorithms. This program prepares students for transfer to a four-year institution so they may pursue a baccalaureate degree in computer science.

Upon successful completion, the Associate in Science Degree in [Computer Science](#) is awarded.

### **PROGRAM FOOTNOTES**

#### **Humanities Electives:**

Art, Communication, English (EN 103 or higher), ESL (ES 100 or higher; up to 6 credits), Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

#### **Social Science Electives:**

Anthropology, Economics, Geography, Government, History, Law, Psychology, Sociology

**Program Electives:** CS 141 Linux System Management, CS 116 Fundamentals of Cybersecurity, CS 123 Python Programming, CS 213 Data Management Systems I, CS 180 Introduction to Operating Systems, CS 241 Web Site Development, CS 242 Computer Networks, ET 211 iCREAT II

Quantitative skills are a MassBay graduation competency for associate degree programs. Prior to graduation, students must demonstrate this competency by completing a 100-level math course (not MAC); or placing into a 200-level mathematics course.

This program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

| COURSE             | COURSE TITLE                                | CREDITS      |
|--------------------|---|--------------|
| <i>First Year</i>  | <i>Semester 1</i>                           |              |
| CS 120             | Programming I                               | 4            |
| CS 205             | Introduction to Computation                 | 4            |
| EN 101             | English Composition I                       | 3            |
| MA 200             | Calculus I                                  | 4            |
|                    | <b>credits:</b>                             | 15           |
| <i>First Year</i>  | <i>Semester 2</i>                           |              |
| CS 200             | Programming II                              | 4            |
| CS 214             | Computer Architecture and Assembly Language | 4            |
| EN 102             | English Composition II                      | 3            |
| MA 201             | Calculus II                                 | 4            |
|                    | <b>credits:</b>                             | 15           |
| <i>First Year</i>  | <i>Semester 1 or 2</i>                      |              |
| CT 100             | Critical Thinking                           | 3            |
|                    | Social Science Elective                     | 3            |
|                    | <b>credits:</b>                             | 6            |
| <i>Second Year</i> | <i>Semester 1</i>                           |              |
| CS 208             | Data Structures                             | 4            |
| CS 212             | Systems Programming with C                  | 4            |
| PY 103             | Engineering Physics I                       | 4            |
|                    | Humanities Elective                         | 3            |
|                    | <b>credits:</b>                             | 15           |
| <i>Second Year</i> | <i>Semester 2</i>                           |              |
| CS 225             | Software Design                             | 3            |
| MA 210             | Introduction to Linear Algebra              | 4            |
| PY 104             | Engineering Physics II                      | 4            |
|                    | Program Elective                            | 3/4          |
|                    | Humanities Elective                         | 3            |
|                    | <b>or</b>                                   |              |
|                    | Social Science Elective                     | 3            |
|                    | <b>credits:</b>                             | 15/18        |
|                    | <b>Total Credits:</b>                       | <b>68/69</b> |