

# Computer Science - Computer Programming Emphasis

## Associate in Applied Science

Minimum of 61 Credits

Computer programmers play an important role in the daily operations of many businesses because of the increasing use of computers in all fields. Computer science students learn about tools and techniques that are used professionally every day. Included in their studies are computer theory, systems analysis and program design using programming languages such as Java, C++, Visual Basic, and C#. Computer programmers must be reliable, systematic and detail-oriented. They should be organized, flexible and have an aptitude for math. Obtaining a degree with an emphasis in programming gives the student's flexibility to pursue various career options in fields that may include software engineering, application development, web programming, database programming and game programming.

| Course #                                | Course Name                                       | Credits | Type        | Prerequisites   |
|---|---|---------|-------------|---|
| <b>Suggested Freshman 1st Semester</b>  |   |         |             |   |
| SCL 1001                                | SUCCESS IN COLLEGE AND LIFE                       | 1       | Life Skills | None  |
| CS 1103                                 | (C)(1) INTRODUCTION TO COMPUTERS AND APPLICATIONS | 3       | Major       | (R)   |
| CS 1143                                 | (C) BEGINNING PROGRAMMING                         | 3       | Major       | (R) (W) (M) or Evaluation by Instructor   |
| MATH 1513                               | COLLEGE ALGEBRA                                   | 3       | Gen Ed      | (R), MATH 0123 or adequate Math Placement Test Score, either within the last year.  |
| CS 2413                                 | (C) WEB SITE DEVELOPMENT                          | 3       | Major       | (R) (W), CS 1103 or Evaluation by Instructor  |
| ENGL 1113                               | ENGLISH COMPOSITION I                             | 3       | Gen Ed      | (R) (W), Adequate reading and writing assessment scores or LS 0033 College Writing II, either taken within the last year, with strong encouragement for immediate continuation. |
| <b>Suggested Freshman 2nd Semester</b>  |   |         |             |   |
| CS 2173                                 | (C) ORACLE --OR--                                 |         | Major       | (R) (W) (M), CS 1143 or Evaluation by Instructor  |
| CS 2443                                 | (C) SQL SERVER                                    | 3       | Major       | (R) (W) (M), CS 1143 or Evaluation by Instructor  |
| CS 2163                                 | (C) JAVA  | 3       | Major       | (R) (W) (M), CS 1143 or Evaluation by Instructor  |
| CS 2453                                 | (C) VISUAL BASIC                                  | 3       | Major       | (R) (W) (M), CS 1143 or Evaluation by Instructor  |
| CS 2713                                 | (C) PRINCIPLES OF INFORMATION SECURITY            | 3       | Major       | (R) (W) (M)   |
| COM 2213                                | INTRO TO PUBLIC SPEAKING --OR--                   |         | Gen Ed      | (R)   |
| ENGL 1213                               | ENGLISH COMPOSITION II --OR--                     |         | Gen Ed      | (R) (W), ENGL 1113 English Composition I taken within the last year, with strong encouragement for immediate continuation.  |
| ENGL 1233                               | REPORT WRITING --OR--                             |         | Gen Ed      | (R) (W), ENGL 1113 English Composition I  |
| COM 1123                                | INTERPERSONAL COMMUNICATIONS                      | 3       | Gen Ed      | (R) (W)   |
| <b>Suggested Sophomore 1st Semester</b> |   |         |             |   |
| CS 2113                                 | (C) COMPUTER-BASED INFORMATION SYSTEMS            | 3       | Major       | (R) (W) (M)   |
| CS 2363                                 | (C) C++   | 3       | Major       | (R) (W) (M), CS 2163 or Evaluation by Instructor  |
| POLSC 1113                              | AMERICAN FEDERAL GOVERNMENT                       | 3       | Gen Ed      | (R) (W)   |
| CS                                      | *(C) COMPUTER SCIENCE ELECTIVE                    | 6       | Major       |   |
| <b>Suggested Sophomore 2nd Semester</b> |   |         |             |   |
| CS 2463                                 | (C) ADVANCED JAVA --AND/OR--                      |         | Major       | (R) (W) (M), CS 2163 or Evaluation by Instructor  |
| CS 2553                                 | (C) ADVANCED VISUAL BASIC --AND/OR--              |         | Major       | (R) (W) (M), CS 2453 or Evaluation by Instructor  |
| CS 2563                                 | (C) C#.NET  | 6       | Major       | (R) (W) (M), CS 2163 or Evaluation by Instructor  |
| CS 2223                                 | (C) SYSTEMS ANALYSIS AND DESIGN                   | 3       | Major       | (R) (W) (M), ENGL 1113 and a 2000 level programming language or Evaluation by Instructor  |
| CS                                      | *(C) COMPUTER SCIENCE ELECTIVE                    | 3       | Major       |   |
| HIST 1483                               | U.S. HISTORY TO THE CIVIL WAR --OR--              |         | Gen Ed      | (R) (W)   |
| HIST 1493                               | U.S. HISTORY SINCE THE CIVIL WAR                  | 3       | Gen Ed      | (R) (W)   |

Major Courses: (42 credit hours) Computer Science: (C)(1)CS 1103; (C)CS 1143; (C)CS 2113; (C)CS 2163; (C)CS 2173 or (C)CS 2443; (C)CS 2223; (C)CS 2363; (C)CS 2453; (C)CS 2463 and/or (C)CS 2553 and/or (C)CS 2563; (C)CS 2713; \*Six credit hours of Computer Science electives chosen from (C)CS 1333; (C)CS 1353; (C)CS 2123; (C)CS 2173; (C)CS 2183; (C)CS 2413; (C)CS 2443; (C)CS 2463; (C)CS 2513; (C)CS 2553; (C)CS 2563; (C)CS 2573; (C)CS 2623

General Education Courses: (18 credit hours) English: ENGL 1113; History: HIST 1483 or HIST 1493; Mathematics: MATH 1513; Political Science: POLSC 1113; Communications: COM 2213 or ENGL 1213 or ENGL 1233 or COM 1123; CS 1103;

Life Skills Courses: (1 credit hour) Life Skills: SCL 1001

\* Electives: Computer Science electives chosen from (C)CS 1333, (C)CS 1353, (C)CS 2123, (C)CS 2173, (C)CS 2183, (C)CS 2213, (C)CS 2413 (C)CS 2443, (C)CS 2463, (C)CS 2513, (C)CS 2553, (C)CS 2563, (C)CS 2573, (C)CS 2613.

(C) A grade of "C" or higher must be achieved.

(1) Advanced Standing is available.

Notes: This technical/occupational program is designed to prepare students to enter the job force following completion.