

Program: **Computer Science**  
 Major: **Computer Science - Applied**  
 Degree: **Bachelor of Science (B.S.)**

Dept: **Computer Science**  
 College: **Mathematics and Science**  
 Major Code: **6101**

**University Core (Total Listed 42-44)**

For a full list of courses see [University Core](#).

• Courses from the major may apply to the areas marked in the University Core.

**Written and Oral Communication** ..... 9

**Quantitative Reasoning/Scientific Method** ..... 10-11

- Math..... 3
- Life Science ..... 4
- Physical Science..... 3-4

**Critical Inquiry and Aesthetic Analysis** ..... 6

- Aesthetic Analysis ..... 3
- Critical Inquiry..... 3

**American Historical and Political Analysis** ..... 6

- American National Government ..... 3
- American History ..... 3

**Cultural and Language Analysis** ..... 3-4

- Second Language ..... 4
- OR
- Cultural Analysis..... 3

**Social and Behavioral Analysis** ..... 3

**Life Skills** ..... 5

- Required Health Course..... 2
- Elective Life Skills..... 3

**Minimum  
Required Hours**

**Support Courses**  
**Major Support Courses** ..... 0-9

Students majoring in Computer Science-Applied are encouraged to complete the following courses in high school.

Advanced Placement High School Programming Course **OR**  
 CMSC 1513 Beginning Programming

\*MATH 1533 Precalculus-Algebra **OR**  
 MATH 1513 College Algebra **OR** Placement Score **AND**  
 \*MATH 1593 Plane Trigonometry **OR** Placement Score

\*A grade of 'C' or better is required for either MATH 1513 or MATH 1533 and MATH 1593 to take MATH 2313.

Upon completion of the above courses, corresponding university core requirements will be satisfied. (These courses are required for this major regardless of previous degrees conferred.)

**Major Requirements**

**Computer Science - Applied**..... 61

**Required**..... 49

- ^ CMSC 1613 Programming in C++
- ^ CMSC 1621 Laboratory for Programming in C++
- ^ CMSC 2123 Discrete Structures
- ^ CMSC 2413 Visual Programming
- ^ CMSC 2613 Fundamental Data Structures
- ^ CMSC 2621 Laboratory for Fundamental Data Structures
- ^ CMSC 2833 Computer Organization and Architecture I
- ^ SE 3103 Object-Oriented Design and Patterns
- ^ CMSC 3303 Systems Analysis and Design **OR**
- ^ SE 4283 Software Engineering I
- ^ CMSC 3613 Algorithms and Advanced Data Structures
- ^ CMSC 3621 Lab for Algorithms and Advanced Data Structures
- ^ CMSC 4003 Applications of Database Management Systems
- ^ CMSC 4023 Programming Languages **OR**
- ^CMSC 4173 Translator Design
- ^ CMSC 4153 Operating Systems
- ^ CMSC 4401 Ethics in Computing
- ^\*CMSC 4513 Software Design and Development

**Minimum  
Required Hours**

- ^ MATH 2313 Calculus 1
- ^ MATH 2323 Calculus 2
- ^ STAT 2113 Statistical Methods **OR**
- ^ STAT 2103 Introduction to Statistics for Sciences **OR**
- ^ STAT 4113 Mathematical Statistics 1

^ A grade of 'C' or better must be earned in all required CMSC, SE, MATH, and STAT courses.

\* CMSC 4513 is recommended to be taken in the last semester prior to graduation.

**Elective CMSC or SE courses** ..... 12

Any 3/4000 level CMSC or SE courses except SE 4513

No more than three (3) hours of Internship and Individual Study combined may be used to satisfy the CMSC or SE elective requirement.

Credit cannot be received for both CMSC 3303 and SE 4283.

**Applied Area of Study** ..... 18

**Minor**

The student will complete a minor; if the student is completing a second Bachelor's degree, the first degree's major will satisfy the requirements for the minor.

**OR**

**Second Major**

The student will complete a second major.

**OR**

**Associate degree or certificate or comparable concentration** in an information technology or non-computer science/non-general studies discipline from a regionally accredited two- or four-year college or international equivalent with the approval of the Computer Science Department.

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 Major Code: 6101

**Minimum  
Required Hours**

- CONTINUED FROM PREVIOUS PAGE -

If less than 18 hours are transferred under this category, the student should take 2/3/4000 level CMSC electives to make up the difference. A student may take additional CMSC 3/4000 electives to bring the total hours of upper-division courses to 40.

**Electives to bring total to..... 124**

**Minimum Grade Requirements**

Average in (a) all college course work, (b) course work at UCO,  
 and (c) major courses..... **2.00**