

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

Dept: **Computer Science**
 College: **Mathematics and Science**
 Major Code: **6100**

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**

**Minimum
Required Hours**

Support Courses

Support Courses.....0-9

Students majoring in Computer Science 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

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Required..... 61

- ^ CMSC 1613 Programming in C++
- ^ CMSC 1621 Laboratory for Programming in C++
- ^ CMSC 2123 Discrete Structures
- ^ 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 3613 Algorithms and Advanced Data Structures
- ^ CMSC 3621 Lab for Algorithms and Advanced Data Structures
- ^ CMSC 3833 Computer Organization and Architecture II
- ^ CMSC 4003 Applications of Database Management Systems
- ^ CMSC 4023 Programming Languages **OR**
- ^CMSC 4173 Translator Design
- ^ CMSC 4083 Cybersecurity
- ^ CMSC 4153 Operating Systems
- ^ CMSC 4273 Theory of Computing
- ^ SE 4283 Software Engineering I
- ^ CMSC 4401 Ethics in Computing

- ^*CMSC 4513 Software Design and Development
- ^ MATH 2313 Calculus 1
- ^ MATH 2323 Calculus 2
- ^ MATH 2333 Calculus 3
- ^ MATH 3143 Linear Algebra
- ^ STAT 2113 Statistical Methods **OR**
- ^ STAT 2103 Introduction to Statistics for Sciences **OR**
- ^ STAT 4113 Mathematical Statistics I

^ 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 Science Courses..... 4-5

- PHY 1114 General Physics I and Laboratory **OR**
- PHY 2014 Physics for Science & Engineering I & Lab **OR**
- CHEM 1103 General Chemistry I **AND**
- CHEM 1112 General Chemistry I Recitation/Laboratory

Elective CMSC or SE courses 15

- Any 3/4000 level CMSC or SE courses
- 6 hours of CMSC or SE electives may be taken at the 2000 level

SE 4513 may not be used to satisfy the CMSC or SE elective requirement.

No more than four (4) 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.

Electives to bring total to..... 124

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**Minimum
Required Hours**

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Minimum Grade Requirements

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

Accelerated BS/PSM

UCO's P.S.M. (Professional Science Master's) in Computational Science has partnered with the B.S. in Computer Science - Computer Science major so that approved students may take up to nine credit hours of 5000-level CMSC courses during their senior year of the major. These courses will count toward both the B.S. and P.S.M. degrees. A formal application to the P.S.M. Computational Science program and an approval from the Department of Computer Science are required. Requirements for the P.S.M. program are located in the UCO Graduate Catalog under Computational Science - Computer Science, P.S.M.

Up to nine credit hours of the following courses can be used to satisfy both the B.S. Computer Science - Computer Science and the P.S.M. Computational Science - Computer Science:

- CMSC 5043 Applications Database Systems
- CMSC 5283 Software Engineering I (replaces SE 4283)
- CMSC 5323 Computer and Network Security