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

Dept: Mathematics & Statistics and Computer Science  
College: Mathematics and Science  
Major Code: 6190

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

Support Courses
Support Courses .............................................................. 0-9

Students majoring in the Data Science program 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

Data Science ................................................................. 69

Required Courses .......................................................... 51

- CMSC 1613 Programming I
- CMSC 1621 Programming I Laboratory
- CMSC 2613 Programming II
- CMSC 2621 Programming II Laboratory
- CMSC 2123 Discrete Structures
- CMSC 3613 Data Structures and Algorithms
- CMSC 3621 Data Structures/Algorithms Lab
- CMSC 4003 Applications of Database Management Systems
- CMSC 4143 Algorithms for Database Systems
- CMSC 3143 Linear Algebra
- MATH 2313 Calculus 1
- MATH 2323 Calculus 2
- MATH 2333 Calculus 3
- MATH 3143 Linear Algebra
- STAT 2113 Statistical Methods
- STAT 3213 Fundamentals of Data Science
- STAT 4413 Data Visualization and Exploration
- STAT 4213 Applied Regression Analysis

Minimum Grade Requirements

1. Average in (a) all college course work, and (b) course work at UCO ........................... 2.50
2. A minimum grade of “C” must be earned in all courses in the major to count toward meeting degree requirements.

For other regulations pertaining to graduation, see Academic Degree Requirements.

Minimum Grade Requirements

Minimum Grade Requirements

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

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

Upper Division Electives ..................................................... 18

Computer Science or Software Engineering .............................. 6
Any combination of 3000-4000 level CMSC or SE courses
Statistics ............................................................................. 6
Any combination of 3000-4000 level STAT courses
Computer Science, Software Engineering, Mathematics, or
Statistics ............................................................................. 6
Any combination of 3000-4000 level courses from either
CMSC, SE, MATH, or STAT

- CONTINUED ON NEXT PAGE -
Accelerated BS/PSM

UCO’s PSM (Professional Science Master’s) in Computational Science has partnered with the B.S. in Data Science so that approved students may take up to nine credit hours of 5000-level CMSC, MATH, or STAT courses during their senior year of the B.S. program. 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 Mathematics and Statistics (for students pursuing the P.S.M. Computational Science - Computational Mathematics) or the Department of Computer Science (for students pursuing the Computational Science - Computer Science) are required. Requirements are located in the UCO Graduate Catalog under Computational Science - Computer Science, P.S.M. and Computational Science - Computational Mathematics, P.S.M.

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

<table>
<thead>
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<th>Course Code</th>
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<tbody>
<tr>
<td>CMSC 5043</td>
<td>Applications Database Systems</td>
</tr>
<tr>
<td>CMSC 5143</td>
<td>Algorithms for Machine Learning</td>
</tr>
<tr>
<td>STAT 5213</td>
<td>Applied Regression Analysis</td>
</tr>
<tr>
<td>STAT 5533</td>
<td>Data Mining and Statistical Learning</td>
</tr>
<tr>
<td>STAT 5413</td>
<td>Data Visualization and Exploration</td>
</tr>
</tbody>
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Up to nine credit hours of the following courses can be used to satisfy both the B.S. Data Science and the P.S.M. Computational Science - Computer Science:

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