

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

Dept: **Mathematics and Statistics**
 College: **Mathematics and Science**
 Major Code: **6161**

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**

Prerequisite Courses

Prerequisite Courses 0-6

- *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 general education requirements will be satisfied. (These courses are required for this major regardless of previous degrees conferred.)

Major Requirements

Mathematics - Applied Mathematics 48

Required courses 27

- MATH 2313 Calculus 1
- MATH 2323 Calculus 2
- MATH 2333 Calculus 3
- MATH 2343 Calculus 4
- MATH 2753 Technology for Professional Math and Statistics
- MATH 3113 Foundations of Advanced Math
- MATH 3143 Linear Algebra
- MATH 3183 Introduction to Modern Algebra
- MATH 4143 Introduction to Analysis 1

Applied Mathematics..... 21

Required courses:

- STAT 2113 Statistical Methods
 - MATH 3103 Differential Equations
 - MATH 4113 Operations Research 1
 - STAT 4113 Mathematical Statistics 1
 - MATH 4263 Numerical Linear Algebra **OR**
 - MATH 4363 Applied Numerical Analysis
- Any 3000 and 4000 level MATH or STAT course to bring the total to 21.

Electives to bring total to..... 124

It is strongly recommended that PHY 1114 General Physics I and Lab be taken in the general education pattern.

Minimum Grade Requirements

1. Average in (a) all college course work, (b) course work at UCO, and (c) major courses 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](#).

Accelerated BS/PSM

UCO's P.S.M. (Professional Science Master's) in Computational Science has partnered with the B.S. in Mathematics - Applied Mathematics so that approved students may take up to nine credit hours of 5000-level 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 are required. Requirements are located in the UCO Graduate Catalog under 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. Mathematics and the P.S.M. Computational Science - Computational Mathematics :

- MATH 5113 Operations Research I
- MATH 5263 Numerical Linear Algebra
- MATH 5373 Applied Numerical Analysis
- STAT 5263 Computer Applications in Statistics
- STAT 5213 Applied Regression Analysis