

# Mathematics

The B.S. in Mathematics prepares students for graduate study; teaching; service in science, government and industry; and supporting roles in the social, biological, and physical sciences. This program emphasizes mathematics and statistics and provides students with considerable flexibility in choosing electives outside the major. It is recommended that students seek the advice of faculty regarding career opportunities and choice of a suitable minor.

## Program Requirements

In addition to University's general requirements, students seeking the B.S. in Mathematics must meet the requirements listed below.

Students should consult with their academic advisor for courses which may satisfy both the general education requirements and prerequisites. A grade of C- or better is required for all Major courses.

## General Education

In addition to the General Education requirements listed on this page, students must satisfy all additional University requirements, including the Gordon Rule, multicultural, and foreign language requirements. With appropriate planning and coordination with an academic advisor, students may satisfy some of the general University requirements through the General Education curriculum. For a complete listing of general degree requirements, refer to the "Graduation and General Degree Requirements (<http://catalog.uwf.edu/undergraduate/universityrequirements>)" section of this catalog.

General Education Curriculum:

## Communication

ENC 1101	English Composition I	3
ENC 1102	English Composition II	3

## Mathematics

Choose one course from Group A and one Additional course from either Group A or Group B 6

### Group A

MAC 1105	College Algebra
MAC 2311	Analytic Geometry and Calculus I
MGF 1106	Mathematics for Liberal Arts I
MGF 1107	Mathematics for Liberal Arts II
STA 2023	Elements of Statistics

### Group B

MAC 1105C	College Algebra with Lab
MAC 1114	Trigonometry
MAC 1140	Precalculus Algebra
MAC 2233	Calculus with Business Applications
MAC 2312	Analytic Geometry and Calculus II

## Social Sciences

Choose one course from Group A and one additional course from either Group A or Group B 6

### Group A

AMH 2020	United States since 1877
ANT 2000	Introduction to Anthropology
ECO 2013	Principles of Economics Macro

POS 2041	American Politics
PSY 2012	General Psychology
SPM 2010	Sport in Global Society
SYG 2000	Introduction to Sociology
Group B	
AMH 2010	United States to 1877
ANT 2400	Current Cultural Issues
ANT 2100	Introduction to Archaeology
CCJ 2002	Survey of Crime and Justice
CPO 2002	Comparative Politics
DEP 2004	Human Development Across the Lifespan
EUH 1000	Western Perspectives I
EUH 1001	Western Perspectives II
FIN 2104	Personal Financial Planning
GEA 2000	Nations and Regions of the World
GEB 1011	Introduction to Business
IDH 1041	Honors Core 2
INR 2002	International Politics
MMC 2000	Principles of Mass Communication
PLA 2013	Survey of American Law
SOW 2192	Understanding Relationships in the 21st Century
SYG 2010	Current Social Problems

## Humanities

Choose one course from Group A and one additional course from either Group A or Group B 6

### Group A

ARH 1000	Art Appreciation
LIT 2000	Introduction to Literature
MUL 2010	Music Appreciation
PHI 2010	Introduction to Philosophy
THE 2000	Theatre Appreciation

### Group B

AML 2010	American Literature I
AML 2020	American Literature II
AML 2072	Sex, Money, and Power in American Literature
ARH 2050	Western Survey I: Prehistory to the Medieval Period
ARH 2051	Western Survey II: Renaissance to Contemporary
ART 1015C	Exploring Artistic Vision
ART 2821	Art and Visual Culture Today
CRW 2001	Introduction to Creative Writing
ENL 2010	History of English Literature I
ENL 2020	History of English Literature II
IDH 1040	Honors Core 1
MUH 2930	The Music Experience: Special Topics
PHI 2103	Critical Thinking
PHI 2603	Ethics in Contemporary Society
REL 1300	World Religions
THE 2300	Survey of Dramatic Literature

SPC 2608 Basic Communication Skills

## Natural Sciences

Choose one course from Group A and one additional course from either Group A or Group B 6

Group A	
AST 1002	Descriptive Astronomy
BSC 1005	General Biology for Non-Majors
BSC 1085	Anatomy and Physiology I
BSC 2010	Biology I
CHM 1020	Concepts in Chemistry *
CHM 2045	General Chemistry I *
ESC 2000	Introduction to Earth Science
EVR 2001	Introduction to Environmental Science
PHY 1020	Introduction to Concepts in Physics *
PHY 2048	University Physics I **
PHY 2048C	University Physics I - Studio
PHY 2053	General Physics I **
Group B	
ANT 2511	Biological Anthropology
BOT 2010	General Botany
BSC 1050	Fundamentals of Ecology
BSC 1086	Anatomy and Physiology II *
BSC 2011	Biology II
BSC 2311	Introduction to Oceanography and Marine Biology *
CGS 2060	Excursions in Computing
CHM 1032	Fundamentals of General Chemistry *
CHM 2046	General Chemistry II *
CIS 2530	Introduction to Cyber Security
GEO 1200	Physical Geography
GLY 2010	Physical Geology *
MCB 1000	Fundamentals of Microbiology *
PHY 2049	University Physics II **
PHY 2054	General Physics II *

\* May be taken with or without lab.

\*\* General Physics is non-calculus based and is usually recommended for non-science majors. University Physics is calculus based and is usually recommended for science majors.

\*\*\* Although students receive 5 semester hours credit for PHY 2048C, an additional 3 semester science course will be needed to meet General Education requirements.

## General Education Electives

Choose an additional course from two of the three areas of Humanities, Social Sciences and Natural Sciences

## Common Prerequisites

State mandated common prerequisites must be completed prior to graduation, but are not required for admission to the program. See the Common Prerequisite Manual (<https://dlss.flvc.org/admin-tools/common-prerequisites-manuals>) for course substitutions from Florida colleges and universities.

COP XXXX	Computer Language elective	3
MAC 2311	Analytic Geometry and Calculus I <sup>+,*</sup>	4

MAC 2312	Analytic Geometry and Calculus II <sup>+,*</sup>	4
MAC 2313	Analytic Geometry and Calculus III <sup>+,*</sup>	4
MAP 2302	Differential Equations	3
One lab-based science course (BSC, CHM, PHY, or GLY) <sup>+</sup>		4
Total Hours		22

+ Indicates common prerequisites which can be used to satisfy General Studies requirements.

\* Requires a grade of C- or better

## Lower Division Electives

Students must complete sufficient 1000/2000 level electives to complete at least 60 semester hours in the lower division. Current UWF students may use elective courses at any level (1000-4000) to meet this elective requirement.

Total Hours	1
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## Major

MAS 3105	Linear Algebra <sup>+</sup>	3
STA 3162C	Applied Statistics <sup>+</sup>	4
MHF 3202	Set Theory and Mathematical Logic <sup>+</sup>	3
MAD 4401	Numerical Analysis <sup>+</sup>	3
STA 4321	Introduction to Mathematical Statistics I <sup>+</sup>	3
MAA 4211	Advanced Calculus I <sup>+</sup>	3
MAS 4301	Abstract Algebra <sup>+</sup>	3
MAT 4500	Undergraduate Proseminar in Mathematics/ Statistics <sup>+</sup>	1
3000/4000 level advisor-approved mathematics or statistics electives		9
Total Hours		32

+ Courses included in the major GPA

## Upper Division Electives

Student must complete sufficient 3000/4000 level electives to meet UWF's requirement of 48 sh in the upper division or complete all departmental requirements at the 3000/4000 level, whichever is greater.

Total Hours	28
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## Mathematics

A Minor in Mathematics requires completion of the calculus sequence in addition to the completion of 15 sh approved by the Department of Mathematics and Statistics in courses beyond the level of MAC 2313 Analytic Geometry and Calculus III. A list of approved courses may be obtained from the department. A grade of C- or better is required for each of these courses, including the calculus sequence. Mathematics majors may not earn this minor.

## Statistics

The minor in statistics requires completion of STA 2023 Elements of Statistics and MAC 2311 Analytic Geometry and Calculus I, in addition to the completion of 15 sh chosen from among the following courses:

Complete 5 of the seven courses		15
STA 3162C	Applied Statistics	
STA 4173	Biostatistics	
STA 4321	Introduction to Mathematical Statistics I	

STA 4051	Nonparametric Statistics	
STA 4222	Sampling Theory	
STA 4234	Regression Analysis	
COP 4710	Database Systems	
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Total Hours		15