Mathematics, BS

Through an array of available concentrations ranging from pure mathematics to individualized studies to data science and beyond, the Mathematics, BS provides students with a thorough, customizable, and exciting education in mathematics.

Teacher Licensure EXPAND

Admissions

University-wide admissions policies can be found in the Undergraduate Admissions Policies section of this catalog.

To apply for this program, please complete the George Mason University Admissions Application.

Policies

Students must fulfill all Requirements for Bachelor's Degrees, including the Mason Core.

MATH 300 Introduction to Advanced Mathematics (Mason Core) meets the writing intensive requirement for this major.

For policies governing all undergraduate programs, see AP.5 Undergraduate Policies.

Graduating seniors are required to have an exit interview.

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Language Proficiency Recommendation EXPAND

Course Recommendations and Policies EXPAND

Banner Code: SC-BS-MATH

Degree Requirements

Total credits: minimum 120

Students should refer to the Admissions & Policies tab for specific policies related to this program.

In addition to the Mathematics Core, Science, and Computational Skills requirements, students must select one concentration and complete the requirements therein.

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Mathematics Core

EXPAND

Science

EXPAND

Computational Skills

EXPAND

Individualized Concentration (IND)

EXPAND

Concentration in Pure Mathematics (PURM)

EXPAND

Concentration in Actuarial Mathematics (ACTM)

EXPAND

Concentration in Applied Mathematics (AMT)

EXPAND

Concentration in Data Science (DSCI)

EXPAND

Concentration in Mathematical Statistics (MTHS)

EXPAND

This concentration provides exciting opportunities for students interested in taking additional classes on statistics and data analysis. The concentration prepares data analysts able to deal with real world applications in science and engineering.

MTHS Courses

MATH 315	Advanced Calculus I	3
MATH 351	Probability	3
MATH 352	Statistics	3
MATH 453	Advanced Mathematical Statistics	3
MATH 551	Regression and Time Series	3
STAT 362	Introduction to Computer Statistical Packages	3
Select one from:		3
STAT 260	Introduction to Statistical Practice I	
STAT 350	Introductory Statistics II	
STAT 360	Introduction to Statistical Practice II	
Select two from the following:		6
STAT 455	Experimental Design	
STAT 460	Introduction to Biostatistics	
STAT 462	Applied Multivariate Statistics	
STAT 463	Introduction to Exploratory Data Analysis	
STAT 465	Nonparametric Statistics and Categorical Data Analysis	
STAT 472	Introduction to Statistical Learning	
STAT 474	Introduction to Survey Sampling	

Additional Science Courses

Select additional science credits from one of the following options:	3-4

1. Choose one from the following different lab sciences:

BIOL 213	Cell Structure and Function (Mason Core)
CHEM 211 & CHEM 213	General Chemistry I (Mason Core) and General Chemistry Laboratory I (Mason Core)
GEOL 101 & GEOL 103	Physical Geology (Mason Core) and Physical Geology Lab (Mason Core)
PHYS 160 & PHYS 161	University Physics I (Mason Core) and University Physics I Laboratory (Mason Core)

2. Choose 3 credits from more advanced courses in biology, chemistry, geology, or physics [1]

3. Choose the 4 credit option of PHYS 262 and PHYS 263

4. Choose one course from the following:

CDS 230	Modeling and Simulation I
CDS 301	Scientific Information and Data Visualization
CS 211	Object-Oriented Programming
CS 310	Data Structures
CS 330	Formal Methods and Models
CS 483	Analysis of Algorithms

Total Credits **30-31**

1 Only refers to courses acceptable for credit toward a natural science major. Consider courses from the following: BIOL 300-499, CHEM 300-499, GEOL 300-499, PHYS 300-499.

Mason Core and Elective Credits EXPAND

Honors in the Major

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Eligibility EXPAND

Honors Requirements EXPAND

- Mathematics, BA or BS/Curriculum and Instruction, Accelerated MEd, (Secondary Education Mathematics Concentration)
- Mathematics, BA or BS/Mathematics, Accelerated MS
- BS (any)/Statistical Science, Accelerated MS

Mathematics, BA or BS/Curriculum and Instruction, Accelerated MEd, (Secondary Education Mathematics Concentration)

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BAM Pathway Admission Requirements EXPAND

Accelerated Master's Admission Requirements EXPAND

Accelerated Pathway Requirements EXPAND

Mathematics, BA or BS/Mathematics, Accelerated MS

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BS (any)/Statistical Science, Accelerated MS

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Accelerated Master's Admission Requirements EXPAND

Accelerated Pathway Requirements EXPAND

Degree Conferral EXPAND

Mathematics Minor

Mathematics for Costello College of Business Students Minor

Mathematics, BA