MATHEMATICS, BA AND BS

Student Learning Outcomes

- Students will solve a variety of problems in mathematics including calculus, probability and statistics, and linear algebra.
- Students will write mathematical proofs and solve challenging problems both pure and applied.
- Students will communicate mathematics both orally and in writing.
- Students will identify and utilize the appropriate practices and tools, including the use of technology, to solve mathematics problems.

Degree Requirements

In addition to the requirements stated below, students must complete 34-35 hours of General Education (https://catalog.washburn.edu/undergraduate/programs-degrees-graduation-requirements/general-education-requirements/), all requirements for a Bachelor of Arts (https://catalog.washburn.edu/undergraduate/college-arts-sciences/degrees/bachelor-arts/) or Bachelor of Science (https://catalog.washburn.edu/undergraduate/college-arts-sciences/degrees/bachelor-science/) degree, and any additional hours needed to reach the minimum 120 credit hours required for graduation. Some of the courses below may also fulfill general education or other degree requirements. Please see your advisor for more information.

Code	Title	Hours
Required Courses Inside Department		
MA 151	Calculus & Analytic Geometry I	5
MA 152	Calculus & Analytic Geometry II	5
MA 253	Calculus/Analytic Geometry III	3
MA 260	Introduction to Number Theory	3
MA 301	Linear Algebra	3
MA 307	Discrete Mathematics	3
Select one of the following:		3
MA 340	ANOVA/Design of Experiments	
MA 341	Nonparametric Tests/Quality Control	
MA 346	Regression Analysis	
MA 344	Mathematical Statistics I	3
MA 354	Abstract Algebra	3
MA 371	Introduction to Real Analysis I	3
MA 372	Introduction to Real Analysis II	3
MA 380	Problem Solving Strategies [1]	2
MA 388	Capstone Research	1
PH 220	Symbolic Logic	3
Subtotal		43
Required Courses Outside Department		
Select one of the following sequences:		12-13
Sequence 1 (This puts student on track to obtain a Physics Minor)		
PS 281	General Physics I	
or PS 261	College Physics I	
PS 282	General Physics II	
or PS 262	College Physics II	
PS 3XX	3 credit hours of 300-level Physics courses	
Sequence 2 (This puts students on track to obtain a Computer Information Science Minor)		
CM 111	Introduction to Structured Programming	
CM 245	Contemporary Programming Methods	
CM 307	Data Structures & Algorithmic Analysis	
CM 332	Data Mining	
Sequence 3 (This puts student on a track to obtain a Computer Information Digital Forensics Minor)		
CM 111	Introduction to Structured Programming	
CM 203	Digital Forensics I	
CM 245	Contemporary Programming Methods	
CM 303	Digital Forensics II	
Sequence 4 (This puts students on track to obtain an Economics Minor)		
EC 200	Principles of Microeconomics	
EC 201	Principles of Macroeconomics	
EC 3XX	6 credit hours of 300-level Economics courses	
Sequence 5 (This puts student on track to obtain a Business Data Analytics Minor)		
EC 211	Statistics for Business and Economics	
BU 258	Foundations of Data Analysis	
BU 250	Management Information Systems	
DA 348	Data Discovery and Management	
Sequence 6 (This puts student on a track to obtain a Game Design Minor)		
EC 200	Principles of Microeconomics	
BU 260	Business Plan Development	
EC 306	Game Theory and Applications	
CM 390	Special Topics/Computer Information Science (Game Programming)	
Subtotal		12-13
Total Hours		**55-56**

[1] MA 380 is a 1 credit course that must be taken at least twice.