

# MATHEMATICS (BACHELOR OF SCIENCE, B.S.)

## Requirements

The mathematics major advisor can provide information on the selection of elective courses which will best prepare the student for graduate study or a career in actuarial science, applied mathematics or teaching secondary school mathematics, as well as other careers requiring a strong mathematics background.

Code	Title	Credit Hours
<b>General Studies</b>		
Students must complete General Studies courses ( <a href="http://catalog.missouriwestern.edu/undergraduate/university-information/academic-standards-regulations/baccalaureate-degree/#bachelor-general-studies">http://catalog.missouriwestern.edu/undergraduate/university-information/academic-standards-regulations/baccalaureate-degree/#bachelor-general-studies</a> )		42-47
<b>Core Requirements</b>		
MAT 165 & MAT 166	Calculus with Analytic Geometry I: Differentiation and Calculus with Analytic Geometry I: Integration	5-6
or MAT 167	Calculus with Analytic Geometry I	
MAT 177	Calculus with Analytic Geometry II	3
MAT 206	Mathematical Transitions	3
or CSC 208	Discrete Structures I	
MAT 211	Applied Statistical Reasoning	3
MAT 217	Modeling and Simulation	3
MAT 287	Calculus with Analytic Geometry III	3
MAT 305	Applied Matrix Theory	3
<b>Option Requirements</b>		
Select one of the following options:		24
General Concentration		
Applied Mathematics Concentration		

Concentrations:

General (p. 1)

Applied Mathematics (p. 1)

## General Concentration

\*Effective Fall 2020, this program is being phased out and has a 3-year teach out plan. More information can be found here (<https://www.missouriwestern.edu/acadaff/phased-out-programs/>).

Code	Title	Credit Hours
<b>Select twenty-four credit hours of the following:</b>		
MAT 306	Linear Algebra	3
MAT 309	Data Visualization	3
MAT 315	Topics in Geometry	3
MAT 317	Differential Equations	3
MAT 332	Probability Theory	3
MAT 401	Advanced Modeling	3
MAT 407	Advanced Calculus	3
MAT 409	Statistical Learning	3
MAT 411	Bayesian Data Analysis	3

MAT 416	Abstract Algebra	3
MAT 462	Number Theory	3
MAT 470	Seminar in Mathematics	3

## Applied Mathematics Concentration

\*Effective Fall 2020, this program is scheduled for redesign. More information can be found [here](#).

Code	Title	Credit Hours
<b>Concentration Requirements:</b>		<b>24</b>
MAT 309	Data Visualization	3
MAT 317	Differential Equations	3
MAT 332	Probability Theory	3
MAT 401	Advanced Modeling	3
MAT 409	Statistical Learning	3
MAT 411	Bayesian Data Analysis	3
Plus six credit hours of MAT 300 level or higher electives		6

## Program Graduation Requirements

1. Earn a grade of C or higher in all major coursework.
2. Earn an overall GPA of at least 2.0 and a major GPA of at least 2.0.

## University Graduation Requirements

1. Earn a minimum of 120 credit hours (100 level and higher, maximum of 6 CED credit hours applicable).
2. Earn a minimum of 30 credit hours in upper-division courses. Lower-division transfer courses accepted as meeting upper-division departmental course requirements cannot be used to fulfill this requirement.
3. Earn 30 of the last 45 credit hours at MWSU in institutional coursework (exclusive of credit by examination).
4. Participate in required departmental and campus wide assessments.
5. Fulfill the Missouri Constitution requirement.
6. Successfully pass the Missouri Higher Education Civics Achievement exam.