

# MATHEMATICS MAJOR, B.S.

Course	Title	Credits
<b>General Requirements</b>		
General Education ( <a href="http://catalog.uwplatt.edu/undergraduate/degree-requirements/bachelor-of-science-degree-core-curriculum/">http://catalog.uwplatt.edu/undergraduate/degree-requirements/bachelor-of-science-degree-core-curriculum/</a> ) <sup>3</sup>		40-53
<b>Core Requirements</b>		
MATH 2610	Introductory Mathematics Seminar	1
MATH 2640	Calculus and Analytic Geometry I	4
MATH 2730	Discrete Mathematics	3
MATH 2740	Calculus and Analytic Geometry II	4
MATH 2840	Calculus and Analytic Geometry III	4
MATH 3230	Linear Algebra	3
MATH 4030	Statistical Methods with Applications	3
MATH 4310	Abstract Algebra	3
MATH 4430	Real Analysis	3
MATH 4810	Senior Seminar	1
<b>In-Depth Experience Requirement</b>		
Mathematics majors are required to complete a more thorough study of a particular area of mathematics. This requirement may be satisfied by selecting one of the following courses:		3
MATH 3830	Differential Equations II	
MATH 4050	Applied Regression Analysis	
MATH 4530	Complex Variables	
<b>Mathematics Electives Requirement</b>		
Select at least nine additional credits in mathematics. <sup>1</sup>		9
<b>Residency Requirement</b>		
Complete at least 12 upper-level credits at UW-Platteville. <sup>2</sup>		
<b>Natural Science Requirement</b>		
Select one of the following:		4-5
CHEMISTRY 1140	General Chemistry I	
CHEMISTRY 1450	Chemistry for Engineers	
PHYSICS 2240	General Physics I	
<b>Computer Science Requirement</b>		
COMPUTER 1430	Introduction to Computer Programming	3
<b>Total Credits</b>		<b>88-102</b>

<sup>1</sup> Courses numbered below 2640 or between 3000 and 3100 may not be counted toward this requirement. Students seeking a double major in mathematics and engineering may count up to six credits of selected engineering courses (ELECTENG 3220, ELECTENG 3140, ELECTENG 4310, ENGRPHYS 3640, ENGRPHYS 4330, INDSTENG 3530, MECHENG 3030 and MECHENG 4330) as mathematics electives.

<sup>2</sup> These credits must be from courses numbered above 3100, with the exception that MATH 2730 may be part of the 12 credits. The 12 credits completed at UW-Platteville may include repeats of courses taken at another campus.

<sup>3</sup> A grade of C- or better is required in all mathematics courses counted toward degree requirements.

## ACTUARIAL SCIENCE EMPHASIS

Students completing this emphasis must complete all the requirements for the 41-credit mathematics major, including MATH 4050 as well as completing 24 credits in the following business-related courses.

Course	Title	Credits
ACCTING 2010	Financial Accounting	3
ACCTING 2020	Management Accounting	3
BUSADMIN 1300	Global Business	3
BUSADMIN 3430	Risk Management	3
BUSADMIN 3620	Corporate Finance	3

BUSADMIN 3930	Investments	3
ECONOMIC 2130	Principles of Macroeconomics	3
ECONOMIC 2230	Principles of Microeconomics	3

In addition to the required courses, students majoring in this emphasis should also consider taking:

BUSADMIN 4030	Financial Decision Making	
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**Total Credits**

**24**

## APPLIED MATHEMATICS EMPHASIS

Mathematics majors with an emphasis in applied mathematics must earn a minimum of 41 credits in mathematics and at least 9 credits in outside courses subject to the restrictions outlined below. (NOTE: A grade of "C-" or better is required in all mathematics courses counted toward degree requirements).

A student majoring in mathematics must complete at least 12 upper-level credits in mathematics at UW-Platteville. These credits must be from courses numbered above 3100, with the exception that MATH 2730 Discrete Mathematics may be part of the 12 credits. The 12 credits completed at UW-Platteville may include repeats of courses taken at another campus.

Course	Title	Credits
<b>Mathematics Core Requirement</b>		
MATH 2610	Introductory Mathematics Seminar	1
MATH 2640	Calculus and Analytic Geometry I	4
MATH 2730	Discrete Mathematics	3
MATH 2740	Calculus and Analytic Geometry II	4
MATH 2840	Calculus and Analytic Geometry III	4
MATH 3230	Linear Algebra	3
MATH 3630	Differential Equations I	3
MATH 4030	Statistical Methods with Applications	3
MATH 4310	Abstract Algebra	3
MATH 4430	Real Analysis	3
MATH 4810	Senior Seminar	1
<b>Mathematics Electives (Choose at least 9 credits):</b>		<b>9</b>
MATH 3730	Numerical Analysis	
MATH 3830	Differential Equations II	
MATH 4050	Applied Regression Analysis	
MATH 4330	Theory of Numbers	
MATH 4530	Complex Variables	
<b>Outside Electives Requirement:</b>		
<b>Choose at least 9 credits from the following:</b>		<b>9</b>
COMPUTER 2430	Object-Oriented Programming	
COMPUTER 3630	Database Design and Implementation	
COMPUTER 3830	Data Communications and Computer Networks	
CYB 3840	Introduction to Cybersecurity	
ELECTENG 3220	Signals and Systems	
ELECTENG 3140/ ENGRPHYS 3640	Electric and Magnetic Fields	
ELECTENG 3320	Automatic Controls	
ENGRPHYS 3240	Applied Mechanics	
ENGRPHYS 4330	Engineering Quantum Mechanics	
INDSTENG 3530	Operations Research I	
INDSTENG 4130	System Simulation and Analysis	
INDSTENG 4430	Quality Engineering	
MECHENG 3030	Mechanical Vibrations	
MECHENG 4330	Automatic Controls	
<b>Or one of the following:</b>		
A minor in Physics		

A minor or Major in Computer Science

A minor in Applied Statistics

A Major in Engineering

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**Total Credits** **50**

Course	Title	Credits
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**Required Courses Not Included in the 49 Credit Minimum**

**Natural Science Requirement (one of the following):** **4-5**

CHEMSTRY 1140	General Chemistry I	
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CHEMSTRY 1450	Chemistry for Engineers	
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PHYSICS 2240	General Physics I	
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**Computer Science Requirement:**

COMPUTER 1430	Introduction to Computer Programming	3
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## FINANCE EMPHASIS

Students completing this emphasis must complete all the requirements for the 41-credit mathematics major, including MATH 4050 as well as earning a minimum of 24 credits subject to the restrictions outlined below:

Course	Title	Credits
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**Core Requirements for Business/Accounting Courses**

ACCTING 2010	Financial Accounting	3
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ACCTING 2020	Management Accounting	3
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BUSADMIN 3620	Corporate Finance	3
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BUSADMIN 3710	Bank Management	3
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BUSADMIN 3930	Investments	3
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BUSADMIN 4030	Financial Decision Making	3
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**Electives Requirement**

Select two of the following courses: 6

BUSADMIN 3400	Personal Financial Planning	
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BUSADMIN 3430	Risk Management	
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BUSADMIN 3640	Financial Markets and Institutions	
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BUSADMIN 3650	International Finance	
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In addition to these required courses, students majoring in this emphasis should also consider taking the following courses:

ECONOMIC 2130	Principles of Macroeconomics	
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ECONOMIC 2230	Principles of Microeconomics	
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MATH 1730	Mathematics of Finance	
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**Total Credits** **24**