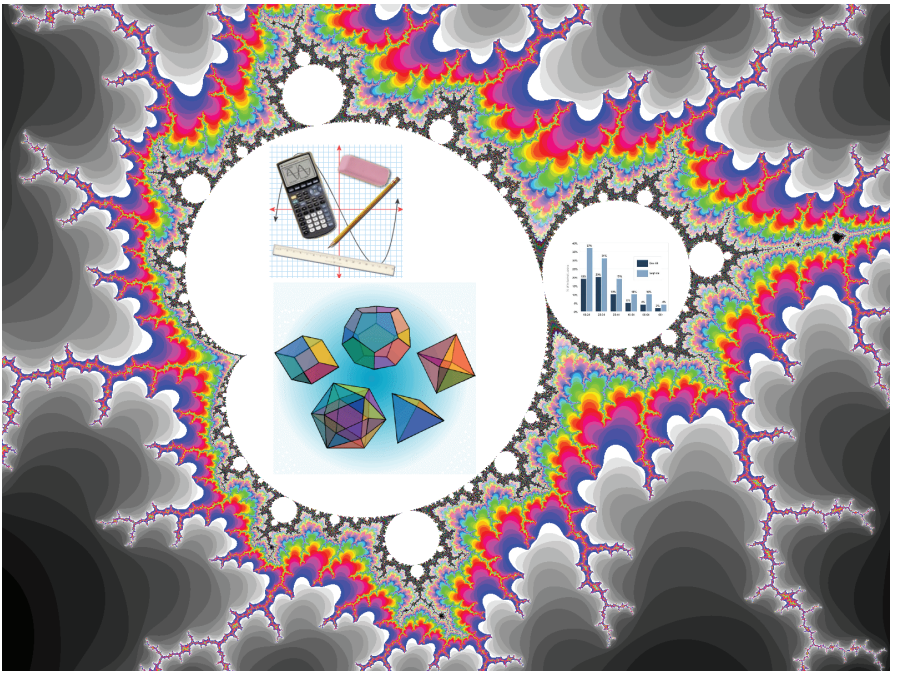
Department of

Mathematical Sciences



College of Letters and Science
University of Wisconsin-Stevens Point

Mission Statement

The Department of Mathematical Sciences is committed to providing quality instruction in the mathematical sciences to all UWSP students. Our introductory courses will ensure mastery of elementary mathematical methods and techniques. Our intermediate courses will provide effective support for students enrolled in any UWSP degree program. Our advanced courses will permit students to obtain necessary specialization sufficient for entry into professional careers and graduate education.

The Department of Mathematical Sciences has a commitment to research activities which complement our teaching mission. We hold the position that all original research, including that done with undergraduate students as part of their education, as well as that done individually for its own purpose or that done in collaboration with faculty from other disciplines for purposes of application, extends the frontiers of mathematical knowledge.

The Department of Mathematical Sciences is committed to community service. We will educate and train exemplary secondary teachers of mathematics. We will promote a greater understanding of the power and beauty of mathematics in human thought, by providing educational outreach opportunities to community members of all ages.

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Faculty

Jonathan Duarte, Assistant Professor
Ph.D. Illinois State University
Mathematics Education

Andy Felt, Professor
Ph.D., Washington State Univ.
Operations Research

Hurlee Gonchigdanzan,
Professor
Ph.D., University of Cincinnati
Probability

Daniel Harnett, Assistant Professor
Ph.D., University of Kansas
Probability, Stochastic Analysis

Edwin Herman, Associate Professor
Ph.D., University of Oregon
Analysis

Patricia Jaberg, Associate Professor
Ph.D., Illinois State University
Mathematics Education

Garrett Jones, Visiting Assistant Prof.
Ph.D., University of Iowa
Knot Theory, Math Biology

Andrea Knapp, Associate Professor
Ph.D., Illinois State University
Mathematics Education

Robert Kreczner, Professor
Ph.D., University of Wisc.-Milwaukee
Applied Mathematics

Cindy McCabe, Professor
Ph.D., University of Iowa
Knot Theory

Rick Mitchell, Professor
Ph.D., University of Wyoming
Mathematics Education

Dale M. Rohm, Professor
Ph.D., Oregon State University
Topology/Analysis

Michael Simmers, Assistant Professor
Ed.D., University of North Dakota
Mathematics Education

Kirsten Stor, Assistant Professor
Ph.D., University of Vermont
Graph Theory

Susan Talarico, Associate Professor
Ph.D., Northern Illinois University
Mathematics

Matthew Welz, Assistant Professor
Ph.D., University of Vermont
Abstract Algebra

Nate Wetzel, Professor
Ph.D., University of Minnesota
Statistics

Adjunct Faculty

George Adams, Associate Lecturer
M.A.T., Indiana University
Mathematics Education

Vicki Hay, Associate Lecturer
M.A., Univ. of Minnesota
Mathematics Education

Jo Ellen Immel, Senior Lecturer
M.Ed., Univ. of Arizona
Mathematics

Ann Kiefer, Lecturer
BBA., UWSP
Business Administration

Maggie Milkovich, Senior Lecturer
MEPD, UW-LaCrosse
Statistics

Laurence Steiner, Lecturer
M.Ed., UWSP
Precalculus Mathematics

Jeffrey Strick, Associate Lecturer
M.S., UW-Oshkosh Mathematics

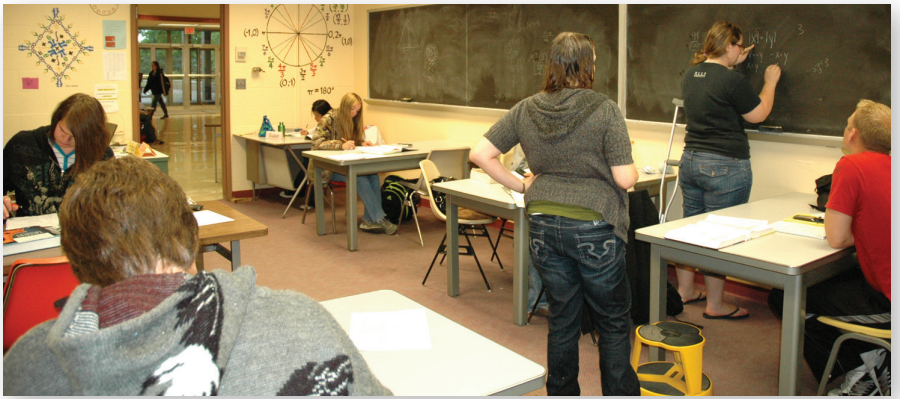
Robert VanDenHeuvel,
Associate Lecturer
M.S., UWSP Mathematics

Facilities

Mathematics Education classes are taught in our two model classroom teaching laboratories where students learn best practices for teaching mathematics with modern manipulatives, software, calculators, and classroom equipment. One of these model classrooms is equipped with a connected 30-seat computer laboratory completely equipped with the current versions of most commonly used mathematical software.

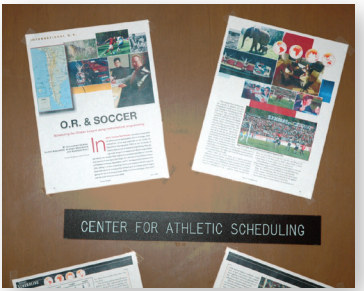
All upper-level mathematics courses are taught in sections with about 20 students. All classrooms are equipped with computer workstations and allow for multimedia presentation.

All lower-level mathematics courses are taught in sections with about 35 students. All courses in the majors and minors offered by the department, including calculus, are only taught by regular faculty with terminal degrees.



Extra help for introductory mathematics courses is available in the Department sponsored Math Room. The Department hires advanced mathematics students to provide drop-in tutoring. The Math Room is a great place for small study groups!

Students hired by the Center for Athletic Scheduling use Mixed Integer Linear Programming methods from operations research to solve the real-world problems of their clients. The CAS is a self-supporting, non-profit, student-run organization whose mission is to provide athletic schedules, optimally meeting specified constraints, to intercollegiate athletic conferences across the country.



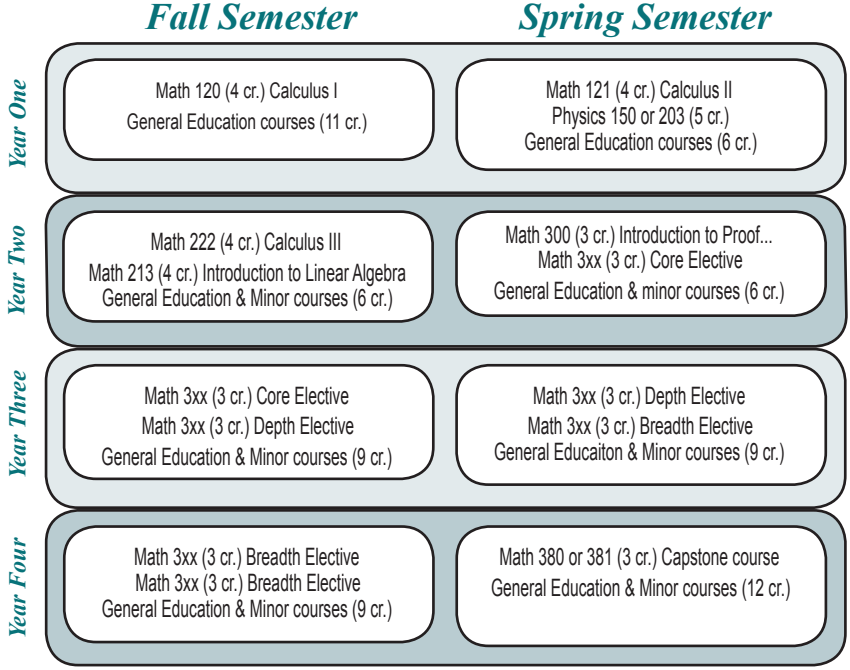
Mathematics Major

Overview

The Mathematics Major allows you to specialize, or to acquire a broad background, in mathematics by selecting from various areas of mathematics. Students are able to ensure that their coursework will qualify them for many different professional and graduate programs requiring the skills and techniques taught in the Mathematical Sciences. This major is especially valuable to those students who are also seeking a minor or a second complementary major in a natural science. Our graduates with this major have continued on to enter graduate programs in mathematics, statistics, operations research, chemistry, physics, materials science, and even law.

The Mathematics Major consists of at least 44 credits plus at least 12 credits in Natural Sciences to complete a Bachelor of Science degree.

Sample 4-year program of study for the Mathematics Major



Mathematics Core Electives

Math 324 : Complex Variables
Math 327 : Advanced Calculus
Math 330 : Intermediate Linear Algebra
Math 331 : Abstract Algebra-Rings and Fields
Math 332 : Abstract Algebra-Group Theory

Mathematics Breadth Electives

Math 305 : Discrete Mathematics
Math 310 : Operations Research I
Math 315 : Operations Research II
Math 320 : Differential Equations
Math 335 : Number Theory
Math 356 : Probability and Statistics I
Math 357 : Probability and Statistics II
Math 367 : Mathematics of Decision and Choice
Math 372 : Topology

Mathematics Major Academic Standards

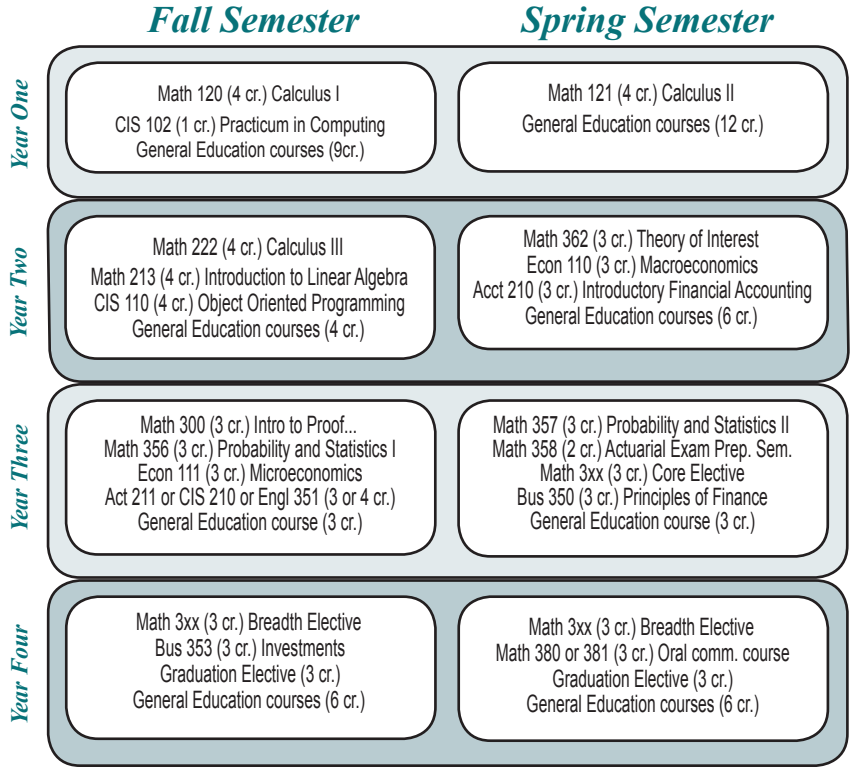
1. You must have a minimum GPA of 2.00 in courses used to satisfy requirements of major.
2. Grades of C or better must be earned in at least 18 credits of courses numbered 300 and above used to satisfy the requirements of the major.

Mathematics Major with Actuarial Emphasis

Overview

The Mathematics Major with Actuarial Emphasis requires students to specialize in those mathematical areas with particular value to actuarial science. Following the recommendations of professional actuarial societies, the emphasis includes a strong concentration in applied mathematics courses, including linear algebra and probability & statistics, along with other courses in applied mathematics, computing, and actuarial science. Successful completion of two of the national actuarial examinations during your time at UWSP is encouraged in this major. The Mathematics Major with Actuarial Emphasis consists of at least 61 credits to complete a Bachelor of Science degree.

Sample 4-year program of study for the Mathematics Major with Actuarial Emphasis

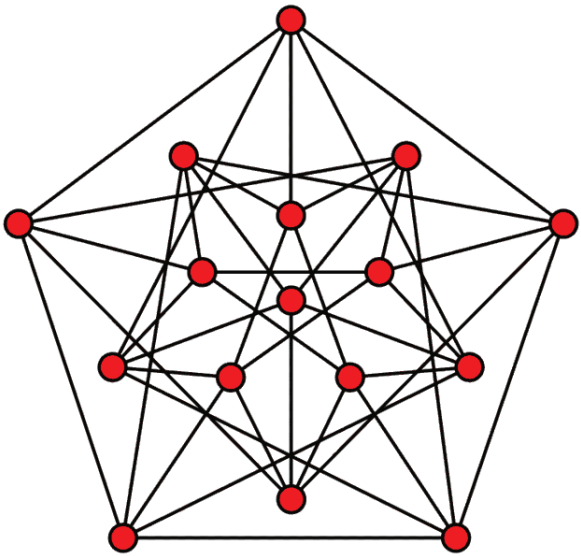


Actuarial Breadth Electives

Math 305 : Discrete Mathematics
Math 310 : Operations Research I
Math 315 : Operations Research II
Math 320 : Differential Equations
Math 324 : Complex Variables
Math 327 : Advanced Calculus
Math 330 : Intermediate Linear Algebra
Math 331 : Abstract Algebra – Rings and Fields
Math 332 : Abstract Algebra – Group Theory
Math 367 : Mathematics of Decision and Choice

Mathematics Major with Actuarial Emphasis

1. You must have a minimum GPA of 2.00 in courses used to satisfy requirements of major.
2. Grades of C or better must be earned in at least 18 credits of courses numbered 300 and above used to satisfy the requirements of the major.



Take math — lots of it! I have quickly learned that you can never learn enough mathematics.

— Alex Richter
(Class of 2007)

Mathematics Major for Teacher Certification (Secondary/Middle)

Overview

The Mathematics Major for Teacher Certification is structured to ensure that you will satisfy the Wisconsin Department of Public Instruction licensing requirements for secondary/middle school teacher certification. This major includes dedicated geometry and statistics courses containing integrated educational methods. Additional mathematics courses from the areas of analysis, abstract algebra, and discrete mathematics provide comprehensive content preparation. Additional educational training in mathematics teaching technology, mathematics educational methods, and the history of mathematics will ensure your subject competency. Collateral requirements of the School of Education will ensure your degree meets all breadth and competency requirements for state licensing. This major is completed by a secondary student teaching experience.

The Mathematics Major for Teacher Certification:Secondary/Middle consists of at least 54 credits plus at least 12 credits in Natural Sciences to complete a Bachelor of Science degree.

Sample 4-year program of study for the Mathematics Major for Teacher Certification

	Fall Semester	*Spring Semester*
Year One	Math 120 (4 cr.) Calculus I General Education courses (11 cr.)	Math 121 (4 cr.) Calculus II Education & Gen. Ed. courses (11 cr.)
Year Two	Math 222 (4 cr.) Calculus III Math 213 (4 cr.) Intro. to Linear Algebra General Education courses (9 cr.)	Math 300 (4 cr.) Intro to Proof... MathEd 334 (4 cr.) Tech. Tools for Math... General Education & Physics (8 cr.)
Year Three	Math/MathEd 340 (4 cr.) Teaching Geometry Math 331 or 332 (3 cr.) Abstract Algebra Education & Gen. Ed. courses (10 cr.)	Math/MathEd 350 (4 cr.) Teaching Probability and Statistics Mathematics Breadth Electives (6 cr.) Education courses (7 cr.)
Year Four	MathEd 335 (4 cr.) Techniques in Sec. Ed. Math 3xx (3 cr.) Breadth Elective Education & Gen. Ed. courses (7-10 cr.)	MathEd 398 (12 cr.) Student Teaching Educ 400 (1 cr.) Seminar on Teaching

Mathematics Education Breadth Electives

Math 305 : Discrete Mathematics
Math 310 : Operations Research I
Math 315 : Operations Research II
Math 320 : Differential Equations
Math 324 : Complex Variables
Math 327 : Advanced Calculus
Math 330 : Intermediate Linear Algebra
Math 331 : Abstract Algebra-Rings and Fields
Math 332 : Abstract Algebra-Group Theory
Math 335 : Number Theory
Math 356 : Probability and Statistics I
Math 357 : Probability and Statistics II
Math 367 : Mathematics of Decision and Choice
Math 372 : Topology

Mathematics Major for Teacher Certification Academic Standards

1. You must have a minimum GPA of 2.00 (2.75 to be approved for student teaching) in courses used to satisfy requirements of major.
2. Grades of C or better must be earned in at least 18 credits of courses numbered 300 and above used to satisfy the requirements of the major.
3. You must be accepted into the Professional Education Program of the School of Education.

School of Education Selection Criteria

The combined limit of mathematics students allowed entry into the Professional Education Program is 15 majors per year (minors are not included in this count).

The Mathematics Education faculty will consider the final selection based upon the following criteria:

1. Applicants must meet the minimum requirements for admission to the Professional Education Program as set by the School of Education.
2. Applicants must complete the following courses in the major: either Math 213 or Math 222.
3. Applicants must score “satisfactory” on the essay component of their application.
4. Applicants must have a major GPA of at least 2.75 at the time of admission.
5. Applicants will be ranked according to their GPA sum: the sum of the overall GPA (including transfer credits) and the major GPA (including transfer credits) divided by two.
    a. Fall applications: Up to 10 applicants will be selected according to their GPA sum. During the fall application, only those applicants with a GPA sum of at least 3.00 will be considered.
    b. Spring applications: Applicants will be selected according to their GPA sum.
6. In the event that step 5b does not fill all 15 positions available for the year, applicants with a major GPA less than 2.75 may be considered.
7. Applicants denied admission may appeal through the School of Education.
8. Applicants denied admission to the Professional Education Program will be allowed to make one more application (a total of two applications).

Mathematical Sciences Minors

The Mathematics Minor

The Mathematics Minor consists of 26 credits:

1. Math 120, 121, 213, 222, 300.
2. At least 6 credits from Math 305, 310, 315, 320, 324, 327, 330, 331, 332, 335, 356, 357, 367, 372.

This minor is especially appropriate for any student considering applying to a physical, social, or managerial science graduate or professional program.

The Applied Mathematics Minor

The Applied Mathematics Minor consists of 24 credits:

1. Math 120, 121, 213.
2. Complete one of the following sequences: Math 356 and 357 or Math 310 and 315.
3. Complete two additional courses from Math 222, 305, 310, 315, 320, 356, 357, 362, 367.

This minor is an excellent addition to any social or physical science major.

The Mathematics Minor for Teacher Certification (Secondary/Middle)

The Mathematics Minor for Teacher Certification consists of at least 32 credits:

1. Math 120, 121, 213, 300.
2. MathEd 334, MathEd 335, Math/MathEd 340.
3. Complete either Math/MathEd 350 or the sequence Math 356, 357.

Teaching certification additionally requires completion of a teaching major and student teaching in mathematics. This minor is appropriate for a student completing any teaching major, but particularly in the physical sciences.

> ***I want to give people the ability to acquire knowledge.***
>
> — M.P.

> ***Teaching is a unique job where every single class period holds the opportunity to change an individual's life.***
>
> — J.S.

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