

MATHEMATICS > APPLIED MATHEMATICS

Math can appeal to people of varying interests. Some seek to obtain a sound math background for use in a future career; others wish to learn mathematics and techniques of a specific field; and still others are just interested in math itself. Mathematics can address problems arising in the physical life, social sciences, and engineering, and provides a broad background in both quantitative and qualitative knowledge for use in these fields. Mathematical modeling and analysis unify ideas and provide a richer, deeper understanding of their respective fields. The Applied Mathematics degree program at Wayne State College focuses on not just equations but on how to apply these equations to solve challenges in other fields of study. WSC places emphasis on the structural aspects of math with manipulation and theory as the two basic components for achievement. A Math degree will help prepare you for careers in a variety of fields – business, physics, chemistry, computer science, economics, engineering, or social sciences.

fast facts

Credit hours: 49-51

Students must also take 30 credit hours of General Studies courses. A total of 120 credit hours are needed to graduate from WSC. Additional majors or minors can be added to help meet graduation requirements.

Degree offered: B.S.

Department: Physical Sciences and Mathematics

School: Science, Health, and Criminal Justice

Popular pairings: Biology, Business Administration, Chemistry, Computer Science, Economics, Geospatial Technology, Physics

focus on results

Skills Learned

- Methods to solve problems in math and science
- Proficiency in solving complex math problems
- Probability and statistics
- Mathematical modeling
- Computer programming fundamentals
- Data analysis and interpretation
- Critical thinking and problem-solving

Possible Careers

- Mathematician
- Computer scientist
- Computer programmer
- Actuary
- Financial consultant
- Economist
- Statistician
- Cryptographer
- Research analyst
- Biostatistician
- Mathematical biologist

Types of Employers

- Businesses and organizations
- Software companies
- Biotech companies
- Banks and financial institutions
- Schools, colleges, and universities
- Government / federal agencies
- Medical research facilities
- Science labs
- Insurance companies
- Financial firms
- Investment companies

outside the classroom

Activities / Opportunities

- Nebraska S-STEM Scholars Program
- Peer mentoring and tutoring
- Service-Learning
- Study Abroad

Clubs / Organizations

- Kappa Mu Epsilon (Math Club)



Visit www.wsc.edu/clubs to learn more about clubs and organizations on campus.

Courses and outcomes

2026-27 Academic Year

The following courses are required for the program of study described on this sheet. Every effort is made to ensure this information is current, but please be aware that some content may have changed. To develop a plan for registering and taking these courses, please consult the current academic catalog and your advisor.

Program courses

For CAT 7, take BIO 110 Biology Concepts or both PHY 301 University Physics I and PHY 321 Physics Laboratory I. For CAT 8, take ECO 203 Principles of Microeconomics. For CAT 10, take ECO 202 Principles of Macroeconomics.

Math Core Courses

MAT 240 Calculus II.....	5
MAT 270 Transitions to Advanced Mathematics.....	3
MAT 305 Discrete Mathematics.....	3
MAT 340 Calculus III.....	5
MAT 350 Linear Algebra.....	3
MAT 400 Real Analysis.....	4
MAT 410 Probability and Statistics.....	4
MAT 470 Connections.....	2
MAT 481 Mathematics Assessment.....	0

Applied Math Concentration Courses

MAT 140 Calculus I.....	5
MAT 250 Differential Equations.....	3
MAT 335 Applied Mathematics and Modeling.....	3
MAT 440 Numerical Analysis.....	3

Choose one emphasis from the following:

Biology Emphasis

Select two of the following.....	7-8
BIO 320 Molecular Genetics (4)	
BIO 325 Ecology (4)	
BIO 345 Conservation Biology (3)	
BIO 385 Microbiology (4)	

Chemistry Emphasis

CHE 456 Physical Chemistry: Thermodynamics.....	3
CHE 457 Physical Chemistry: Quantum Mechanics and Spectroscopy.....	3

Computer Science Emphasis

Select two of the following.....	6
CSC 310 Data Structures (3)	
CSC 345 Computer Graphics (3)	
CSC 365 Scripting Languages (3)	
CSC 378 Robotics (3)	
CSC 380 Operating Systems (3)	

Economics Emphasis

BUS 322 Managerial Finance.....	3
ECO 430 International Economics.....	3

Mathematics Emphasis

MAT 320 College Geometry.....	3
MAT 425 Abstract Algebra.....	4

Physics Emphasis

Electives (choose from the following).....	6-8
PHY 302 University Physics II (4) and PHY 322 Physics Lab II (1)	
PHY 336 Classical Mechanics (3)	
PHY 345 Thermodynamics (3)	
PHY 356 Electricity and Magnetism (3)	
PHY 457 Modern Physics (3)	
PHY 465 Optics (3)	

Student learning outcomes

1. Demonstrate numeric, algebraic, and analytic techniques
2. Communicate mathematical reasoning
3. Use mathematics to model and analyze real world problems
4. Construct mathematical arguments and rigorous proofs

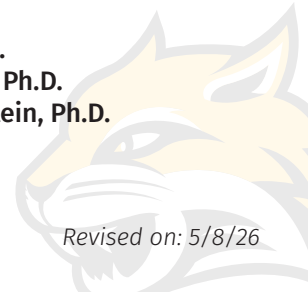
mathematics faculty



Visit www.wsc.edu/physical-sciences-mathematics-department to learn more about the Department Physical Sciences and Mathematics.

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Revised on: 5/8/26