

# Mathematics

Departments  
and Programs  
in the College  
of Science

Biochemistry &  
Biophysics

Biology

Botany & Plant  
Pathology

Chemistry

Environmental  
Sciences

Geosciences

Mathematics

Microbiology

Molecular &  
Cellular Biology\*

Physics

Pre-professional  
Programs in the  
Health Sciences

Professional  
Science Masters\*

Science &  
Mathematics  
Education\*

Statistics\*

Zoology

\*graduate program only

...the language of precise thought. Mathematics plays a vital role in science, business, industry, and many other aspects of modern life. It opens doors to understanding the world we live in and provides the key to efficiency, productivity, and quality in products and services.

## Career Opportunities

Modern society has a critical need for people trained in mathematics, and graduates in mathematics can have interesting careers in a variety of fields. Opportunities for employment exist in teaching at various levels, in research and development, in industrial and engineering applications, in scientific computing and medical technology, and in the insurance field. Mathematics is essential in all the physical and life sciences, and it is becoming more and more important in the social sciences—political science, sociology, and anthropology. Some recent OSU graduates in mathematics are employed as:

Mathematics teachers

Managers of insurance companies

Systems engineers

Systems analysts

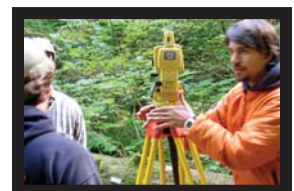
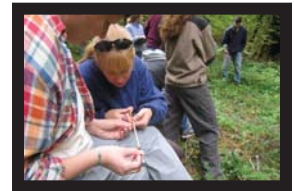
System and application software  
manager for U.S. Air Force

Managers for utility firms constructing  
nuclear power plants

Mathematicians study quantities, magnitudes, and forms. They construct mathematical models of both scientific and man-made processes, which help us to predict future events and patterns. Do you like to solve abstract problems? Do you have an aptitude for math? If so, you should consider majoring in mathematics and preparing for a career in which mathematics plays an important role.

The Department of Mathematics at Oregon State University offers undergraduate and advanced degrees. One of the largest departments on campus, the department is a resource for the university and the entire state. Current research projects contribute to the solutions of many important problems—some arising in the storage of nuclear waste, others in the reading of medical x-rays or in weather prediction.

A very helpful resource for freshmen and sophomores at OSU is the Mathematics Learning Center (MLC), which provides individual help and self-study resources for students in algebra, trigonometry, and calculus. Students can stop by the MLC virtually at any time and get help from student tutors or faculty volunteers.



# Mathematics

## What to know about Oregon State University

Head Advisor

College of Science  
128 Kidder Hall  
541-737-4811

OSU Admissions  
104 Kerr Administration  
541-737-4411  
800-291-4192

OSU Financial Aid  
Student Employment  
Loans & Scholarships  
College Work Study  
218 Kerr Administration  
541-737-2241

OSU Registrar  
102 Kerr Administration  
541-737-4331

OSU Housing  
102 Buxton Hall  
541-737-4771

OSU Website  
<http://oregonstate.edu>

## For more information, please contact:

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Section 504 of the Rehabilitation Act of 1973.

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## Course of Study

The B.S. in mathematics degree requirements consist of a common core of courses at the lower division and junior-level followed by senior-level breadth courses allowing for some individual choice. A total of 47 credits constitute the upper-division requirements in the major. Thus, the mathematics major has ample opportunity to take further mathematics or other courses focused toward specific interests and career goals. Interdisciplinary programs with other departments are strongly encouraged.

The secondary teaching emphasis option is intended primarily for students preparing for careers in teaching mathematics at the secondary level. The demand for qualified teachers in this area continues to grow. Students wishing a broad background in mathematics, computer science, and statistics should major in mathematical sciences. This program, which allows for flexibility in all three directions, is offered by the Department of Mathematics with the cooperation of the Departments of Computer Science and Statistics.

## Sample Curriculum

An official graduation checklist may be obtained online at [http://www.math.oregonstate.edu/undergrad\\_deg\\_reqs](http://www.math.oregonstate.edu/undergrad_deg_reqs)

Freshman Year			credits			credits		
Calculus	MTH 251, 252, 253	12	Physics	PH 211	4			
Baccalaureate core courses		13–17	One year approved courses in the physical or biological sciences		(may include PH 211)	8–12		
Sophomore Year			credits			credits		
Calculus	MTH 254, 255, 256	12	Linear Algebra	MTH 341	3			
Baccalaureate core courses		18–23	Other electives		7–12			
Junior Year			credits			credits		
Advanced Calculus	MTH 311, 312	8	Linear Algebra	MTH 342	4			
Abstract Algebra	MTH 343	3	One of the following writing intensive courses:					
Special Topics			Fundamental Concepts of Topology or	MTH 333	3			
Discrete Math and Computation	MTH 399	4	Non-Euclidean Geometry or	MTH 338	3			
Baccalaureate core courses		12	Mathematical Modeling	MTH 323	3			
			Electives		14			
Senior Year			credits			credits		
Five courses from the following seven:			Approved upper-division math courses		6			
Metric Spaces & Surface Topology	MTH 430	3	Electives		24			
Intro to Differential Geometry	MTH 434	3	A grade of at least "C-" and a GPA of 2.25 or higher are required in all upper-division required mathematics courses. Graduation requirements include 48 credits needed for the baccalaureate core (BC), consisting of writing/speech (9 cr.), mathematics (3 cr.), fitness (3 cr.), physical and biological sciences (12 cr.), western culture/cultural diversity/literature & arts/social processes/difference, power, and discrimination (15 cr.), and contemporary global issues/science, technology and society (6 cr.).					
Computational Number Theory	MTH 440	3						
Numerical Linear Algebra	MTH 451	3						
Probability	MTH 463	3						
Systems of Ordinary Differential Equations	MTH 480	3						
Complex variables	MTH 483	3						

Experience.  
Explore.  
Discover  
Achieve.

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