Economics, Mathematics, Statistics

Economics

The Department of Agricultural Economics and Economics offers a broad education involving the domestic and international economy and includes the study of institutions, concepts, policy, and the tools of analysis. Our students prepare for careers in business, banking, financial markets, insurance, law, management, and consulting; for careers in national, state, and local governments; for teaching positions, and for graduate study in economics and in related fields including business administration, finance, public policy, and law.

The Bachelor of Science degree in economics stresses the use of economics as a means of understanding current economic activities and problems and their relationship to our social environment. The objective of the program is to provide students with a liberal university education with particular emphasis on economics. Because requirements are specified largely in terms of broad subject areas rather than designation of particular courses, students are given the opportunity to develop a program to meet their own particular needs and interests.

Research within the department spans a wide array of topics, including climate change, agricultural marketing, agricultural policy, agricultural finance, resource and environmental economics, the economics of law, public choice, economic history, labor economics, international trade, and industrial organization.

Graduate Assistantships are awarded on a competitive basis with continuance depending upon satisfactory progress toward degree requirements and performance of assigned duties.

Degrees

- Bachelor of Science in Agricultural Business
- Bachelor of Science in Economics
- Minor Options in: Agricultural Business or Economics
- Master of Science in Applied Economics

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Mathematics

The Department of Mathematical Sciences at Montana State University offers a wide variety of courses in small classes which provide individual attention for each student. Research opportunities abound and faculty-student teams tackle many exciting problems. Fifteen full-time mathematicians make up the mathematics component of the department. These scholars publish extensively in outstanding journals, compete effectively for national funding, and present papers at national and international conferences.

Current research areas:
Dynamical Systems–Topological Dynamics, Ergodic Theory, Dynamics of Surface Maps, Applied Dynamics, Ordinary and Partial Differential Equations
Numerical Techniques–Numerical Solutions of Partial, Differential Equations, Inverse Problems, Scientific Computing, Sensitivity Analysis
Applied Mathematics–Mathematical Biology, Bacterial Biofilms, Solar Physics, Modeling, Excitable Systems, Neural Coding & Networks, Magnetohydrodynamics, Atmospheric Optics, Oceanography, Imaging

The four-year baccalaureate curriculum is flexible and can accommodate students desiring to concentrate in the following:
Mathematics Option–The core of the program is built around three years of analysis, as well as courses in modern and linear algebra. The program is flexible enough to accommodate students who wish to prepare for employment in business, industry, or government as technical analysts or specialists in the rapidly developing area of scientific computing.
Applied Mathematics Option–The program demonstrates the utility of mathematics to solve problems arising in real industrial applications. Graduates will be qualified for professional careers in computational applications of mathematics, statistics, and other related fields.
Mathematics Teaching Option–The teaching option is designed specifically to prepare students to teach mathematics at the middle school or high school levels and qualifies the student for a teaching certificate.
Statistics Option–details in next column.

Degrees

- Bachelor of Science in Mathematics
  - Options in Applied Mathematics, Mathematics, Mathematics Teaching, and Statistics
- Master of Science in Mathematics
- Doctor of Philosophy in Mathematics

Statistics

The dedicated and talented faculty of the statistics program teach a wide variety of undergraduate and graduate courses in small classes where students get individual attention. Recent special offerings have included Quality Control, Advanced Sampling, and Logistic Regression.

Research encompasses a broad range of theoretical and practical topics. Because all members of the faculty are actively engaged in consulting and/or collaborative interdisciplinary problems, much of the statistical research is directed toward practical problems. Statistics research is currently being conducted in biostatistics, time series and spatial models, linear models, multivariate analysis, geostatistics, stochastic modeling, sampling, nonparametric and robust methodology, pattern recognition, mathematical statistics, response surface methodology, design of experiments, and psychometrics. Graduate statistics programs often include an interdisciplinary component, such as ecology or biofilm engineering.

Statisticians are in demand; successful students should find many job opportunities.

Degrees

- Bachelor of Science in Statistics
- Master of Science in Statistics
- Doctor of Philosophy in Statistics

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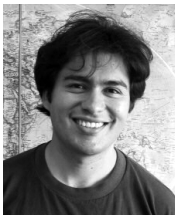

"When I first came to MSU I was eager to work very hard in the Ph.D. program. I only knew they were doing beautiful things here in the department and I wanted to understand what I had read in articles. Not only were the professors very approachable, but also all of the people around campus and in the community. MSU has been great to me, I am learning terrific things in math and am enjoying Bozeman and its people very much."

– Adrian Ulises Soto,
Mathematics Ph.D. student, Mexico

The College of Letters & Science

The College of Letters and Science provides an excellent liberal arts education in natural sciences, social sciences, mathematics and humanities.

Departments

- Cell Biology and Neuroscience
- Chemistry and Biochemistry
- Earth Sciences
- Ecology
- Economics
- English
- History and Philosophy
- Mathematical Sciences
- Microbiology
- Modern Languages and Literatures
- Native American Studies
- Physics
- Political Science
- Psychology
- Sociology and Anthropology

Minors Also Available In

- Women's Studies
- Native American Studies
- Religious Studies
- Museum Studies

Career Opportunities

Graduates report impressive employment success with nearly three-quarters of them employed upon graduation, while the other quarter go on to attend graduate, medical, or law schools at prestigious universities such as Harvard, Brown, MIT and Columbia.

Exciting Research Centers

- Center for Biofilm Engineering
- Center for Bison and Wildlife Health
- Center for Computational Biology
- Center for the Development of Bioactive Compounds
- Geographic Information and Analysis Center
- Montana Water Center
- Northern Rocky Mountain Science Center
- Optical Technology Center
- The Spectrum Lab
- Thermal Biology Institute

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Marks of Excellence

MSU is one of the top six schools in the nation in the number of prestigious Barry M. Goldwater science scholarships won by its students. (Behind MSU are schools such as Brown, Stanford, Yale and MIT.) Most of the 39 Goldwater Scholarship recipients were students in the College of Letters and Science.

Faculty in the College of Letters and Science have an impressive record for winning highly competitive national grants, over $22,000,000 last year, to support research and scholarship. Letters & Science undergraduates have the unique opportunity to work individually with faculty on original research and scholarship opportunities that some students may only get in graduate school.

Multidisciplinary Undergraduate Summer Research Program

- Ten-week interdisciplinary research program involving work at the interface between biology and the physical and computational sciences.
- Work in laboratories of NIH and NSF-funded faculty mentors representing eight departments (Cell Biology & Neuroscience, Chemistry & Biochemistry, Computer Science, Electrical and Computer Engineering, Mathematics, Microbiology, Plant Sciences, Veterinary Molecular Biology) and the Center for Computational Biology.
- Participate in summer workshops and symposia featuring nationally prominent interdisciplinary scientists.
- Work with graduate student mentors from the Complex Biological Systems graduate program.

Services for Students

The College of Letters and Science emphasizes quality teaching and advising. Faculty are encouraged to evaluate and improve their instructional methods and to keep abreast of developments in their fields. Each student in the college is assigned a faculty advisor who oversees the student's program of study throughout his/her college career.

The College Seminar for first-year students is a great introduction to the university environment, where students meet with faculty and an undergraduate teaching assistant in small groups.

Students can pursue research with distinguished faculty from across campus or within research centers that specialize in work on laser technology, computational biology, mountain ecosystems, paleontology, geographic systems, local governments, rural health issues, industrial and organizational psychology, biofilm engineering, organic chemistry, economic development and others. The Undergraduate Scholars Program at MSU offers students assistance, academic credit and funding for research and creative activities.

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