Undergraduate

Mathematical Studies

SIUe

College of Arts and Sciences
Department of Mathematics and Statistics

Degrees Available at SIUE

- Bachelor of Arts, Mathematical Studies
- Bachelor of Science, Mathematical Studies (specializations available in the following)
    - Actuarial Science
    - Applied Mathematics
    - Pure Mathematics
    - Statistics
- Professional Educator Licensure (9-12) program

Mathematical Studies at SIUE

How does a statistician design an experiment to test a new drug? What is an efficient algorithm to solve a differential equation, and when does it work? How do you determine a fair price for an annuity? Given a complex network of nodes and edges, what is the shortest path from one vertex to another? How can you teach problem solving in a diverse high school classroom?

These are only some of the questions to be explored in our five undergraduate study options in the Department of Mathematics and Statistics. In the College of Arts and Sciences at SIUE, we have a faculty-to-undergraduate major student ratio of five to one, so our students receive personalized attention from faculty recognized for outstanding teaching and excellent research.

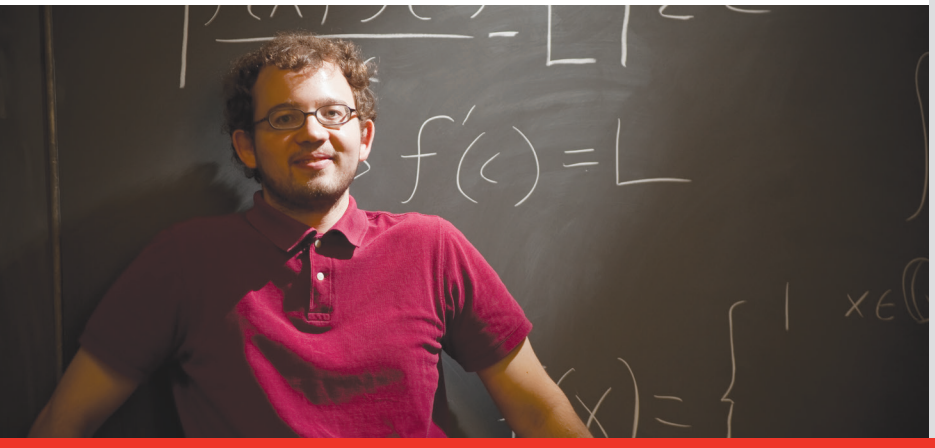
Career Opportunities

Professionals holding positions in the mathematics field as mathematicians, statisticians, and actuaries consistently rank their careers at the top of surveys on job satisfaction and security. According to The Bureau of Labor Statistics, the job outlook in these fields remains strong, and growth is projected at 25 percent over the next 10 years. While salaries vary by field, employment type and education level, the median national salary for an actuary is approximately $93,000, the median national salary for a mathematician is approximately $101,000 and the median national salary for a statistician is $75,000.

Most professionals in the field of mathematics will hold a master's or doctoral degree, and our students are no exception. Our graduates have attended PhD programs at Indiana University, Texas A&M, St. Louis University, the University of Missouri, and many others. Students from SIUE are employed in government and corporate organizations, and hold positions with Horace Mann, Juggle, Centene, Delta Dental, Boeing, United States governmental agencies, and several others.

Global Experience

With a diverse group of faculty members from China, Greece, Japan, Korea, Malaysia, the Philippines and the United States, SIUE is an ideal place for an international student to receive individual attention from faculty members that will help propel them toward graduate school or their chosen career. Our undergraduate program is compatible with study abroad, and our students have most recently studied in Spain and Egypt.



Faculty

Marcus Agustin, PhD
Professor
1997, Bowling Green State University
Research Interest: Statistics, Reliability and Survival Analysis

Zenia Agustin, PhD
Professor
1997, Bowling Green State University
Research Interest: Statistics

Gregory Budzban, PhD
Dean and Professor
1991, University of South Florida
Research Interest: Probability on Algebraic Structures and Math Education

Song Foh Chew, PhD
Associate Professor
2005, Purdue University
Research Interest: Operations Research; Particularly, the Study of Deadlock Avoidance and Robust Supervisory Control of Resource Allocation Systems

Cheryl Eames, PhD
Assistant Professor
2014, Illinois State University
Research Interest: Mathematics Education

Yi Jiang
Assistant Professor
2018, Iowa State
Research Interest: Numerical Analysis, Partial Differential Equations

Koung Hee Leem, PhD
Professor
2003, University of Iowa
Research Interest: Numerical Analysis and Scientific Computing

Andrew A. Neath, PhD
Professor
1994, University of California - Davis
Research Interest: Statistics

Junvie Pailden, PhD
Associate Professor
2013, Bowling Green State University
Research Interest: Statistics

James L. Parish, PhD
Associate Professor
1985, University of Chicago
Research Interest: Algebra, Geometry, and the Interface Between Them

George Pelekanos, PhD
Distinguished Research Professor
1997, University of Delaware
Research Interest: Inverse Scattering

Edward C. Sewell, PhD
Distinguished Research Professor
1990, Cornell University
Research Interest: Operations Research

Myung-Sin Song, PhD
Associate Professor
2005, University of Iowa
Research Interest: Functional and Harmonic Analysis of Wavelets

G. Stacey Staples, PhD
Associate Professor
2004, Southern Illinois University Carbondale
Research Interest: Operator Calculus on Graphs, Algebraic Probability, Algebraic Combinatorics, Symbolic Computation, Combinatorial Properties, and Applications of Clifford Algebras

Tammy M. Voepel, PhD
Associate Professor
1997, University of Missouri - Columbia
Research Interest: Mathematics Education

SOUTHERN ILLINOIS UNIVERSITY EDWARDSVILLE
COLLEGE OF ARTS & SCIENCES

Sample Curriculum for the Bachelor of Science in Mathematical Studies, Specialization in Actuarial Science

	Fall Semester		Spring Semester	
Year 1	**MATH 150** Calculus I (FQR)	5	**MATH 152** Calculus II (BPS)	5
	ECON 111 Principles of Macroeconomics (BSS)	3	**CS 145** Introduction to Computing I	3
	ENG 101 English Composition IL)	3	**ECON 112** Principles of Microeconomics (BSS)	3
	RA 101 Reasoning and Argumentation	3	ACS 101 Public Speaking	3
	FST 101 Succeeding & Engaging at SIUE	1	ENG 102 English Composition II	3
	Total Credits	15	Total Credits	17
Year 2	**MATH 250** Calculus III (BPS)	4	MATH 305 Differential Equations	3
	MATH 223 Logic and Mathematical Reasoning	4	MATH 321 Linear Algebra I	3
	PHYS 151 University Physics I (BPS)	4	MATH 350 Introduction to Analysis	4
	PHYS 151L University Physics I Lab (EL)	1	**ACCT 210** Managerial Accounting	3
	ACCT 200 Fundamentals of Financial Accounting	3	Breadth Humanities (BHUM)/Experience Global Cultures (EGC)	3
	Total Credits	16	Total Credits	16
Year 3	MATH 340 Theory of Interest	3	STAT 480B Introduction to Mathematical Statistics	3
	STAT 480A Introduction to Mathematical Statistics	3	STAT 486A Actuarial Mathematics	3
	MATH 465 Numerical Analysis	3	Finance Elective	3
	FIN 320 Finance Management and Decision Making	3	OR 441 Stochastic Models	3
	Breadth Life Science (BLS)	3	Interdisciplinary Studies (IS)/Experience US Cultures (EUSC)	3
	Total Credits	15	Total Credits	15
Year 4	MATH, STAT, or OR Elective	3	Breadth Fine & Performing Arts (BFPA)	3
	MATH 498 Senior Seminar	2	MATH, STAT, or OR Elective	3
	FIN 420 Problems in Corporate Finance	3	MATH 499 Senior Project	2
	Life, Physical or Social Science with a lab (EL)	3	Health Experience (EH)	1
	STAT 482 Regression Analysis	3	Breadth Information & Communication in Society (BICS)	3
	Total Credits	14	Total Credits	12
			Total Hours	**120**

Transfer Students: To maximize your transfer experience, complete the **bolded** courses/requirements pre-transfer **AND** satisfy either the Illinois Articulation Initiative (IAI) General Ed Core or receive an AA, AS, or AAT (early childhood, special ed or math) degree from an IAI community college. If 'Minor' requirements are shown, discuss careful course selection with the academic advising contact listed. Transfer Credit Equivalency Guides are located at siue.edu/transfer.

Admission Requirements

For purposes of this department, the GPA in university mathematics/statistics/operations research courses will be computed on the basis of all courses attempted. In the case of repeated attempts on the same SIUE mathematics/statistics/operations research course, the grades for the second and all subsequent attempts will be used in computing the GPA.

To be admitted to the mathematics and statistics program, students must satisfy one of the following:

- Complete MATH 120 and 125, or mathematics courses having these as prerequisites (or equivalent courses at another accredited institution of higher education), have a GPA of 2.0 or higher in all university mathematics courses, and have a GPA of 2.0 or higher in all SIUE courses taken.
- Complete in high school seven semesters of university preparatory mathematics courses, including a course in trigonometry, and have no grade lower than a C in those courses. Students who do not qualify for admission into an academic program in the department but hope to seek admission later are encouraged to obtain advice from a faculty member in the department.

For purposes of computing the GPA of a student seeking admission, the student may not use credit hours earned through proficiency, transfer, CLEP or from a course, after credit has been received for similar or more advanced coursework in the subject at SIUE or elsewhere. For readmission to the department, students must have a C or better in MATH 223, have a GPA of 2.0 or higher in all university mathematics courses, and have a GPA of 2.0 or higher in all SIUE courses taken. A student who has been dropped from the department may be readmitted at most once.

Graduation Requirements

- Complete all specific program requirements.
- Complete all University requirements including:
  - All general education requirements
  - A minimum of 120 credit hours
    - At least 30 of which must be completed at SIUE
    - At least 60 of which must be completed at a regionally accredited four-year institution
  - A minimum cumulative GPA of 2.0
  - Bachelor of Arts: Eight courses in fine and performing arts or humanities, including one year of the same foreign language
- File an Application for Graduation by the first day of the term in which you plan to graduate.

Contact Information

Department of Mathematics and Statistics
College of Arts and Sciences
Phone: 618-650-2382

This information is concurrent with the 2019-2020 Academic Catalog. Courses are subject to change at any time.

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