

WHAT CAN I DO WITH A DEGREE IN MATHEMATICS?

Mathematics is everywhere in our modern technological world of business, industry, science, and education. It is embedded in genetic engineering, electric power, insurance rates, labor statistics, computer chips, compact discs, and credit cards. It is a driving force in robotics, cryptology, modeling of financial markets, exploring the human genome, public opinion polling, and economic analysis and forecasting.

A Bachelor's degree in Mathematics can qualify you for a broad range of positions in business, industry, government, and teaching. Computer and computer service firms, chemical and pharmaceutical firms, communication service providers, consulting firms, producers of petroleum and petroleum products, research, banks, insurance companies, and financial institutions all hire mathematically trained personnel. A major in Mathematics is also excellent preparation for graduate study in a wide variety of fields including economics, law, computer science, education, management, operations research, data engineering, and of course Science and Mathematics itself.

Learn more about career paths open to Mathematics majors at
www.maa.org/careers
www.ams.org/careers



CONTACT

For more information on courses and programs in mathematics, please visit:

math.syr.edu

or contact:

Mathematics Department Office

215 Carnegie Library
Syracuse, NY 13244-1150
315-443-3849

Department Chair

Prof. Uday Banerjee
banerjee@syr.edu
315-443-1472

Associate Chair for Undergraduate Studies

Prof. Dan Zacharia
zacharia@syr.edu
315-443-1580

Math Major Advisors

Prof. Andrew Vogel, alvogel@syr.edu
Prof. Steven P. Diaz, spdiaz@syr.edu
Prof. Leonid Kovalev, lvkovale@syr.edu
Prof. Dan Zacharia, zacharia@syr.edu

Math Minor Advisor

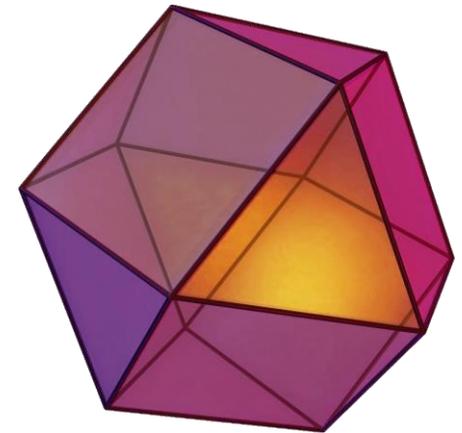
Prof. Adam Lutoborski, alutobor@syr.edu

Applied Statistics Advisor

Prof. Pinyuen Chen, pinchen@syr.edu

SYRACUSE UNIVERSITY.
College of Arts & Sciences
Mathematics

SEEKING A DEGREE IN MATHEMATICS

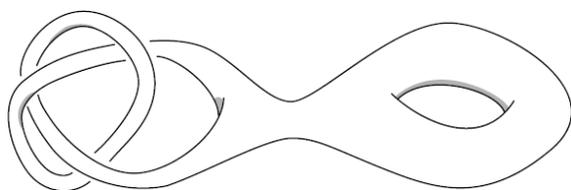


OUR PROGRAMS

The study of Mathematics is not tied to a particular career. Our major and minor programs are flexible enough to allow students with diverse interests to align their mathematical experience with their ultimate goals, or with a second major.

Our most rigorous program, ***B.S. in Mathematics***, emphasizes the creative, non-procedural thought processes through which the deeper understanding of Mathematics is attained. Students who excel in it often go on to graduate studies, either in Mathematics or in a related discipline such as Physics or Finance. Many others enroll in our dual program with the School of Education, which leads to NY State teacher certification.

Our ***Applied Mathematics*** programs (B.A. and B.S.) serve students with a passion for Science, Technology, or Engineering. They emphasize the breadth of applications of Mathematics and its computational aspects, including the principles of mathematical algorithms that drive technological innovations.



Our most flexible program is ***B.A. in Mathematics***. Out of six advanced courses required for this program, five can be selected by the student, with few constraints.

We also offer ***minors*** in both Mathematics and Applied Statistics, which complement a wide variety of majors.

For more information: math.syr.edu/UG

OUR CURRICULUM

Preliminary courses develop three distinct sets of skills:

- ∴ Manipulations with *continuous, flexible* objects (MAT 295-296-397: the core Calculus sequence)
- ∴ Manipulations with *discrete or rigid* objects (MAT 331: Linear Algebra)
- ∴ Formal *mathematical reasoning* (MAT 375: Introduction to Abstract Mathematics)

Preliminary courses are the first steps towards majoring in Mathematics or Applied Mathematics (B.A. or B.S.).

Advanced courses draw on all three of the above. They lead to deeper understanding of mathematical structures. While at the preliminary level students are mostly following instructions, in the advanced courses students will develop independent mathematical thought. The B.A. requires six advanced courses, while the B.S. requires ten.

Our courses cover a broad spectrum of pure and applied mathematical areas: Analysis, Abstract Algebra, Topology, Differential Equations, Probability, Statistics, Numerical Methods, Combinatorics, Number Theory, and others. In fact, the mathematical content of every course, whether it is called “pure” or “applied”, is built on a foundation of theory and is used in a wide variety of applications.

AND BEYOND...

Students planning on graduate work in Mathematics or other subjects, or simply seeking greater challenges, have a number of options.

- ∴ Get involved with our chapter of ***Pi Mu Epsilon***, the national mathematics honor society (founded at Syracuse University in 1914). See math.syr.edu/PME
- ∴ Take part in the Putnam Competition (a challenging nationwide mathematics contest). Group study sessions run throughout the Fall semesters. This is an opportunity to further develop your logical reasoning and problem-solving skills.
- ∴ Apply to summer research programs (REU) during your junior year.
- ∴ Take Senior Seminar or write a Senior Thesis, often as a capstone project to fulfill the requirements for graduation with ***Distinction in Mathematics***.
- ∴ Take some graduate level (600+) classes in your senior year.
- ∴ Arrange with a faculty member to take an ***Independent Study*** course on a specialized topic outside of the standard curriculum.

