



The Mathematics Department offers programs at the undergraduate level in applied mathematics, mathematics, and economics/mathematics and at the graduate level in applied mathematics. It also offers minor programs in mathematics and applied statistics.

With such a wide variety of programs and faculty interests, it is easy to find a faculty member who can give advice on a student's career paths. Students also benefit from the collaborative efforts of faculty members across programs in the department.

### Curriculum Overview

All majors in the department share a core of five courses. These provide students with the background for advanced courses, depending on major and the student's interest. Our major programs have an average of 24 credits of free electives. This enables students to take courses outside the department that complement our courses and that prepare them for a wide variety of career opportunities.

The M.S. program in Applied Mathematics is designed to produce graduates who are marketable in industry, government, and education. The program is also valuable for professionals who wish to add to their skills and for secondary mathematics and science teachers who wish to gain a deeper understanding of how mathematics and statistics can be used to solve applied problems.

### Degree Options

B.S. Applied Mathematics, B.S. Mathematics,  
B.A. Economics/Mathematics, M.S. Applied Mathematics

### Faculty

Faculty members in the Mathematics Department have won awards for teaching, advising, scholarship, and service. They have received grants from the National Science Foundation, the National Institutes of Health, and the Eisenhower Professional Development Program. All courses are taught by faculty members, and class sizes for major courses rarely exceed twenty-five students.

### Facilities

The Mathematics Department is housed in Stright Hall, named for former mathematics professor I. Leonard Stright. Most of our classrooms are multimedia equipped, and we have our own computer classroom. We share a computer lab for our majors with the Computer Science Department.

There is also a student-faculty lounge area, which is very popular with our students. Our graduate students have their own study area/lounge. The department is also home to the Center for Statistics Education in Pennsylvania and the Software Development Center.

### Study Abroad Programs/Internships/Research Experiences for Undergraduates

Some of our recent undergraduate students have taken advantage of study abroad programs in the Math in Moscow Program, Independent University of Moscow; Science Summer School, Cambridge, England; and Budapest Semesters in Mathematics, Technical University, Hungary. Other students have attended summer Research Experiences for Undergraduates (REU) programs around the country: REU in Algebra—Louisiana State University, REU in Algebra—Temple University, REU in Combinatorics—California State University, San Bernardino.

Both undergraduate and graduate students have completed internships at places like Lockheed Martin, National Agricultural Statistics Service, Naval Surface Warfare Center, and Capital Maximization Group, Inc.

## Career Opportunities and Employers/Graduate School Opportunities

In any field, there is a demand for people who can think logically and critically and use data to make decisions. Below are some of the first jobs taken by recent graduates. While you will not see the title “mathematician” in any of these jobs, it is obvious that a degree in mathematics can take you almost anywhere.

Actuarial Assistant—Geico Insurance Company  
Actuarial Assistant—Highmark Blue Cross/Blue Shield  
Aerospace Maintenance Officer—United States Navy  
Engineering Planning—Lockheed Martin  
Marketing Analyst—Merck & Co. Pharmaceuticals  
Programmer/Analyst—Melitta Coffee  
Quality Control—Bristol-Myers Squibb  
Quantitative Investment Analysis—PNC Bank  
Sales Associate—ING Annuities  
SAS Statistical Programmer—IMS Health (pharmaceutical market intelligence)  
Software Systems Analyst—Merck & Co. Pharmaceuticals  
Statistical Analyst—PSU Hershey Medical Center

Mathematics Department graduates are also successful in graduate school. Recent graduates have pursued advanced studies at Indiana University, University of Virginia, University of Kentucky (Economics), Naval Postgraduate School, University of Central Florida, Duke University (Physics), University of Pittsburgh, and Pennsylvania State University.

Our graduate students use what they learn at IUP to advance their careers or to find new ones. Recent M.S. degree students are employed with many companies, including:

- The World Bank Group—Finance and Risk Management
- Lockheed Martin—Management and Data Systems
- Penn State Altoona—Mathematics Instructor
- Penn State Fayette—Mathematics Instructor
- Butler County Community College—Mathematics Instructor
- University of Pittsburgh Medical Center—Radiation Technician
- U.S. Steel—Manufacturing Operations

## Testimonials

“In my work as a systems engineer for one of the country’s prominent defense contractors, every day I make use of the high-quality, foundational education that I received at IUP. I feel that I owe IUP, especially the Mathematics Department and my instructors, a huge ‘Thank You’ for preparing me so well and giving me the confidence to succeed!”

—Tessa Polenik Anodide, B.S. Applied Mathematics, 2003

“My IUP education allowed me to develop analytical and problem-solving skills, to multitask, to work under deadline pressures, to develop verbal and written communication skills, and to work in teams or as an individual; these skills all are necessary in either pursuing a position in a corporate environment or an advanced degree.”

—Mark Rayha, B.S. Mathematics, 2003

“The M.S. in Applied Mathematics program at IUP provided me with the tools necessary to pursue multiple careers. [The faculty’s] dedication and availability were above my expectations. Because of their hard work, as well as the manageable class sizes, I was able to have one-on-one discussions regarding classroom material and additional topics that I found interesting. Looking back on my experiences at IUP, I am thankful that I chose the path that I did.”

—Ryan Nease, M.S. Applied Mathematics, 2005

## For Additional Information

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