MATHEMATICS

UNDERGRADUATE FACT SHEET

The Department of Mathematics offers a bachelor of arts in mathematics, a bachelor of science in applied mathematics, and a bachelor of science in education – mathematics. As a student, you can have additional specialization in specific branches of mathematics by choosing from available electives. Each degree program provides a sound preparation for graduate study.

Career Opportunities

The bachelor of arts in mathematics provides a program of study in mathematics and related fields that leads to graduate studies, or to careers in industry.

The bachelor of science in applied mathematics allows you to concentrate in one of five areas of applied mathematics – actuarial science, financial mathematics, industrial mathematics, computational mathematics, or statistics. Each of these programs prepares you for a career in business or industry.

The bachelor of science in education – mathematics prepares you for certification as teachers of mathematics in Pennsylvania's secondary schools.

Graduates of the department have found positions with organizations such as DuPont, General Electric, Merck, and the National Security Agency. Graduates in mathematics education have found employment as teachers and administrators at universities and public, private, and parochial schools.

Graduates also have entered advanced study programs at the nation's leading universities.

Undergraduate Degree

Bachelor of Arts in Mathematics. This program begins with a core that includes calculus, computer science, physics, statistics, and background courses, followed by a required sequence of courses covering the major areas of the mathematical sciences – algebra, analysis, geometry, statistics, and applied mathematics.

Bachelor of Science in Applied Mathematics. The first two years of this program provide you with a solid background in mathematics. During your second year, you will choose to concentrate in mathematics finance, actuarial science, computational mathematics, industrial mathematics or statistics. At this point you will be trained in the mathematics needed to thrive in your chosen field. Moreover, you will take cognates related to your concentration, such as microeconomics, corporate finance, heat and thermodynamics, information sciences, and computer security.

Bachelor of Science in Education – Mathematics. This degree prepares you for certification as a teacher of mathematics in Pennsylvania's secondary schools. This program provides a good grounding in calculus, algebra, geometry, and statistics. Also, you will be instructed in the teaching of mathematics in secondary school classrooms. The department places emphasis on meaningful contemporary applications of mathematics.

Minors

Mathematics. As a baccalaureate student, you may receive transcript recognition for a minor area of study in such areas as astronomy, computer science, economics, finance, and physics by completing four required courses and two electives selected from the approved list.

Middle Grades Mathematics (K–8). As a baccalaureate student in middle grades education, you may receive transcript recognition for a minor area of study in mathematics by completing seven required courses.

In the above minors, you must earn a minimum grade of C– in each course and have an overall GPA of at least 2.0 in the courses taken in the minor.

Advanced Placement Policy

Students who have had calculus in high school may want to take the Advanced Placement Exam of the College Entrance Examination Board. There are two exams: the AB test and the BC test, with the latter covering more material. The exam is scored 0, 1, 2, 3, 4, 5.

Course credit for success on AP exams in mathematics

Learn More

is awarded according to the following chart.

AP Test	Score on AP Test		
	3	4	5
Calculus AB	MAT 108	MAT 161	MAT 161
Calculus BC	MAT 161	MAT 162	MAT 162
Statistics	MAT 121	MAT 121	MAT 121

Facilities

The Department of Mathematics has two computer labs, UNA 103 and UNA 109. These computers have all the mathematics software needed for classes. Mathematics majors can obtain access to these labs Monday through Friday 7 a.m. – 10 p.m. Weekend access will be granted 9 a.m. – 11 p.m. by providing your student identification number with the department secretary.

Special Study Opportunities

If you major in mathematics education, you will teach in nearby secondary schools. This program normally provides two, seven-week placements: one in a middle school, the other in a high school.

If you major in the applied mathematics program and qualify, you may opt to seek a summer internship with a local business. This hands-on opportunity will allow you to see mathematics at work, applied in real-life situations.

Special Entrance Requirements

Those interested in one of the above programs should have a solid background in high school mathematics and a strong score in the mathematics portion of the SAT.

Related Student Activities

Pi Mu Epsilon (mathematics honor society)

University Avenue Club

Advanced Degrees

Master of Arts in Mathematics (concentrations: mathematics or mathematics education)

Master of Science in Applied Statistics

Faculty

The mathematics faculty engages in the study of mathematics, mathematics education, and statistics and is dedicated to the art of teaching. Faculty members have served as officers in the state and local chapters of the National Council of Teachers of Mathematics and the eastern Pennsylvania and Delaware chapters of the Mathematics Association of America. (The executive director of NCTM is a WCU graduate.) Researchers have presented, by invitation, their work at Princeton, Yale, and the University of Pennsylvania (to name a few), and at international conferences. All faculty members are always ready to meet and discuss mathematics with our majors, particularly during the "tea and coffee hour" which follows our colloquium talks in our new tutorial/student center. You can obtain a complete listing of faculty and their qualifications from the department's website.

For More Information

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Undergraduate Catalog: http://www.wcupa.edu/_information/official.documents/undergrad.catalog/

Information on Admission
Office of Admissions

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