MATHEMATICS/TEACHING (B.S.)

Department of Mathematics & Statistics
College of Arts & Sciences
Eastern Kentucky University

Mathematics at EKU
The caring and well-trained faculty makes studying mathematics a challenging and rewarding experience. The success of every student is important to us.

Careers
The program prepares students for graduate school or a broad range of highly paid positions in business, industry, and government. EKU’s mathematics graduates have entered careers in banking, insurance, research and development, state and federal government, manufacturing, the health professions, and all levels of teaching from kindergarten to university.

Computer Lab
Integrating technology into the mathematics curriculum is a priority. The department maintains its own computer lab that is equipped with the first-rate computing software, Mathematica.

The MathExcel Program
The MathExcel Program is a collaborative learning lab designed to complement the calculus sequence. Students in this optional program meet twice a week to work on challenging problems.

Math Tutoring Center
Free individual tutoring in certain classes is available in the Math Tutoring Center. The center provides employment opportunities for talented students.

Student Organization
Students can get involved in extra curricular activities by becoming a member of Kappa Mu Epsilon, a national mathematics honor society.

Degree Programs
The Department of Mathematics and Statistics also offers the Bachelors of Science in Mathematics/Teaching (options in Mathematics Teaching or Computer Science/Mathematics Teaching) and Statistics; Minors in Actuarial Science, Mathematical Sciences, Mathematics, and Statistics; and the Master of Science in Mathematical Sciences (options in Mathematics, Statistics, or Computer Science).

Eastern Kentucky University
As you consider where you’ll pursue your studies, Eastern Kentucky University encourages you to ask yourself, “What do I want to do with my life?” and “Who can help me reach that destination?”

Before we tell you about EKU, let’s focus on your needs. What are you looking for in a college or university?

- Renowned, accessible professors; low student/faculty ratio
- State-of-the-art facilities
- Extensive curriculum
- Wide network of campus organizations
- Affordable cost
- Inviting campus

Achieving your goals depends on the quality of the faculty and curriculum at the school you choose to attend. Every college and university touts facilities, but few can match the accolades of our faculty. At EKU you’ll reach beyond the borders of classroom discussion to hands-on experience and networking opportunities with experts in the field.

EKU graduates are world leaders in areas as diverse as international business and homeland security; local, state and national government; as well as drama and law. Campus facilities, such as the Studio for Academic Creativity, which is designed to enhance research, writing, and presentation skills, and our new state-of-the-art science building, ensure our students of exposure to technologies vital to real world success.

We hope you’ll see that from our view there are no limitations, just possibilities.

- A comprehensive, public university serving more than 16,000 students
- Undergraduate and graduate excellence through 168 associate, baccalaureate, master’s, specialist and cooperative doctoral programs
- Quality and diversity in faculty and staff
- Student/professor ratio of 17:1
- 66-acre main campus in Richmond, regional campuses in Corbin, Danville, Lancaster and Manchester, and higher education centers throughout the Commonwealth

For More Information
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521 Lancaster Avenue
Richmond, KY 40475-3102
www.admissions.eku.edu
800-465-9191
859-622-2106

Department of Mathematics & Statistics
Wallace 312
Eastern Kentucky University
521 Lancaster Avenue
Richmond, KY 40475-3102
www.math.eku.edu
859-622-5942

WWW.EKU.EDU
Upon successful completion of this program, the graduate will be prepared for certification to teach mathematics at the secondary level and will: 1) understand the principles of pre-college mathematics; 2) be able to explain mathematical concepts and applications to social, economic, and scientific problems; 3) understand the importance and power of mathematics in our rapidly changing technological age; and 4) be prepared to pursue a graduate program in this or some related area. Refer to the College of Education section of the EKU Catalog regarding several teacher certification requirements associated with this degree program.

**Major Requirements** ........................................... 37-42 hours

**Core**.................................................................. 27 hours

- MAT 124* or 124H; 214; 224 or 224H; 301, 306, 308, 334, 380**.

**Options**................................................................ 10 hours

- MAT 225 or 225H; 315, three hours of courses chosen from: CSC 300, 320; any MAT course numbered 300 or above (except for 303, 349, 501, or 502), or any STA course numbered 300 or above (except for 349, 500, 503).

**Computer Science/Mathematics Teaching**...................... 15 hours

- CSC 160, 190, 191, 310, 330. All courses must be completed with a grade of at least "C-". At least five upper-division courses which satisfy the major requirements must be completed at EKU.

**Supporting Course Requirements**............................... 6-9 hours

**Mathematics Teaching**........................................... 9 hours

- CSC 104; CSC 160, 177, or 190; STA 270.

**Computer Science/Mathematics Teaching**.......................... 6 hours

- CSC 104; STA 270. All courses must be completed with a grade of at least a "C-".

**Professional Education Requirements**........................... 31 hours

- EDF 103, 203, 319, 413; EDF 401; ESE 490, 499, 550.

**General Education Requirements**.................................. 39 hours

- Standard General Education program, excluding blocks II and VIII (6 hours). Refer to Section Four of the EKU catalog for details on the General Education and University requirements.

**University Requirement**........................................ 1 hour

- ASO 100

**Free Electives**.................................................. 9-11 hours

**Total Curriculum Requirements**................................ 128 hours

* A preparatory course in mathematics (MAT 109) may be required before admission to calculus.

** Students who use a course from another institution as the History of Mathematics course will need to take ESE 574 to meet the reading requirement for secondary education certification.

**MINOR IN ACTUARIAL SCIENCE**

A student may minor in actuarial science by completing a total of 21 semester hours as follows: MAT 124 or 124H; MAT 224 or 224H; STA 270; STA 320; STA 370; STA 385; and STA 520.

**MINOR IN MATHEMATICAL SCIENCES**

A student may minor in mathematical sciences by completing a minimum of six hours in each of computer science, mathematics, and statistics for a total of 18 hours as follows: computer science — two of CSC 160, 190, 191; mathematics —MAT 261 and 262, or MAT 124 or 124H, and 224 or 224H; and statistics —two of STA 270, 320, 370, 500, 501, 575.

**MINOR IN MATHEMATICS**

A student may minor in mathematics by completing 18 hours including MAT 124 or 124H; 224 or 224H; and ten hours selected from MAT 214; 225 or 225H; 306; an approved MAT 480; STA 370 or 520; or any MAT course numbered 300 or above (except for MAT 349).

**MINOR IN MATHEMATICS/TEACHING**

A student may minor in mathematics teaching by completing a minimum of 20 semester hours as follows: MAT 124 or 124H; MAT 214; MAT 224 or 224H; MAT 301; MAT 334; and STA 270. All courses must be completed with a grade of at least "C" and the GPA in the courses used for the minor must be at least 2.75. The teaching minor in mathematics must be coupled with a secondary teaching major in another discipline.

**MINOR IN STATISTICS**

A student may minor in statistics by completing 18 hours of mathematical science courses including 12 hours of STA and six hours selected from any additional STA courses (except for 349), any CSC courses (except for 105, 305, 306, or 349), or any calculus courses with MAT prefixes, but no more than one course from MAT 124, 124H, 211, and 261.

**MATHEMATICS COURSES**

- MAT 109 Precalculus Mathematics
- MAT 124 Calculus I
- MAT 124H Honors Calculus I
- MAT 214 Linear Algebra and Matrices
- MAT 224 Calculus II
- MAT 224H Honors Calculus II
- MAT 225 Calculus III
- MAT 225H Honors Calculus III
- MAT 261 Calculus with Applications for Science I
- MAT 262 Calculus with Applications for Science II
- MAT 301 Logic and Set Theory
- MAT 306 Discrete Mathematics
- MAT 308 Modern Algebra I
- MAT 315 Introduction to Analysis
- MAT 334 Modern College Geometry I
- MAT 335 Differential Equations
- MAT 380 Mathematics in a Historical Setting
- MAT 408 Modern Algebra II
- MAT 415 Analysis
- MAT 480 Seminar in: ___________

**OTHER COURSES**

- CSC 104 Computer Literacy with Software Applications
- CSC 160 Introduction to Programming
- CSC 177 Introduction to Visual Basic
- CSC 190 Object-Oriented Programming I
- CSC 191 Object-Oriented Programming II
- CSC 300 Introduction to Numerical Methods
- CSC 320 Introduction to Algorithms
- CSC 310 Data Structures
- CSC 330 System Environments & Networks
- EDF 103 Introduction to Education
- EDF 203 Schooling and Society
- EDF 319 Human Development and Learning
- EDF 413 Assessment in Education
- ESE 490 Secondary Curriculum, Classroom Organization, and Management
- ESE 499 Supervised Student Teaching in the Secondary School
- ESE 550 Teaching Mathematics in the Secondary School
- SED 401 Exceptional Learners in Inclusive Classrooms
- STA 270 Applied Statistics I
- STA 320 Applied Statistics II
- STA 370 Applied Probability
- STA 500 Applied Statistical Inference
- STA 501 Nonparametric Statistics
- STA 520 Mathematical Statistics I
- STA 575 Statistical Methods Using SAS

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