



# STATISTICS (B.S.)

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

## Statistics at EKU

EKU is the only school in Kentucky that offers a bachelor of science degree in statistics. The caring and well-trained faculty makes studying statistics 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 industry, government, and the actuarial profession. EKU's statistics graduates have entered careers in insurance, pharmaceutical industry, research and development, government, manufacturing, the health professions, and all levels of teaching from kindergarten to university.

## Computer Lab

Integrating technology into the statistics curriculum is a priority. The department maintains its own computer lab that is equipped with the first-rate computing software, *Mathematica*, and the statistical packages Minitab, SAS, SPSS, and StatXact.

## 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 joining the Statistics Club.

## Degree Programs

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

## For More Information

Office of Admissions  
SSB CPO 54  
Eastern Kentucky University  
521 Lancaster Avenue  
Richmond, KY 40475-3102  
[www.admissions.eku.edu](http://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](http://www.math.eku.edu)  
859-622-5942

## 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



**[WWW.EKU.EDU](http://WWW.EKU.EDU)**

## Statistics (B.S.)

Upon successful completion of this program, the graduate will: (1) understand the applications and use of statistics in everyday life; (2) be able to apply a wide variety of statistical techniques; (3) be familiar with computer packages which perform statistical analysis; (4) be well qualified for employment in industry, government, and the actuarial profession; and (5) be prepared to pursue graduate work in statistics.

**Major Requirements** ..... **43 hours**

STA 270, 320, 498, 520, 521, 585, two of STA 370, 375, 501, 575, with a cumulative GPA of 2.0 in these STA courses; MAT 124\* or 124H; 214; 224 or 224H; 225 or 225H; six hours of CSC/MAT/STA numbered 300 or above (except for 349 and CSC 305, 306, MAT 303, 501, 502, STA 500, 503).

**Supporting Course Requirements** ..... **3 hours**

CSC 160, 177, or 190.

**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** ..... **42 hours**

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

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

### 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. 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.

### STATISTICS COURSES

STA 270	Applied Statistics I
STA 320	Applied Statistics II
STA 370	Applied Probability
STA 375	Sampling Methods
STA 385	Probability for Actuaries
STA 480	Seminar in _____
STA 498	Statistics Capstone
STA 500	Applied Statistical Inference
STA 501	Nonparametric Statistics
STA 507	Seminar in Statistics: _____
STA 520	Mathematical Statistics I
STA 521	Mathematical Statistics II
STA 575	Statistical Methods Using SAS
STA 585	Experimental Design

### OTHER COURSES

CSC 160	Introduction to Programming
CSC 177	Introduction to Visual Basic
CSC 190	Object-Oriented Programming I
CSC 191	Object-Oriented Programming II
CSC 320	Introduction to Algorithms
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 334	Modern College Geometry I
MAT 480	Seminar in: _____