MATHEMATICS, BACHELOR OF SCIENCE WITH A CONCENTRATION IN GENERAL MATHEMATICS (B.S.)

Program Objectives

Upon successful completion of this program, the graduate will:

1. be able to apply mathematical techniques to social, economic, and scientific problems;
2. understand the importance and power of mathematics in our rapidly changing technological age;
3. be prepared to pursue a graduate program in this or a related area; and
4. be well qualified for employment in any position requiring undergraduate training in mathematics.

In addition, students in the Teaching concentration will be prepared for certification to teach mathematics at the secondary level. Refer to the College of Education section of this *Catalog* regarding several teacher certification requirements associated with this degree program.

Program Requirements

CIP Code: 27.0101

Major

Code	Title	Hours
University Graduation Requirements		
General Education (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/)		36
Foundations of Learning		
GSD 101	Foundations of Learning	3
Upper division courses (42 hrs. distributed throughout Major/Supporting/Gen Ed/Free Electives categories)		
Major Requirements [i, ii, iii]		
Core Courses		
MAT 234	Calculus I	4
MAT 239	Linear Algebra and Matrices	3
MAT 244	Calculus II	4
MAT 254	Calculus III	4
MAT 301	Logic and Set Theory	3
MAT 308	Modern Algebra I	3
MAT 315	Introduction to Analysis	3
Concentrations		
Students must select one of the following Concentrations:		
General Mathematics		16-18
Mathematics Teaching		
Supporting Course Requirements		
Choose from one of the following:		3
CSC 170	Intro to Game Programming	
CSC 174	Introduction to Programming for Science & Engineering	
CSC 189	Computing Concepts and Programming	
CSC 190	Object- Oriented Programming I	
STA 270	Applied Statistics (Element 2) [G]	1
Free Electives		
Choose from 37-39 hours of free electives		37-39
Students planning to attend a graduate school in mathematics are strongly encouraged to select an in-depth study of a single foreign language as a part of their program.		
Total Hours		120

[1] Three hours count toward Element 2[G]

G Course also satisfies a General Education element. Hours are included within the 36 hours in General Education.

i. No course may be used to satisfy more than one lettered category below.

ii. At least five upper-division courses which satisfy the major requirements (including core and concentration) must be completed at EKU.

iii. Only courses completed with a grade of at least “C” will count toward the major requirements (including core and concentration).

Concentration

Code	Title	Hours
Concentration Courses		
MAT 408	Modern Algebra II	3
or MAT 415	Analysis	
MAT 498	Mathematics Capstone	1-3
Choose from one of the following:		3
MAT 408	Modern Algebra II	
MAT 415	Analysis	
Any MAT course numbered 505 or above [1]		
Choose from nine hours of the following:		9
CSC 320	Algorithms II	
Any MAT course numbered 300 or above [2]		
Any STA course numbered 300 or above [3]		
Total Hours		**16-18**

[1] MAT 507 Seminar in Mathematics:___ only with department approval

[2] Except for MAT 301 Logic and Set Theory, MAT 303 Mathematical Models and Applications, MAT 308 Modern Algebra I, MAT 315 Introduction to Analysis, and MAT 349 Applied Learning in Mathematics

[3] Except for STA 349 Applied Learning in Statistics . No more than six hours of STA courses may be used to fulfill this requirement.