MATHEMATICS, BACHELOR OF SCIENCE WITH A CONCENTRATION IN MATHEMATICS TEACHING (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

Summary Checklist for General Education

Code	Title	Hours
Element 1		
A: Written Communication (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-1/)		3
B: Written Communication (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-1/)		3
C: Oral Communication (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-1/)		3
Element 2		
Quantitative Reasoning (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-2/)		3
Element 3		
A: Arts (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-3/)		3
B: Humanities (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-3/)		3
Element 4		
Natural Sciences (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-4/)		6
Element 5		
A: Historical Science (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-5/)		3
B: Social Behavioral Science (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-5/)		3
Element 6		
Diversity of Perspectives Experiences (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-6/)		6
Total Hours		**36**

Students are expected to complete Elements 1 and 2 within their first 60 hours of college credit.

Major

Code	Title	Hours
University Graduation Requirements		
General Education		36
Student Success Seminar		
SCO 100M	Student Success Seminar in Mathematics and Statistics (waived for transfers with 30+ hrs.)	1
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		
Mathematics Teaching		55
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 [G, 3]	
Free Electives		
Choose from 1 hour of free electives		1
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

The student must meet the 2.75 GPA requirement listed in the College of Education section under The Office of Teacher Education Services.

Code	Title	Hours
Concentration Courses		
MAE 303	Math Models and Applications	3
MAE 305	Problem Solving and Technology	3
MAT 203	Geometry for 7-12 Teachers	3
Choose six hours from the following:		6
CSC 320	Algorithms II	3
any MAT course numbered 300 or above [1]		
any STA course numbered 300 or above [2]		
Professional Education Requirement		
EDC 300	Differentiation in Inclusive Classrooms	3
EDF 203	Educational Foundations	3
EDF 204	Emerging Instructional Technologies	2
EDF 219	Human Development and Learning	3
EDF 413	Assessment in Education	3
EMS 300W	Curriculum and Instructional Design	3
EMS 474	Disciplinary Literacy	3
EMS 490	Classroom & Behavior Management	3
ESE 550	Teaching Mathematics in the Secondary School	3
or MAE 550	Teaching Mathematics in the Secondary School	
SED 104	Special Education Introduction (Element 6) [G]	
Clinical Experiences:		
CED 100	Clinical I: Introduction to the Education Profession	0
CED 200	Clinical II: Understanding the Learner	0
CED 300	Clinical III: Curriculum and Instructional Design	0.5
CED 400	Clinical IV: Diagnosis and Prescription	0.5
CED 450	Clinical V: Practicing Teaching	1
CED 499	Clinical VI: The Professional Semester	9
Appropriate PRAXIS exams must be completed for each area of certification being recommended.		
Exit Requirements		
PRAXIS Examination		
Students in the Mathematics Teaching concentration must register for and take the PRAXIS exam which correlates to their degree program, per College of Education requirements. The PRAXIS exam must be taken prior to student teaching.		
Total Hours		**55**

1
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

2
Except for STA 349 Applied Learning in Statistics

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