

**CURRICULUM GUIDE**  
**Mathematics, B.S. (General Mathematics Concentration)**  
**2022-2023**

Website: [www.math.eku.edu](http://www.math.eku.edu)  
 Email Contact: [shane.redmond@eku.edu](mailto:shane.redmond@eku.edu)

Department of Mathematics and Statistics  
 521 Lancaster Ave.  
 313 Wallace Bldg.  
 Richmond, KY 40475  
 859-622-5942

The schedule below is an **EXAMPLE** of how you can arrange your class schedule. You are strongly advised to meet with the Chair of the Department Mathematics & Statistics or with your academic advisor prior to registration for appropriate placement in MAT courses.

	Fall Semester	Spring Semester	Course Number	Course Name
<b>Freshman Year</b>	SCO 100M	1	MAT 239	3
	CSC 170, 174, 189 <u>or</u> 190	3	MAT 244	4
	MAT 234	4	Gen. Ed. 1B (ENG 102)	3
	<sup>6</sup> STA 270 (fulfills Gen. Ed. 2)	4	Gen. Ed. 3A (Arts)	3
	Gen. Ed. 1A (ENG 101)	3	Gen. Ed. 4 (Nat. Sci.)	3
	<b>TOTAL</b>	<b>15</b>	<b>TOTAL</b>	<b>16</b>
<b>Sophomore Year</b>	MAT 254	4	MAT 315 (spring only)	3
	MAT 301	3	Gen. Ed. 3B (Humanities)	3
	Gen. Ed. 1C (Oral Comm)	3	Gen. Ed. 5B (Soc. & Behav. Sci.)	3
	Gen. Ed. 4 (Nat. Sci.)	3	Gen. Ed. 6 (Diversity)	3
	Gen. Ed. 6 (Diversity)	3	Free Elective	3
	<b>TOTAL</b>	<b>16</b>	<b>TOTAL</b>	<b>15</b>
<b>Junior Year</b>	MAT 308 (fall only)	3	♦ MAT 408 (spring only) (or	3
	♦ MAT 415 (fall only) (or MAT 505 or higher (restricted elective)	3	MAT 505 or higher (restricted elective)	3
	Gen. Ed. 5A (History)	3	‡ CSC 320, MAT, or STA 300+ level concentration elective	3
	Free Elective (upper division)	3	Free Elective (upper division)	3
	Free Elective	3	Free Elective (upper division)	3
	Free Elective	3	Free Elective	3
<b>TOTAL</b>	<b>15</b>	<b>TOTAL</b>	<b>15</b>	
<b>Senior Year</b>	‡ CSC 320, MAT, or STA 300+ level concentration elective	1-3	MAT 498 or 498W	3
	Free Elective (ACCT) (upper division)	3	‡ CSC 320, MAT, or STA 300+ level concentration elective	3
	Free Elective	3	Free Elective (upper division)	3
	Free Elective	3	Free Elective	3
	Free Elective	3	Free Elective	3
	Free Elective	3	Free Elective	3
<b>TOTAL</b>	<b>15</b>	<b>TOTAL</b>	<b>13</b>	
<b>TOTAL HOURS TO DEGREE COMPLETION</b>		<b>120</b>		

\* **PREREQUISITES:** Consult with your advisor and/or the University catalog regarding prerequisites for upper division MAT or STA courses.

**Upper division courses:** All students are required to have a minimum of 42 hrs. upper division (300-level or above) courses distributed throughout Major/Supporting/Gen Ed/Free Electives categories. If 300-level classes are taken for Gen. Ed., they can be used to fulfill the 42 hours instead of upper division free electives.

Refer to the University Catalog at <http://www.catalogs.eku.edu/> regarding University and General Education Requirements. All baccalaureate degree seeking students who enter the University are required to successfully complete one writing intensive course following completion of the ENG 102, ENG 105, or HON 102/103. Writing intensive courses are designated with the suffix "W" following the course prefix and number (e.g. HUM 300W).

**Applied Critical & Creative Thinking (ACCT) Requirement:** Mathematics majors can fulfill ACCT with any of the following: CED 499, a 349 Co-op experience in any subject area, a program-approved service-learning course, a program-approved undergraduate scholarly or creative activity, HON 420 with a program-approved thesis topic, a program-approved leadership experience, or a program-approved study abroad experience. (Credit hours may be incorporated into program requirements.)

Course Number	Course Name
<b>GENERAL EDUCATION &amp; UNIVERSITY REQUIREMENTS (37)</b>	
SCO 100M	Student Success Seminar in Mathematics and Statistics (1)
<b>CORE COURSE REQUIREMENTS (24)</b>	
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) (fall only)
MAT 315	Introduction to Analysis (3) (Spring only)
<b>GENERAL MATHEMATICS CONCENTRATION REQUIREMENTS (16-18)</b>	
MAT 408 <u>or</u> MAT 415	Modern Algebra II (3) Analysis (3)
MAT 498 <u>or</u> STA 498W	Mathematics Capstone (1) Statistics Capstone (3)
♦ <b>PLUS ONE (1) COURSE</b> selected from (restricted elective):	
♦ MAT 408	Modern Algebra II (3)
♦ MAT 415	Analysis (3)
<b>OR</b> any course numbered 505 or above (507 only with Departmental approval).	
‡ <b>PLUS NINE (9) HOURS</b> selected from (concentration elective):	
CSC 320	Introduction to Algorithms (3)
Any MAT course numbered 300 or above (except for 301, 303, 308, 315, and 349) or any STA course numbered 300 or above (except for 349). (No more than SIX (6) HOURS of STA courses may be used to fulfill this requirement.)	
<b>SUPPORTING COURSE REQUIREMENTS (4)</b>	
CSC 170 <u>or</u> CSC 174 <u>or</u> CSC 189 <u>or</u> CSC 190	Intro to Game Programming (3) Introduction to Programming for Science & Engineering (3) Computing Concepts & Programming (3) Object-Oriented Programming I (3)
<sup>6</sup> STA 270	Applied Statistics (4)
<b>FREE ELECTIVES (37-39)</b>	

♦ MAT 408 or 415 can be counted as either a concentration requirement or a restricted elective, but not both.

<sup>6</sup> Denotes that 3 credit hours from this course are/can be applied to fulfill a Gen. Ed. requirement.

- No course may be used to satisfy more than one lettered category above.
- At least five upper-division courses which satisfy the major requirements (including core and concentration must be completed at EKU.
- Only courses completed with a grade of at least "C" will count toward the major requirements (including core and concentration)