

#### Four Year Graduation Plan – Courses & Critical Benchmarks:

The following is a sample course of study. It is the Student's responsibility to ensure that all program requirements are met. This guide is not a substitute for academic advisement. For more information see the University Catalog at [umkc.edu/catalog](http://umkc.edu/catalog).

Your path to graduation may vary based on factors such as college credit you earned while in high school, transfer work from other institutions of higher learning, and placement in Mathematics. You are responsible for checking prerequisites to any courses. Critical Courses and minimum recommended grades (as noted below) provide feedback regarding major fit and help indicate likelihood of successful completion of chosen academic program and degree.

**Please Note:** Prior to Year 1 (may include summer) Students must have successfully passed (with a "C" or better) MATH 110: College Algebra and MATH 125: Trigonometry or MATH 120: Pre-calculus or have taken four (4) units of high school Mathematics including Trigonometry prior to enrolling in MATH 210: Calculus I.

<b>First Math Course:</b>	MATH 210 Calculus I	<b>Foreign Language Requirement:</b>	No	<b>General Elective Hours:</b>	None
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Critical Course	Course Subject, Number, & Title and Academic Plan Benchmarks <b>Bold = UMKC General Education Core requirement</b> ** Co-Requisite Enrollment Required	Min. Rec. Grade	Credit Hours	Notes
<b>Fall Semester Year 1: 17-18 hours</b>				
◆	MATH 210 Calculus I ( <b>Focus B</b> ) <sup>1</sup>	C	4	<sup>1</sup> Enrollment restricted. Must take <a href="#">ALEKS Math Placement Exam</a> or show prerequisite requirement has been met prior to enrolling.
	E&C-ENGR 130 Engineering Graphics		3	
	CHEM 211 + 211L General Chemistry I with Lab ( <b>Focus Elective</b> ) OR BIOL 102 + 102L Biology & Living with Lab ( <b>Focus Elective</b> )		4-5	
	** <b>DISC 100 Reasoning &amp; Values</b> (Speech & Writing) <a href="#">Click for options</a>		3	
	** <b>ANCHOR I Reasoning &amp; Values</b> <a href="#">Click for Options</a> (ANCH 150 Computing & Engineering in Society Recommended)		3	
Complete 16+ credit hours toward degree Earn minimum 2.00 term GPA				
<b>Spring Semester Year 1: 15 hours</b>				
◆	MATH 220 Calculus II	C	4	Register for <a href="#">UMKC Roo Career Network</a> .
	PHYSICS 240 Physics for Science & Engineering I		5	
	** <b>DISC 200 Culture &amp; Diversity</b> (Speech & Writing) <a href="#">Click for options</a>		3	
	** <b>ANCHOR II Culture &amp; Diversity</b> <a href="#">Click for Options</a>		3	
Complete 15 credit hours toward degree Earn minimum 2.00 term GPA				
<b>Summer Semester Year 1: 0-4 hours</b>				
◆	MATH 220 (if not already completed)	C	0-4	Recommend completing MATH 220 over the summer if tested into MATH 120 Pre-Calculus.
Complete at least 30 total credit hours toward degree Maintain a minimum 2.00 cumulative GPA				
<b>Fall Semester Year 2: 16 hours</b>				
◆	E&C-ENGR 216 Engineering Computation	C	4	Take the <a href="#">RooWriter Assessment</a> after completing DISC 200 and before reaching 90 credit hours.
◆	**E&C-ENGR 226 + 227 Logic Design with Lab	C	4	

	E&C-ENGR 241 Applied Engineering Analysis I		3	
	PHYSICS 250 Physics for Science & Engineering II		5	
Complete 16 credit hours toward degree Earn minimum 2.00 term GPA				
<b>Spring Semester Year 2: 17 hours</b>				
	**E&C-ENGR 228 + 229 Introduction to Computer Design with Lab	C	4	
	E&C-ENGR 250 Engineering Mechanics / Thermodynamics	C	3	
	**E&C-ENGR 276 + 277 Circuit Theory I with Lab		4	
	E&C-ENGR 341R Applied Engineering Analysis II		3	
	COMP-SCI 394R Applied Probability		3	
Complete 17 credit hours toward degree Earn minimum 2.00 term GPA				
<b>Summer Semester Year 2: 0 hours</b>				
Complete RooWriter Assessment Complete at least 60 credit hours toward degree Maintain minimum 2.00 cumulative GPA				Students may use the summer to ensure completion of 30 hours per academic year or to lighten fall and spring course loads.
<b>Fall Semester Year 3: 15 hours</b>				
	E&C-ENGR 334 Semiconductors Devices		3	
	**E&C-ENGR 376 + 377 Circuit Theory II with Lab		4	
	**E&C-ENGR 380 + 381 Signals & Systems with Lab		4	
	**E&C-ENGR 426 + 427 Microcomp Architecture & Interfacing with Lab		4	
Complete 15 credit hours toward degree Earn minimum 2.00 term GPA				
<b>Spring Semester Year 3: 17 hours</b>				
	E&C-ENGR 302 Electromagnetics Waves & Fields		4	Complete the <a href="#">Fundamentals of Engineering (FE) exam</a> .
	**E&C-ENGR 330 + 331 Electronic Circuits with Lab		4	
	E&C-ENGR 420 Advanced Engineering Computation		2	
	**E&C-ENGR 428R + 429 Embedded Systems with Lab		4	
	E&C-ENGR 466 Power Systems I		3	
Complete 17 credit hours toward degree Earn minimum 2.00 term GPA				
<b>Summer Semester Year 3: 0 hours</b>				
Complete at least 90 credit hours towards degree Maintain minimum 2.00 cumulative GPA				Students may use the summer to ensure completion of 30 hours per academic year or to lighten fall and spring course loads.
<b>Fall Semester Year 4: 14 hours</b>				
	E&C-ENGR 358 Intro Control Systems OR E&C-ENGR 474 Intro Communication Systems		3	Apply for graduation & complete your Final Degree Audit for Major and Minor (if applicable).
	E&C-ENGR 402 Senior Design I		2	
	E&C-ENGR 4XX Senior Area Elective <a href="#">Click for options</a>		3	Take the <a href="#">ETS Proficiency Profile (EPP)</a> exit exam.
	E&C-ENGR 4XX Senior Area Elective <a href="#">Click for options</a>		3	

	<b>Focus C Human Values &amp; Ethical Reasoning</b> <a href="#">Click for options</a> (HISTORY 101, 102, or POL-SCI 210 recommended) <sup>2</sup>		3	<sup>2</sup> HISTORY 101, 102, or POL-SCI 210 meet both Focus C & <a href="#">Missouri Constitution</a> Requirements.
Complete 14 credit hours toward degree Earn minimum 2.00 term GPA				
<b>Spring Semester Year 4: 16 hours</b>				
	E&C-ENGR 403 Senior Design II		1	Complete the CSEE Exit Survey two-weeks prior to graduation.
	E&C-ENGR 4XX Senior Area Elective <a href="#">Click for options</a>		3	
	E&C-ENGR, COMP-SCI, INFO-TECH or PHYSICS 4XX Elective		3	
	<b>Focus A Arts &amp; Humanities</b> <a href="#">Click for options</a>		3	
	<b>**ANCHOR III Civic &amp; Community Engagement</b> <a href="#">Click for options</a>		3	
	<b>**DISC 300 Civic &amp; Community Engagement</b>		3	
Earn minimum 2.00 term GPA				

Graduation Requirements Summary					
Total Hours	Total Hours at UMKC	Upper Lvl Hrs in Major at UMKC	Upper (300 / 400) Level Hours	Major GPA	UMKC GPA
128 minimum	30 minimum	12 minimum	36 minimum	2.00 minimum	2.00 minimum

### Other Information

A minimum of 30 hours must be earned at the University of Missouri-Kansas City, regardless of the number and level of hours earned at another institution. Undergraduate degree-seeking students are required to earn credit in at least 36 hours of coursework numbered 300 and above at UMKC. In the case of transfer credit, the coursework must be numbered as junior-senior level work by the transferring institution. Community-college transfer coursework cannot count towards the 36-hour requirement.

#### Non-course Requirements

RooWriter Assessment \_\_\_\_\_  
 Major Field Exam \_\_\_\_\_  
 ETS Proficiency Profile \_\_\_\_\_

### Policy

The University reserves the right to make changes in courses and course schedules. Students are expected to maintain a quality of achievement significantly above minimum UMKC standards for degree work. Individual student progress will be monitored throughout the program. Satisfactory progress is required of all students for retention in the program. Students are expected to maintain academic standards, perform satisfactorily in courses, refrain from academic dishonesty, comply with the established University requirements, and refrain from unethical or unprofessional behavior or behaviors that obstruct the training process or threaten the welfare of the student or others. Other circumstances involving student behavior will be addressed by the faculty on an individual basis.

### Advising Contact Information

School of Computing & Engineering  
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 5110 Rockhill Road  
 Kansas City MO 64110  
 816-235-2399  
[sce@umkc.edu](mailto:sce@umkc.edu)  
<http://sce.umkc.edu/>

## Career Opportunities

UMKC Career Services – [career.umkc.edu](http://career.umkc.edu) | 816-235-1636 | 2<sup>nd</sup> Floor, Atterbury Student Success Center  
O\*Net OnLine – [OnetOnline.org](http://OnetOnline.org) Learn about careers related to your major, income potential, and more.