

**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: Please Note:** Students who do not place into MATH 120 Pre-Calculus I or higher may have to complete preparatory math coursework, potentially adding 3 hours to the total hours required for the degree.

<b>First Math Course:</b>	MATH 120 Pre-Calculus OR MATH 210 Calculus I	<b>Foreign Language Requirement:</b>	None	<b>General Elective Hours:</b>	16
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Critical Course	Course Subject, Number, & Title and Academic Plan Benchmarks <b>Bold = UMKC General Education Core requirement</b> *Prerequisite May Be Required ** Co-Requisite Enrollment Required	Min. Rec. Grade	Credit Hours	Notes
<b>Fall Semester Year 1: 13-16 hours</b>				
◆	**CHEM 211 + 211L General Chemistry I with Lab ( <b>Focus B</b> )	C-	5	1 Enrollment restricted. Must take <a href="#">ALEKS Math Placement Exam</a> or show prerequisite requirement has been met prior to enrolling.
◆	MATH 120 Pre-Calculus <sup>1</sup> ( <b>Focus Elective</b> ) OR MATH 125 Trigonometry <sup>1</sup> OR MATH 210 Calculus I <sup>1</sup> ( <b>Focus Elective</b> )	C-	2-5	
	**Anchor I Reasoning & Values <a href="#">Click for options</a>		3	
	**DISC 100 Reasoning & Values (Speech & Writing) <a href="#">Click for options</a>		3	
Complete 13+ credit hours toward degree Earn minimum 2.00 term GPA				
<b>Spring Semester Year 1: 15 hours</b>				
◆	**CHEM 212R + 212LR General Chemistry II with Lab	C-	5	Register for <a href="#">UMKC Roo Career Network</a> .
◆	MATH 210 Calculus I OR MATH 220 Calculus II	C-	4	
	**Anchor II Culture & Diversity <a href="#">Click for options</a>		3	
	**DISC 200 Culture & Diversity (Speech & Writing) <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 210 Calculus I (if not previously completed)		4	Recommend completing MATH 220 over the summer if tested into MATH 100.
Complete MATH 220 Calculus II Complete Anchor I & DISC 100 Complete at least 30 total credit hours toward degree Maintain a minimum 2.00 cumulative GPA				
<b>Fall Semester Year 2: 15-16 hours</b>				
◆	CHEM 321 + 321L Organic Chemistry I with Lab		4	Take the <a href="#">RooWriter Assessment</a> after completing DISC 200. Must
	PHYSICS 240 Physics for Scientists & Engineers I		5	

	MATH 220 Calculus II OR MATH 250 Calculus III OR General Elective		3-4	complete prior to enrolling in a Writing Intensive (WI) course.
	<b>Focus A Arts &amp; Humanities</b> <a href="#">Click for options</a>		3	
Complete 15+ credit hours toward degree Earn minimum 2.00 term GPA				
<b>Spring Semester Year 2: 15-16 hours</b>				
◆	**CHEM 322R + 322L Organic Chemistry II with Lab		4	
	PHYSICS 250 Physics for Scientists & Engineers II		5	
	MATH 250 Calculus III OR General Elective		3-4	
	<b>Focus C Human Values &amp; Ethical Reasoning</b> <a href="#">Click for options</a>		3	
Complete 15+ credit hours toward degree Earn minimum 2.00 term GPA				
<b>Summer Semester Year 2: 0 hours</b>				
Complete Anchor II & DISC 200 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: 14 hours</b>				
	CHEM 431 Physical Chemistry I		3	
	CHEM 341 Analytical Chemistry I with Lab OR CHEM 341WI Analytical Chemistry I (Writing Intensive)		4	
	CHEM 410 Chemical Literature		1	
	<b>**Anchor III Civic &amp; Community Engagement</b> <a href="#">Click for options</a>		3	
	<b>**DISC 300 Civic &amp; Community Engagement (Speech &amp; Writing)</b> <a href="#">Click for options</a>		3	
Complete 13+ credit hours toward degree Earn minimum 2.00 term GPA				
<b>Spring Semester Year 3: 15 hours</b>				
	CHEM 432 Physical Chemistry II		3	<sup>3</sup> HISTORY 101, 102, & POL-SCI 210 fulfill both the <b>Focus C</b> & <a href="#">Missouri Constitution requirement</a> .
	CHEM 437WI Experimental Physical Chemistry I		3	
	CHEM 451R Inorganic Chemistry		3	
	CAS Social & Behavioral Sciences Requirement <a href="#">Click for options</a> (Complete <a href="#">MO Constitution requirement</a> <sup>3</sup> if not met above)		3	
	General Elective		3	
Complete 15 credit hours toward degree Earn minimum 2.00 term GPA				
<b>Summer Semester Year 3: 0 hours</b>				
Complete Anchor III & DISC 300 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: 14-15 hours</b>				
	CAS Social & Behavioral Sciences Requirement <a href="#">Click for options</a>		3	<a href="#">Apply for graduation</a> & complete your Final Degree Audit for Major and Minor (if applicable).
	CAS Arts & Humanities Requirement <a href="#">Click for options</a>		3	

	General Elective (CHEM 382 Inorganic & Organic Synthesis recommended) <sup>4</sup>		2-3	Take the <a href="#">ETS Proficiency Profile (EPP)</a> exit exam.  <sup>4</sup> An ACS-approved B.S. degree requires taking 2 credit hours of <a href="#">CHEM 382</a> , and 3 credit hours of <a href="#">CHEM 367</a> or <a href="#">LS-BIOC 341</a> or higher in addition to the major requirements.
	General Elective (CHEM 367 Bioorganic Chemistry recommended) <sup>4</sup>		3	
	General Elective		3	
Complete 14+ credit hours toward degree Earn minimum 2.00 term GPA				
<b>Spring Semester Year 4: 15 hours</b>				
	CHEM 442R Analytical Chemistry II Instrumental Analysis		3	Take <a href="#">Major Field (MF)</a> exit exam.
	Advanced Work Major Requirement - CHEM 4XX OR BIOLOGY 3XX/4XX OR PHYSICS 3XX/4XX OR MATH course higher than 250 with 220 as a prerequisite.		3	
	CAS Arts & Humanities Requirement <a href="#">Click for options</a>		3	
	General Elective		3	
	General Elective (if needed to reach 120 hours)		0-3	

### 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
120 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

College of Arts & Sciences Student Services  
 09 Scofield Hall (basement)  
<http://cas.umkc.edu/advising/default.asp>  
 816-235-1148

## 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) Enter the Classification of Instructional Programs (CIP) number of your major to learn about related careers.

Major CIP: 400501