

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.

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 hours to the total hours required for the degree.

First Math Course:	MATH 120 Pre-Calculus OR MATH 210 Calculus I	Foreign Language Requirement:	None	General Elective Hours:	24
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Critical Course	Course Subject, Number, & Title and Academic Plan Benchmarks Bold = UMKC General Education Core requirement *Prerequisite May Be Required ** Co-Requisite Enrollment Required	Min. Recom. Grade	Credit Hours	Notes
Fall Semester Year 1: 14-17hours				
◆	**CHEM 211 + 211L General Chemistry I with Lab (Focus B)	B	5	1 Enrollment restricted. Must take ALEKS Math Placement Exam or show prerequisite requirement has been met prior to enrolling.
◆	MATH 120 Pre-Calculus ¹ (Focus Elective) OR MATH 125 Trigonometry ¹ OR MATH 210 Calculus I ¹ (Focus Elective)	B	2-5	
	BIOLOGY 115 First Year Seminar (Recommended elective)		1	A grade of B (3.00) or higher in Chemistry & Mathematics courses is a realistic benchmark for students to successfully complete a chemistry degree. A grade of C- or higher is required to satisfy major requirements.
	**Anchor I Reasoning & Values Click for options		3	
	**DISC 100 Reasoning & Values (Speech & Writing) Click for options		3	
Complete 14+ credit hours toward degree Maintain minimum 2.00 UM cumulative GPA and UM Chemistry GPA				
Spring Semester Year 1: 16 hours				
◆	**CHEM 212R + 212LR General Chemistry II with Lab	B	5	Register for UMKC Handshake career network .
◆	MATH 210 Calculus I OR MATH 220 Calculus II	B	4	
	BIOL 250 Careers in Biology/Chemistry I (Recommended)		1	Students who are planning to complete their degree in 4-years should aim to average at least 30 credit hours per academic year (Fall, Spring, Summer) to stay on track.
	**Anchor II Culture & Diversity Click for options		3	
	**DISC 200 Culture & Diversity (Speech & Writing) Click for options		3	
Complete 16 credit hours toward degree Maintain minimum 2.00 UM cumulative GPA and UM Chemistry GPA				
Summer Semester Year 1: 0-4 hours				
◆	MATH 210 Calculus I (if not previously completed)	B	4	
Complete MATH 220 Calculus II Complete Anchor I & DISC 100 Complete at least 30 total credit hours toward degree Maintain minimum 2.00 UM cumulative GPA and UM Chemistry GPA				

Fall Semester Year 2: 15-16 hours				
◆	CHEM 321 + 321L Organic Chemistry I with Lab	B	4	Take the RooWriter Assessment after completing DISC 200. Must complete prior to enrolling in a Writing Intensive (WI) course.
◆	PHYSICS 240 Physics for Scientists & Engineers I	B	5	
	MATH 220 Calculus II OR MATH 250 Calculus III OR General Elective		3-4	
	Focus A Arts & Humanities Click for options		3	
Complete 15+ credit hours toward degree Maintain minimum 2.00 UM cumulative GPA and UM Chemistry GPA				
Spring Semester Year 2: 15-16 hours				
◆	**CHEM 322R + 322L Organic Chemistry II with Lab	B	4	² HISTORY 101, 102, & POL-SCI 210 fulfill both the Focus C & Missouri Constitution requirement .
◆	PHYSICS 250 Physics for Scientists & Engineers II	B	5	
	MATH 250 Calculus III OR General Elective		3-4	
	Focus C Human Values & Ethical Reasoning HISTORY 101, 102, or POL-SCI 210 recommended? Click for options		3	
Complete 15+ credit hours toward degree Maintain minimum 2.00 UM cumulative GPA and UM Chemistry GPA				
Summer Semester Year 2: 0 hours				
Complete Anchor II & DISC 200 Complete RooWriter Assessment Complete at least 60 credit hours toward degree Maintain minimum 2.00 UM cumulative GPA and UM Chemistry GPA				Students may use the summer to ensure completion of 30 hours per academic year or to lighten fall and spring course loads.
Fall Semester Year 3: 14 hours				
	CHEM 431 Physical Chemistry I		3	
	CHEM 341WI Analytical Chemistry I (Writing Intensive)		4	
	CHEM 410 Chemical Literature		1	
	**Anchor III Civic & Community Engagement Click for options		3	
	**DISC 300 Civic & Community Engagement (Speech & Writing) Click for options		3	
Complete 14 credit hours toward degree Maintain minimum 2.00 UM cumulative GPA and UM Chemistry GPA				
Spring Semester Year 3: 15 hours				
	CHEM 432 Physical Chemistry II		3	
	CHEM 437WI Experimental Physical Chemistry I		3	
	CHEM 451R Inorganic Chemistry		3	
	General Elective (Complete MO Constitution requirement ² if not met above)		3	
	General Elective		3	
Complete 15 credit hours toward degree Maintain minimum 2.00 UM cumulative GPA and UM Chemistry GPA				
Summer Semester Year 3: 0 hours				
Complete Anchor III & DISC 300 Complete at least 90 credit hours towards degree Maintain minimum 2.00 UM cumulative GPA and UM Chemistry GPA				Students may use the summer to ensure completion of 30 hours per academic year or to lighten fall and spring course loads.

Fall Semester Year 4: 14-15 hours				
	CHEM 382 Inorganic & Organic Synthesis		2	Apply for graduation & complete your Final Degree Audit for Major and Minor (if applicable). Take the HElghten exit exam. ³ BIOLOGY 441 has a pre-requisite of BIOLOGY 202
	CHEM 367 Bioorganic Chemistry OR BIOLOGY 442 Biochemistry ³		3	
	BIOLOGY 397 Experience Based Education OR General Elective (300/400 level)		3	
	General Elective		3	
	General Elective		3	
Complete 14+ credit hours toward degree Maintain minimum 2.00 UM cumulative GPA and UM Chemistry GPA				

Spring Semester Year 4: 15-17 hours				
	CHEM 442R Analytical Chemistry II Instrumental Analysis		3	
	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	
	General Elective		3	
	General Elective		3	
	General Elective		3	
	General Elective (if needed to reach 120 hours)		2	
Earn minimum 2.00 UM cumulative GPA and UM Chemistry GPA Complete a minimum of 120 total hours toward degree				

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

Missouri Higher Education Civics Achievement Examination _____
 RooWriter Assessment _____
 HElghten exit exam _____

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 Biological Sciences Academic Support
SBS-undergrad@umkc.edu
<https://sbc.umkc.edu/current-students/academic-advising.html>
816-235-2580

Career Opportunities

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