

Four-Year Graduation Plan - Courses and 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 you may go to our website at www.sce.umkc.edu or the catalog at <http://www.umkc.edu/catalog>.

Your path to graduation may vary slightly 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.

First Math	MATH 210: Calculus I & STAT 235: Statistics	Foreign Language Requirement	No	Free Elective Hours	6-8 hours
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Please note - Prior to Year 1 (may include summer)
 Students must have successfully passed (with a "C" or better) Pre-calculus or a combination of a College Algebra and Trigonometry or have taken four (4) units of high school mathematics including trigonometry prior to enrolling in Math 210.

Critical Course or Benchmark	Course Subject, Number, and Title and Academic Plan Benchmarks Bold = UMKC General Education Core Requirement *Prerequisite May Be Required **Co-Requisite Enrollment Required	Min Recom Grade	Credit Hours (CH)	Notes
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Fall Semester Year 1: 13 hours

	**Anchor I: Reasoning and Values¹ - ANCH 150 recommended		3	¹ See note under "Policy" section on last page.
	**DISC 100: Reasoning and Values¹ (Speech and Writing)		3	
◆	MATH 210: Calculus I (Focus B) ² (Complete MATH 120: Precalculus only if not placed in MATH 210)	C	4	² Students must have successfully passed the Math Placement test called ALEKS before they will be allowed to enroll in Math 210 & STAT 235. Test costs \$22.50 to enroll. http://www.umkc.edu/mathplacement/
	STAT 235: Elementary Statistics ²	C	3	
◆	Complete 13 term credit hours. Earn minimum 2.000 term UM GPA and minimum 2.000 Major GPA.			

Spring Semester Year 1: 16 hours

	**Anchor II: Culture and Diversity¹ www.umkc.edu/core/courses/		3	RooWriter Assessment Test must be taken following the successful completion of DISC 200. https://www.umkc.edu/RooWriter/logon.aspx
	**DISC 200: Culture and Diversity¹ (Speech and Writing)		3	
◆	COMP-SCI 101: Problem Solving And Programming I	C	3	
◆	COMP-SCI 191: Discrete Structures I	C	3	
◆	MATH 220: Calculus II ² (Complete MATH 210: Calculus I only if not placed in MATH 220)	C	4	
◆	Complete 16 term credit hours. Earn minimum 2.000 term UM GPA and minimum 2.000 Major GPA.			

Summer Semester Year 2: 0 hours if all previous courses completed

◆	Complete MATH 210. Complete 29 cumulative credit hours. Earn minimum 2.000 term UM GPA and minimum 2.000 Major GPA. Complete Anchor I and DISC 100.			
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Fall Semester Year 2: 15 hours

◆	**COMP-SCI 201R: Problem Solving And Programming II	C	3
◆	**COMP-SCI 201L: Problem Solving and Programming II Lab	C	1
◆	COMP-SCI 291: Discrete Structures II	C	3
	MATH 300: Linear Algebra I		3
	Focus Elective ¹ PHYSICS 240: Physics for Science & Engineering I	C	5

◆ Complete 15 term credit hours.
 Earn minimum 2.000 term UM GPA and minimum 2.000 Major GPA.
 Complete Anchor II and DISC 200.
 Complete MATH 220.
 Complete COMP-SCI 201R, COMP-SCI 201L, and COMP-SCI 291 before COMP-SCI 303.

Spring Semester Year 2: 14 hours

◆	COMP-SCI 281R: Introduction To Computer Architecture and Organization	C	3
	COMP-SCI 303: Data Structures	C	3
◆	PHYSICS 250: Physics For Scientists and Engineers II	C	5
	Focus C: Human Actions, Values, and Ethics ^{1,3} and Constitution		3

³ Constitution Requirement may be satisfied by taking either HIST 101/102/ or POLSC 210 but only one is needed.

The RooWriter Test must be taken before enrolling in ANCH 308 and DISC 300. Test cost \$15. <https://net3.umkc.edu/intapps/RooWriter/logon.aspx>

◆ Earn minimum 2.000 term UM GPA and minimum 2.000 Major GPA.

Summer Semester Year 3: 0 hours if all previous courses completed

◆ Complete minimum 14 term credit hours.
 Complete 61 cumulative credit hours.
 Complete STAT 235.
 Complete COMP-SCI 281R and COMP-SCI 303
 Complete RooWriter before enrolling in DISC 300.

Fall Semester Year 3: 15 hours

	Focus A: Arts and Humanities ¹ http://www.umkc.edu/core/courses/		3
	**Anchor III: Civic and Community Engagement ¹ ANCH 308: Ethical Issues in Computing & Engineering Required	C	3
	COMP-SCI 394R: Applied Probability	C	3
	COMP-SCI 431: Introduction To Operating Systems	C	3
	**DISC 300: Civic and Community Engagement ¹ (Speech and Writing)		3

◆ Complete 15 term credit hours.
 Earn minimum 2.000 term UM GPA and minimum 2.000 Major GPA.

Spring Semester Year 3: 17 hours


	COMP-SCI 404: Introduction to Algorithms and Complexity	C	3
	COMP-SCI 371 or COMP-SCI 421A: Database elective or Networking	C	3

⁵ Three of the four CSEE senior electives can be 3XX or 4XX level and from either Comp Sci,


UMKC Major Map: Bachelor of Science in Computer Science

First-Time College Students


Catalog Year: 2016 - 2017

	elective			E&C ENGR or Info Tech courses. ⁶ Students may take either BIOLOGY 102/102L, BIOLOGY 108/108L, BIOLOGY 109/109L or CHEM 211/211L (but only one is needed) any semester prior to graduation - including summer.
	COMP-SCI/E&C-ENGR/INFO-TEC 300<490: CSEE/IT Elective ⁵	C	3	
	Life Science Elective		5	
	Free Elective		3	
	Complete 17 term credit hours. Complete 91 cumulative credit hours. Earn minimum 2.000 cumulative UM GPA and Major GPA.			

Fall Semester Year 4: 15 hours

	COMP-SCI 420 or COMP-SCI 421A: Networking elective or COMP-SCI 371 or COMP-SCI 470: Database elective ³	C	3	Apply for graduation. All UMKC students, except those with a previous bachelor's degree, must take the ETS-PP or MAPP Assessment Test and CS/IT majors must take the Major Field Exam in the semester before applying for graduation. For details go to: www.umkc.edu/testingcenter .
	COMP-SCI 441: Programming Languages: Design And Implementation	C	3	
	COMP-SCI 449: Foundations of Software Engineering	C	3	
	COMP-SCI/E&C-ENGR/INFO-TEC 300<490: CSEE/IT Elective ³	C	3	
	Free Elective		3	
	Complete 15 term credit hours. Earn minimum 2.000 cumulative UM GPA and Major GPA. Must take COMP-SCI 449 and COMP-SCI 451R consecutively.			

Spring Semester Year 4: 15 hours

	COMP-SCI 451R: Software Engineering Capstone	C	3	Upon completion of 75 credit hours, all students must take an Assessment Test called EPP and a Major Field Exam in order to graduate. Details can be found at: http://www.umkc.edu/testingservices/ Students must also take a CSEE Exit Survey two weeks before graduating.
	COMP-SCI 461 or COMP-SCI 465R: Introduction to Artificial Intelligence or Introduction to Statistical Learning	C	3	
	COMP-SCI/E&C-ENGR/INFO-TEC 300<490: CSEE/IT Elective ³	C	3	
	COMP-SCI/E&C-ENGR/INFO-TEC 400<490: CSEE/IT Elective ³		3	
	Free Elective		3	
	Complete 15 term credit hours. Complete 120 cumulative credit hours. Earn minimum 2.000 cumulative UM GPA and Major GPA.			

Graduation Requirements Summary

Total Degree Credit Hours	Upper Level (3xx/4xx) Hour Requirement	Minimum Hour / Residency Req.
120	36	30
Major GPA	UM GPA	Other GPA Requirements
2.00	2.00	Other

Policy

¹All students must take or establish credit for the following General Education Course Requirements: DISC 100, DISC 200, DISC 300, Anchor 1, Anchor 2, Anchor 3, Focus A, Focus B, Focus C, and Focus Elective for a total of 30 credit hours of General Education. www.umkc.edu/core/courses/

The School reserves the right to make changes in courses, degree requirements and course schedules without notice.

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 and teacher education timetables and 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.

Academic and Career Advising

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UMKC Career Services Resources: <http://www.career.umkc.edu/> O*Net OnLine: <http://www.onetonline.org/>