

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>. **Please note this Program of Study is pending final approval of the Anchor III course.**

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
------------	---	------------------------------	----	---------------------	-----------

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
------------------------------	---	-----------------	-------------------	-------


Fall Semester Year 1: 16-17 hours

	**Anchor I: Reasoning and Values¹ - SCE 101 preferred		3	ALEKS Math Placement Exam Required²
	**DISC 100: Reasoning and Values¹ (Speech and Writing)		3	
	General Elective*		3	
◆	MATH 210: Calculus I ² or MATH 120: Precalculus ²	C	4	
	STAT 235: Elementary Statistics ²	C	5	
	STAT 235: Elementary Statistics ²	C	3	
◆	Complete 16 term credit hours Earn minimum 2.000 term UM GPA Earn minimum 2.000 Major GPA			




Spring Semester Year 1: 16 hours


	**Anchor II: Culture and Diversity¹		3	Roewriter Assessment³
	**DISC 200: Culture and Diversity¹		3	
◆	COMP-SCI 101: Problem Solving & Program I	C	3	
◆	COMP-SCI 191: Discrete Structures I	C	3	
◆	MATH 210: Calculus I ² or MATH 220: Calculus II	C	4	
◆	Complete 16 term credit hours Earn minimum 2.000 cumulative UM GPA Earn minimum 2.000 Major GPA			

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



 <p>Complete MATH 210 Complete 32 cumulative credit hours Earn minimum 2.000 cumulative UM GPA Earn minimum 2.000 Major GPA Complete Anchor I and DISC 100</p>
--


Fall Semester Year 2: 15 hours

	COMP-SCI 201R: Problem Solving & Program II	C	3	Constitution course required for degree PHYSICS 240 required for degree
	COMP-SCI 201L: Problem Solving & Program II Lab	C	1	
	COMP-SCI 291: Discrete Structures II	C	3	
	Focus C: Human Actions, Values, and Ethics¹ and Constitution ⁴		3	
	Focus Elective: PHYS 240: Physics for Scientists & Engineering I¹	C	5	


 <p>Complete 15 term credit hours Earn minimum 2.000 cumulative UM GPA Earn 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-</p>

Spring Semester Year 2: 14 hours

	COMP-SCI 281R: Computer Architecture & Organization	C	3
	COMP-SCI 303: Data Structures	C	3
	MATH 300: Linear Algebra	C	3
	PHYS 250: Physics for Scientists and Engineers II	C	5

 <p>Earn minimum 2.000 cumulative UM GPA Earn minimum 2.000 Major GPA</p>
--


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

 <p>Complete minimum 14 term credit hours Complete 61 cumulative credit hours Complete STAT 235 Complete COMP-SCI 281R and COMP-SCI 303 Complete RooWriter³ before enrolling in Anchor III: COMP-SCI 304WI.</p>
--

Fall Semester Year 3: 15 hours


	COMP-SCI 282: Assembly Language Programming	C	3	COMP-SCI 304WI required for degree (pending approval as Anchor III)
	COMP-SCI 394R: Applied Probability	C	3	
	COMP-SCI 431: Introduction to Operating Systems	C	3	
	**Anchor III: Civic and Community Engagement¹ COMP-SCI 304WI: Ethics and Professionalism	C	3	

**DISC 300: Civic and Community Engagement ¹			3
---	--	--	---

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


Spring Semester Year 3: 12-14 hours

COMP-SCI/E&C-ENGR/INFO-TECH 300<490: CSEE/IT Elective ^{5*}	C	3
COMP-SCI 404: Introduction to Algorithms & Complexity	C	3
COMP-SCI 420 or COMP-SCI 421A: Networking elective or COMP-SCI 371 or COMP-SCI 470: Database elective ⁶	C	3
Focus B: Scientific Reasoning and Quantitative Analysis¹ BIOL 108/108L, BIOL 109/109L or CHEM 211/211L recommended		3-5
General Elective*		3

 Complete 15 term credit hours
Complete 91 cumulative credit hours
Earn minimum 2.000 cumulative UM GPA and Major GPA


Fall Semester Year 4: 12 hours

COMP-SCI/E&C-ENGR/INFO-TECH 300<490, CSEE/IT Elective ^{5*}	C	3	Apply for graduation
COMP-SCI 420 or COMP-SCI 421A: Networking elective or COMP-SCI 371 or COMP-SCI 470: Database elective ⁶	C	3	
COMP-SCI 441: Programming Language Design & Implementation	C	3	
COMP-SCI 449: Fundamentals of Software Engineering	C	3	

 Complete 12 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

COMP-SCI/E&C-ENGR/INFO-TECH 300<490: CSEE/IT Elective ^{5*}	C	3	UMKC Exit Survey CSEE Degree Completion Survey Assessment Test & Major Field Exam⁷
COMP-SCI/E&C-ENGR/INFO-TECH 400<490: CSEE/IT Elective ^{5*}	C	3	
COMP-SCI 451R: Software Engineering	C	3	
Focus A: Arts and Humanities¹ Click for options		3	
General Elective ^{8*}		0-2	

 Complete 12 term credit hours
Complete 120 cumulative credit hours
Earn minimum 2.000 cumulative UM GPA and Major GPA

Graduation Requirements Summary

Total Hours (120 minimum)	Total Hours at UMKC (30 hours min)	Major GPA	UMKC GPA
120	30	2.00	2.00

Other Information

Non-course requirements	Met
--------------------------------	------------

RooWriter Assessment Test
 ETS-PP or Measure of Academic Proficiency and Progress (MAPP)
 Major Field Exam
 UMKC Senior Exit Survey
 CSEE Degree Completion Survey

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

² Enrollment is restricted. Students must pass the online ALEKS Math Placement Exam prior to enrolling.

³ RooWriter Assessment Test must be taken following the successful completion of DISC 200, but must be taken the semester before enrolling in COMP-SCI 304WI. <https://www.umkc.edu/RooWriter/logon.aspx>

⁴ Constitution requirement may be satisfied by taking either HISTORY 101 or HISTORY 102 or POL-SCI 210

⁵ Four CSEE/IT electives are required. Three can be 300 level or above, but the remaining elective must be 400 level or above. Students may choose between courses from COMP-SCI, E&C-ENGR and INFO-TECH. Students may replace one CSEE/IT elective with three credit hours of Internship.

⁶ All BS CS majors must take one Networking elective and one Database Elective.

⁷ 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

⁸ Student should take one to five additional credit hours of General Elective courses if cumulative credit hours at the end of Spring Semester Year 3 are less than 96.

*Students opting to take the Bioinformatics emphasis, Computer & Telecommunications Networking or Software Engineering concentration should meet with an advisor for the corresponding list of courses before enrolling in any Focus B, Focus Elective, or elective coursework.

Policy

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 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

Coretta Carter-Muhammad, Computer Science and Information Technology
 816-235-2699
carterlc@umkc.edu
<http://sce.umkc.edu/contact/index.cfm>

Academic Advisor: _____ **Date** _____

Faculty Advisor: _____ **Date** _____

Career Opportunities

UMKC Career Services Resources: <http://www.career.umkc.edu/?q=node/87>
 O*Net OnLine: <http://www.onetonline.org/find/>