Major Map: BS Computer Science

Catalog Year: 2013-2014

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 please go to www.sce.umkc.edu or the UMKC catalog at 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.

Course Subject and Title	Hrs.	Upper Division	Transfer Course	Mini Grade if Required	Date Completed	Final Grade	Pre-req met	Additional Critical Tracking Notes
Fall Semester Year 1: _16__ hours								
CS 101 Problem Solving and Programming I	3	☐	☐	C			☐	
CS 111 Intro to Computer Science	3	☐	☐	C			☐	
CS 191 Discrete Structures I	3	☐	☐	C			☐	
ENGL 110 Introduction to Academic Prose[1]	3	☐	☐				☐	
MATH 210 Calculus I[2]	4	☐	☐	C			☐	
Spring Semester Year 1: _14__ hours								
CS 201 Problem Solving and Programming II	3	☐	☐	C			☐	
CS 201L Problem Solving & Prog II Lab	1	☐	☐	C			☐	
CS 291 Discrete Structures II	3	☐	☐	C			☐	
MATH 220 Calculus II	4	☐	☐	C			☐	
Constitution Requirement[3]	3	☐	☐				☐	
Summer Semester Year 1								
May use summer semesters to lighten fall and winter course loads.								
Fall Semester Year 2: _17__hours								
CS 281R, Intro Comp Arch & Organization	3	☐	☐	C			☐	Complete WEPT[1]
COM ST 110 Fund Effective Speaking & Listening	3	☐	☐	C			☐	
ENGL 225 Inter Academic Prose[1]	3	☐	☐	C			☐	
PHYS 240 Physics for Sci & Engineers	5	☐	☐	C			☐	
STAT 235 Statistics[2]	3	☐	☐	C			☐	
Spring Semester Year 2: _14__hours								
CS 282 Assembler Language Programming	3	☐	☐	C			☐	
CS303, Data Structures	3	☐	☐	C			☐	
MATH 300, Linear Algebra[2]	3	☐	☐	C			☐	
PHYS 250 Physics for Science & Engineers	5	☐	☐	C			☐	
Fall Semester Year: _17__ hours								
CS 304WI Ethics and Professionalism[1]	3	☐	☐	C			☐	
CS 394R Applied Probability	3	☐	☐	C			☐	
COMP-SCI/E&C ENGR/INFO TECH 300<490, CSEE Elective[4]	3	☐	☐	C			☐	
Humanities and Fine Arts Elective[5]	3	☐	☐				☐	
Life Science Elective[6]	5	☐	☐				☐	
Spring Semester Year 3: _15__hours								
CS 404 Algorithm Analysis	3	☐	☐	C			☐	
CS 431 Intro to Operating Systems	3	☐	☐	C			☐	
CS 441 Prog Lang Dsgn & Implement	3	☐	☐	C			☐	
Social & Behavioral Science Elective[7]	3	☐	☐	C			☐	
General Elective	3	☐	☐	C			☐	
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[8]	3	☐	☐	C			☐	Apply for graduation.
CS 449 Fundamentals of Software Engr	3	☐	☐	C			☐	

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COMP-SCI/E&C ENGR/INFO TECH 300<490, CSEE Elective[4]	3	☐	☐	C			☐	
Social Science Elective[7]	3	☐	☐				☐	
COMP-SCI/E&C ENGR/INFO TECH 300<490, CSEE Elective[4]	3	☐	☐				☐	
Spring Semester Year 4: _13__ hours								
COMP-SCI 420 or COMP-SCI 421A, Networking elective or COMP-SCI 371 or COMP-SCI 470, Database elective[8]	3	☐	☐	C			☐	
CS 451R Software Engineering	3	☐	☐	C			☐	
COMP-SCI/E&C ENGR/INFO TECH 400<490, CSEE Elective[4]	3	☐	☐	C			☐	
General Elective	3	☐	☐				☐	

[1]ENGL 110 requirements may be waived if student has an ACT English score of 30; or SAT verbal score of 630; or AP English Lang/Com score of 4.2. Students may take ENGL 225 during the summer to offset a regular semester course load. WEPT or Written English Proficiency Test should be taken following the successful completion of ENGL 225, but must be taken the semester before enrolling in CS 304WI.

[2] 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. Note: Enrollment is restricted. Students must pass the online Math Entrance Test prior to enrolling in Math 21, STAT 235 & Math 300. See http://cas.umkc.edu/math/ for more details.

[3]Constitution requirement may be satisfied by taking either HIST 101 or 102 or 306 or POLSC 210

[4]Computer Science electives are satisfied by taking a total of three electives. One can be a 300 or 400 level course, but the other two must be 400-level. Students may select from either the Software Engineering concentration (CS 456, CS 457, CS 458 or CS 461) Computer Networking concentration (CS 411, CS 420, CS 421, or CS 423) or Bioinformatics (BIOL 108/108L, 109/109L, 202, 206, Chem 211/211L, CHEM 212/212L, CS 371, CS 490MB, CS 490BI, or CS 470 and one junior/senior level course that is advisor approved in biology, chemistry, physics, life science, or other similar discipline.)

[5]One Humanities and Fine Arts (HFA) elective is required from the following list of courses: Art, Art History, Conservatory or Theater

[6]Students must take one Life Science course selected from: Biology 102 & 102L or 108& 108L or 109 & 109L or Chemistry 211 & 211L, Chemistry 212 & 212L or any course from Anatomy, Biochemistry, Cell Biology, Microbiology, Molecular Biology, Biochemistry, or Physiology

[7]Social and Behavioral Science electives can be selected from: Criminal Justice, Geography, Economics, History, Political Science, Psychology, or Sociology

[8]Need to take one course from either CS 420 or CS 421 and additionally one course from either CS 470 or CS 371

Qualified students with a 3.0 gpa or above might be able to participate in the Fast-Track Program taking graduate level courses-see graduate advisor.

Non-course requirements	**Met**
Written English Proficiency Test (WEPT)	☐
ETS Proficiency Profile (EPP) exam	☐
Major Field Exam (MFE)	☐
Major Academic Proficiency and Progress (MAPP)	☐
Degree program completion survey	☐

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. The faculty on an individual basis will address other circumstances involving student behavior.

Graduation Requirements Summary:

Total Hours (120 minimum)	Totals Hrs at UMKC (30 hours minimum)	Major GPA (2.0 Minimum)	UMKC GPA

Academic Advisor: _____ **Date:** _____

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