

## Major Map: BS Computer Science

Catalog Year: 2011-2012

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. Please note that these degree requirements may change and are in the review process. Please check with your advisor for more information.

*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	Minimum Grade if Required	Date Completed	Final Grade	Pre-requisites met	Additional Critical Tracking Notes
<b>Fall Semester Year 1: 16 hours</b>								
CS 101 Problem Solving and Programming	3	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	
CS 191 Discrete Structures I	3	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	
ENGL 110 Introduction to Academic Prose <sup>1</sup>	3	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
MATH 210 Calculus I	4	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	
Constitution Requirement <sup>2</sup>	3	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
<b>Spring Semester Year 1: 16 hours</b>								
CS 201 Problem Solving and Programming II	3	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	
CS 291 Discrete Structures II	3	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	
MATH 220 Calculus II	4	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	
COM ST 110 Fund Effective Speaking & Listening	3	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
General Elective	3	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
<b>Summer Semester Year 1</b>								
May use summer semester to lighten fall and winter course loads.								
<b>Fall Semester Year 2: 15 hours</b>								
CS 281 Intro to Computer Architecture	3	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	Complete WEPT
MATH 250 Calculus III	4	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	
ENGL 225 Inter Academic Prose	3	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
PHYS 240 Physics for Sci & Engineers	5	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	
<b>Spring Semester Year 2: 15 hours</b>								
CS 282 Assembler Language Programming	3	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	
STAT 235 Statistics	3	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	
PHYS 250 Physics for Science & Engineers	5	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	
Life Science Elective <sup>3</sup>	4	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	
WEPT <sup>4</sup>		<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
<b>Summer Semester Year 2: ___ hours</b>								
		<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
<b>Fall Semester Year: 15 hours</b>								
CS352 Data Structures and Algorithms	3	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	
CS 393 Numerical Analysis	3	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	
Social & Behavioral Science Elective <sup>5</sup>	3	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
General Elective	3	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
Humanities and Fine Arts Elective <sup>6</sup>	3	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
<b>Spring Semester Year 3: 15 hours</b>								
CS 304WI Ethics and Professionalism <sup>4</sup>	3	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	
CS 394R Applied Probability	3	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	
CS 441 Prog Lang Dsgn & Implement	3	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	
CS 451 Software Architecture	3	<input type="checkbox"/>	<input type="checkbox"/>	C			<input type="checkbox"/>	
General Elective	3	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	

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Summer Semester Year 3: ___ hours									
			<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
Fall Semester Year 4: 15 hours									
CS420 or CS421 or CS 470 or CS 471 <sup>7</sup>	3	<input type="checkbox"/>	<input type="checkbox"/>	C				<input type="checkbox"/>	Apply for graduation.
CS 431 Intro to Operating Systems	3	<input type="checkbox"/>	<input type="checkbox"/>	C				<input type="checkbox"/>	
CS4XX Computer Science Elective <sup>8</sup>	3	<input type="checkbox"/>	<input type="checkbox"/>	C				<input type="checkbox"/>	
Social Science Elective <sup>5</sup>	3	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	
General Elective	3	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	
Spring Semester Year 4: 14 hours									
CS420 or CS421 or CS 470 or CS 471 <sup>7</sup>	3	<input type="checkbox"/>	<input type="checkbox"/>	C				<input type="checkbox"/>	
CS 481 Adv. Computer Architecture	3	<input type="checkbox"/>	<input type="checkbox"/>	C				<input type="checkbox"/>	
CS4XX Computer Science Elective <sup>8</sup>	3	<input type="checkbox"/>	<input type="checkbox"/>	C				<input type="checkbox"/>	
General Elective	4	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	

<sup>1</sup> Requirement may be waived if students have an ACT English score of 30; or SAT verbal score of 630; or AP English Lang/Com score of 4.2

<sup>2</sup> Constitution requirement may be satisfied by taking either HIST 101 or 102 or 306 or POLSC 210

<sup>3</sup> Students must take one Life Science course selected from: Biology 108& 108L, Biology 109 & 109L, Chemistry 211 & 211L, Chemistry 212 & 212L or Anatomy, Biochemistry, Cell Biology, Microbiology, Molecular Biology, Biochemistry, or Physiology

<sup>4</sup> WEPT or Written English Proficiency Test must be taken before enrolling in CS 304WI

<sup>5</sup> Social and Behavioral Science electives can be selected from: Criminal Justice, Geography, Economics, History, Political Science, Psychology, or Sociology

<sup>6</sup> One Humanities and Fine Arts (HFA) elective is required from the following list of courses: Art, Art History, Conservatory or Theater

<sup>7</sup> Students need to take two course groups either CS 420 and CS 421 or CS 470 and 471, but only two courses are required.

<sup>8</sup> Computer Science electives are satisfied by taking any CS 400 < 497 courses not shown as a required course above. Students may select courses 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 490MB, CS 490BI, CS 470, or CS 471 and one junior/senior level course that is advisor approved in biology, chemistry, physics, life science, or other similar discipline.)

**Non-course requirements**

- Written English Proficiency Test (WEPT)
- ETS Proficiency Profile (EPP) exam
- Major Field Assessment Test

**Met**

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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

All students completing an undergraduate education degree must meet the following conditions in order to graduate and be recommended for graduation or certification:

- [list of requirements as stated in the catalog pertaining to minimum GPA, capstone coursework, additional licensure exams, etc.]

**Academic Advisor:**

**Faculty Advisor:**