

Major Map: Physics B.S.
First-time College Students
Catalog Year: 2013-2014

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. **All incoming freshmen must develop an academic plan (which maps out all courses needed to graduate within your intended major/degree). Your academic advisor is available to meet with you and create your specific plan.**

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 of checking prerequisites to any courses. Critical Courses (and Min. Grades as noted below) provide feedback regarding major fit and help indicate the likelihood of successful completion of chosen academic program and degree.

Mathematics: Math 110 or MATH 116, or 200-level MATH/STAT Foreign Language Requirement: No Free Elective Hours: 15-18

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	Hours	Min. Recommended Grade	Notes
Fall Semester Year 1: 13-16 hours				
	**Anchor I: Reasoning and Values – Click for Options	3		Math Entrance Exam required prior to enrollment in MATH 120 or Math 210
	**Discourse I: DISC 100 – Reasoning and Values (Speech and Writing)	3		
◆	CHEM 211: General Chemistry I (Focus B – Scientific Reasoning & Quantitative Analysis)	4		MATH 120 or 210 fulfills CAS Math Requirement
◆	CHEM 211L: General Chemistry I Laboratory	1		CHEM 211L fulfills CAS Laboratory Experience Requirement
◆	*MATH 210: Calculus I OR (CAS Science & Math Requirement) MATH 120: Precalculus OR Math 125: Trig (if Math 110 has been completed for college credit already)	2-5	B	
◆	Complete 12 term hours minimum toward degree Earn minimum 2.000 term GPA Earn minimum 2.000 cumulative UM GPA			
Spring Semester Year 1: 15 hours				
	**Anchor II: Culture and Diversity - Click for Options	3		
	**Discourse II: DISC 200 - Culture and Diversity (Speech and Writing)	3		
◆	PHYSICS 240: Physics for Science and Engineering I (Focus Elective)	5	B	
◆	*MATH 220: Calculus I (CAS Science & Math Requirement) or *MATH 210: Calculus I	4	C	
◆	Complete Discourse I and Anchor I Complete 12 term hours minimum toward degree Complete 28 total hours minimum toward degree			

	Earn minimum 2.000 term GPA Earn minimum 2.000 cumulative UM GPA			
Summer Semester Year 1				
				May use summer semester to ensure completion of 30 hours per academic year or to lighten fall and spring course loads.
◆	Complete MATH 220: Calculus II			
Fall Semester Year 2: 17 hours				
◆	CHEM 212R: General Chemistry II (CAS Science & Math Requirement)	4		Take the RooWriter Writing Assessment the semester immediately following Discourse II and at least a semester before registering for a Writing Intensive course.
◆	CHEM 212LR: General Chemistry II Laboratory (CAS Science & Math Requirement)	1		
◆	PHYSICS 250: Physics for Sci and Eng II	5	B	
◆	MATH 250: Calculus III	4	B	
	Focus A: Arts & Humanities – Click for Options	3		
◆	Complete 12 term hours minimum toward degree Earn minimum 2.000 term GPA Earn minimum 2.000 cumulative UM GPA			
Spring Semester Year 2: 15 hours				
◆	PHYSICS 350: Modern Physics	3		POL-SCI 210, HIST 1100 or 1101 fulfill Focus C as well as the Missouri Constitution requirement.
◆	PHYSICS 385L: Advanced Lab (Elementary Circuits)	3		
	Focus C- Human Values & Ethical Reasoning – Click for Options (May choose Course to also fulfill MO Constitution Requirement)	3		
	CAS Arts & Humanities – Click for Options	3		
	Missouri Constitution course (if not fulfilled above) – Click for Options, OR other CAS Social & Behavioral Sciences Requirement – Click for Options	3		
◆	Complete Discourse II and Anchor II Complete 12 term hours minimum toward degree Complete 60 total hours toward degree Earn minimum 2.000 term GPA Earn minimum 2.000 cumulative UM GPA			
Summer Semester Year 2				
				May use summer semester ensure completion of 30 hours per academic year or to lighten fall and spring course loads.
Fall Semester Year 3: 15 hours				
	Discourse III: Civic and Community Engagement	3		
	Anchor III: Civic and Community Engagement - Click for Options	3		
	PHYSICS 310: Mechanics I	3		
	PHYSICS 330: Methods of Theoretical Physics I	3		
	PHYSICS 395L: Advanced Lab (Computer Interfacing)	3		
◆	Complete RooWriter Writing Assessment Complete 12 term hours minimum toward degree Earn minimum 2.000 term GPA Earn minimum 2.000 cumulative UM GPA			

Spring Semester Year 3: 15 hours				
	PHYSICS 311: Mechanics II	3		
	PHYSICS 410: Thermal Physics	3		
	CAS Social & Behavioral Sciences Requirement - Click for Options	3		
	CAS Arts & Humanities – Click for Options	3		
	Free Elective	3		
Summer Semester Year 3				
Fall Semester Year 4: 15 hours				
	PHYSICS 460: Electricity and Magnetism I	3		Apply for graduation and complete Final Degree Audits for the following: UMKC General Education Core, CAS Degree Requirements, Major Requirements, and/or Minor Requirements. Take the ETS Proficiency Profile (EPP) exit exam.
	PHYSICS 472: Intro to Quantum	3		
	PHYSICS 476LW: Advanced Lab (CAS Writing Intensive Requirement)	3		
	Free Elective	3		
	Free Elective	3		
Spring Semester Year 4: 12-15 hours				
	PHYSICS 420: Optics	3		In combination with required upper-level courses, take enough Free Elective hours at the 300/400-level to meet the minimum requirement of 36 upper-level credit hours. Take Major Field (MF) exam.
	PHYSICS 461: Electricity and Magnetism II	3		
	Free Elective	3		
	Free Elective	3		
	<i>Free Elective (only take these credits if needed to reach 120 minimum hours)</i>	0-3		

Non-course requirements

RooWriter Writing Assessment
ETS Proficiency Profile (EPP) exam
Major Field (MF) exam

Met

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.

Graduation Requirements Summary:

Total Hours (120 minimum)	Totals Hrs at UMKC (30 hours minimum)	Upper-level Hours (36 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.]