

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 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 120	Foreign Language Requirement	No	Free Elective Hours	0-3
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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: 16 hours

	<b>**Anchor I: Reasoning and Values</b> <a href="http://www.umkc.edu/core/courses/">http://www.umkc.edu/core/courses/</a>		3	A grade of B or higher in biology, chemistry, and math courses is a realistic benchmark for students to successfully complete a biology degree.  ALEKS Math Placement Exam or college credit with a grade of C- or higher in prerequisite required prior to enrollment in MATH 120. <a href="http://www.umkc.edu/mathplacement/">www.umkc.edu/mathplacement/</a>  Students must earn a grade of C- or higher for courses to satisfy majors requirements.
	<b>**DISC 100: Reasoning and Values (Speech and Writing)</b>		3	
◆	BIOLOGY 108: General Biology I ( <b>Focus B</b> ) OR BIOLOGY 109: General Biology II ( <b>Focus B</b> )	B	3	
	BIOLOGY 108L: General Biology I Laboratory OR BIOLOGY 109L: General Biology II Laboratory	B	1	
◆	MATH 120: Precalculus OR CHEM 211: General Chemistry I ( <b>Focus Elective</b> ) AND CHEM 211L: Experimental General Chemistry I	B	5	
	BIOLOGY 115: First Year Seminar (strongly recommended)		1	
◆	Complete 12 term hours minimum toward degree. 2.250 or higher cumulative UM GPA recommended. 2.250 or higher cumulative UM Biology GPA recommended.			

Spring Semester Year 1: 15 hours

	<b>**Anchor II: Culture and Diversity</b> <a href="http://www.umkc.edu/core/courses/">http://www.umkc.edu/core/courses/</a>		3	Register for UMKC Roo Career Network. <a href="http://career.umkc.edu/">http://career.umkc.edu/</a>  Students who are planning to complete their degree in 4-years should aim to complete a minimum of 30 credit hours per academic year (Fall, Spring, Summer).
	<b>**DISC 200: Culture and Diversity (Speech and Writing)</b>		3	
◆	BIOLOGY 108: General Biology I ( <b>Focus Elective</b> ) OR BIOLOGY 109: General Biology II ( <b>Focus Elective</b> )	B	3	
	BIOLOGY 108L: General Biology I Laboratory OR BIOLOGY 109L: General Biology II Laboratory	B	1	
◆	CHEM 211: General Chemistry I AND CHEM 211L: Experimental General Chemistry I OR CHEM 212R: General Chemistry II AND CHEM 212LR: Experimental General Chemistry II	B	5	

<p>◆ Complete Anchor I and DISC 100. Complete 12 term hours minimum toward degree. 2.250 or higher cumulative UM GPA recommended. 2.250 or higher cumulative UM Biology GPA recommended.</p>
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**Summer Semester Year 1: 0 hours if previous courses completed**

<p>May use summer semester to ensure completion of 30 hours per academic year or to lighten fall and spring course loads.</p>		
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<p>◆ Complete BIOLOGY 108: General Biology I. Complete BIOLOGY 108L: General Biology I Laboratory. Complete BIOLOGY 109: General Biology II. Complete BIOLOGY 109L: General Biology II Laboratory. Complete CHEM 211: General Chemistry I. Complete CHEM 211L: Experimental General Chemistry I. 2.250 or higher cumulative UM GPA recommended. 2.250 or higher cumulative UM Biology GPA recommended. Complete 30 total hours toward degree.</p>
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**Fall Semester Year 2: 13-14 hours**

<p>BIOLOGY 202: Cell Biology <b>OR</b> BIOLOGY 206 Genetics</p>	B	3
<p>PHYSICS 210: General Physics I</p>	B	4
<p>◆ MATH 210: Calculus I <b>OR</b> MATH 216: Calculus for Biological Sciences <b>OR</b> STAT 235: Statistics</p>	B	3-4
<p><b>Focus A: Arts and Humanities</b> <a href="http://www.umkc.edu/core/courses/">http://www.umkc.edu/core/courses/</a></p>		3

<p>◆ Complete Anchor II and DISC 200. Complete 12 term hours minimum toward degree. 2.250 or higher cumulative UM GPA recommended. 2.250 or higher cumulative UM Biology GPA recommended.</p>
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**Spring Semester Year 2: 15 hours**

<p>◆ BIOLOGY 202: Cell Biology <b>OR</b> BIOLOGY 206 Genetics</p>	B	3	<p>HISTORY 101, 102 or POL-SCI 210 recommended for <b>Focus C and Constitution Requirement.</b></p> <p>Students must complete RooWriter Writing Assessment prior to enrolling in a Writing Intensive Course.</p>
<p>CHEM 320: Elementary Organic Chemistry <b>AND</b> CHEM 320L: Experimental Organic Chemistry</p>	B	5	
<p>PHYSICS 220: General Physics II</p>	B	4	
<p><b>Focus C: Human Actions, Ethics, and Values</b> Missouri Constitution Course</p>		3	

<p>◆ Complete RooWriter Assessment. Complete CHEM 320: Elementary Organic Chemistry. Complete CHEM 320L: Experimental Organic Chemistry. Complete 12 term hours minimum toward degree. 2.250 or higher cumulative UM GPA recommended. 2.250 or higher cumulative UM Biology GPA recommended.</p>
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**Summer Semester Year 2: 0 hours if all previous courses completed**

# UMKC Major Map: Bachelor of Science in Biology (Clinical Laboratory Sciences Emphasis)

## First-Time College Students

Catalog Year: 2016 - 2017

	May use summer semester to ensure completion of 30 hours per academic year or to lighten fall and spring course loads.		
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	Complete 60 total hours toward degree.
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### Fall Semester Year 3: 12-15 hours

	LS-BIOC 341: Basic Biochemistry	B	3	Apply to Clinical Affiliate Program.
	LS-PHYS 316: Principles of Physiology	B	3	
	LS-MCRB 313: Microbiology	B	3	File an Application for Graduation.
	LS-MCRB 313WL: Laboratory In Microbiology	B	3	
	<i>Free Elective (if needed)</i>		0-3	Students must complete a Writing Intensive Lab in the School of Biological Sciences, LS-MCRB 313WL.

	2.250 or higher cumulative UM GPA recommended. 2.250 or higher cumulative UM Biology GPA recommended.
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### Spring Semester Year 3: 16 hours

	<b>**Anchor III: Civic and Community Engagement</b> <a href="http://www.umkc.edu/core/courses/">http://www.umkc.edu/core/courses/</a>		3	When designing a plan of study please note that students must choose a minimum of three (3) hours (including one upper-level hour) from the following: <BIOLOGY 328: Histology <BIOLOGY 328L/WL: Laboratory In Histology And Cellular Ultrastructure <LS-ANATO 118: Introductory Anatomy <LS-ANATO 118L: Introductory Anatomy Laboratory <LS-MCRB 431: Virology <LIFE-SCI 401: Biophysical Principles <LS-BIOC 360L/WL: Laboratory In Biochemistry And Molecular Biology
	<b>**DISC 300: Community &amp; Civic Engagement</b> (Speech and Writing)		3	
	LS-MCRB 435: Immunology	B	3	
	CHEM 341: Analytical Chemistry I: Quantitative Analysis	B	4	
	BIOL Elective (at least one hour 300/400 level)		3	

	Complete Anchor III and DISC 300. 2.250 or higher cumulative UM GPA recommended. 2.250 or higher cumulative UM Biology GPA recommended.
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### Summer Semester Year 3: Clinical hours


	Clinical Program at Affiliate Hospital		
	Successful completion of the Clinical Program will count as ten (10 ) hours of upper level Biology course work and twenty (20) additional hours of upper level course work.		
	Successful completion of the Clinical Program satisfies the Biology Synthesis Requirement.		

### Fall Semester Year 4: Clinical hours

	Clinical Program at Affiliate Hospital		
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### Spring Semester Year 4: Clinical hours

	Clinical Program at Affiliate Hospital		H0
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	Complete ETS Proficiency Profile. 2.250 or higher cumulative UM GPA recommended. 2.250 or higher cumulative UM Biology GPA recommended.
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### 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	Other
2.00	2.00		

### 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 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

School of Biological Sciences Academic Support  
 816-235-2580      SBS-undergrad@umkc.edu      [http://sbs.umkc.edu/undergraduate\\_support.cfm](http://sbs.umkc.edu/undergraduate_support.cfm)

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