

DUAL DEGREE: BIOLOGY BA-MD

Student Learning Outcomes

Students graduating from this program will:

- Identify fundamental concepts in the biological sciences, including the relationship between structure and function at all levels of biological organization, evolution and the role of natural selection in the process, ecological relationships between organisms and their environment.
- Describe cellular structure and explain the major biochemical processes that occur in cells.
- Describe and explain the mechanisms of heredity and the flow of genetic information.
- Apply knowledge in basic mathematics, chemistry, and physics to solve biological problems.
- Employ techniques and procedures commonly used in modern biology laboratories.
- Analyze and critically evaluate scientific data.
- Write clearly about topics in the biological sciences for a peer or professional audience.

Program Requirements

Code	Title	Credits
First Semester Experience Course		3
Critical Thinking in Arts & Humanities		3
Critical Thinking in Natural & Physical Sciences		3
Critical Thinking in Social & Behavioral Sciences		3
Culture & Diversity Course		3
Civic & Urban Engagement Course		3
Math Pathway (Satisfied in major requirements below)		
Composition:		
ENGLISH 110	English I: Introduction To Academic Prose	3
ENGLISH 225	English II: Intermediate Academic Prose	3
Communication:		
COMM-ST 110	Fundamentals Of Effective Speaking And Listening	3
Total Credits		27

Constitution Course Requirement

Section 170.011.1 of the Missouri Revised Statutes, 2015, states that all candidates for a degree issued by a college or university in the state of Missouri must have "satisfactorily passed an examination on the provisions and principles of the Constitution of the United States and of the state of Missouri, and in American history and American institutions."

Courses at UMKC that satisfy this state requirement are:

Code	Title	Credits
Choose one of the following:		3
CJC 364	The Supreme Court And The Criminal Process	
HISTORY 101	U.S. History to 1877	
HISTORY 102	U.S. History Since 1877	
HONORS 230	Honors American Government	
POL-SCI 210	American Government	
Total Credits		3

There are a few other ways this requirement can be satisfied for students transferring to UMKC:

- Take an equivalent course from the list above at a regionally accredited institution.
- Earn credit for one of the above courses through AP, IB, or CLEP.
- Take a course that directly satisfies the Missouri Constitution Requirement at another Missouri institution.
- Have a previous bachelors degree (or higher) from a regionally accredited institution.
- Have an Associate of Arts degree from a regionally accredited institution.
- Complete the 42 Hour Core at a Missouri institution and have it listed on the official transcript.

Program Prerequisites

Code	Title	Credits
PSYCH 210	General Psychology (Focus C)	3
SOCIOL 101	Sociology: An Introduction	3
SOCIOL 211	Social And Psychological Development Through The Life Cycle	3
Total Credits		9

Major Requirements

Biology course requirements. Biology courses that fulfill the BA degree requirements are listed below. A grade of C- or better is required in each course used to fulfill these requirements.

Code	Title	Credits
BIOLOGY 108	General Biology I (Focus B)	3
BIOLOGY 108L	General Biology I Laboratory	1
BIOLOGY 202	Cell Biology	3
BIOLOGY 206	Genetics	3
BMS 9265	Human Biochemistry 1 - Medical	5
Total Credits		15

Specialized requirements:

Code	Title	Credits
Take all of the following:		
LS-ANATO 219	Functional Anatomy I	3
LS-MCRB 121	Human Biology III (Microbiology)	3
BMS 9296	Human Structure Function I	6
BMS 9297	Human Structure Function II	5
BMS 9298	Human Structure Function III	5
BMS 9399	Human Structure Function IV	6
Total Credits		28

Biology Required Labs

Code	Title	Credits
LS-ANATO 219L	Functional Anatomy I Laboratory	1
LS-MCRB 121L	Human Biology III (Microbiology) Lab	1
Total Credits		2

Biology Synthesis Requirement

Code	Title	Credits
BIOLOGY 498WI	Critical Analysis of Biological Issues	3
Total Credits		3

Physical sciences and mathematics requirements: All of the following courses are required. A grade of C- or better is required in each course used to fulfill these requirements.

Code	Title	Credits
CHEM 211	General Chemistry I	4
CHEM 211L	Experimental General Chemistry I	1
CHEM 212R	General Chemistry II	4
CHEM 212LR	Experimental General Chemistry II	1
CHEM 320	Elementary Organic Chemistry	4
CHEM 320L	Experimental Organic Chemistry	1
Select one of the following:		3-4
MATH 210	Calculus I	

MATH 216	Calculus for Biological Sciences	
STAT 235 or MOTRMATH 110	Elementary Statistics MOTR Statistical Reasoning	
Total Credits		18-19

Additional information about the BA/MD program may be found on the School of Medicine Website (<http://catalog.umkc.edu/colleges-schools/medicine/medical-degree-programs/six-year-program-description/>).