

## BACHELOR OF SCIENCE IN BIOLOGY - BIOINFORMATICS EMPHASIS , 2024-25

*For more information about policies and requirements, please see the UMKC 2024-25 Catalog.*

### FIRST YEAR

FALL SEMESTER	HOURS	SPRING SEMESTER	HOURS
BIOLOGY 108/108L General Biology I	4	BIOLOGY 109/109L General Biology II	4
CHEM 211/211L General Chemistry I	5	CHEM 212R/ 212LR General Chemistry II	5
GEFSE 101 First Semester Experience	3	ENGLISH 110 English I: Intro to Academic Prose	3
GECRT-SC Critical Thinking in Natural & Physical Sci	3	MATH 110 Precalc Algebra or 120 Precalculus	3-5
<b>TOTAL</b>	<b>15</b>	<b>TOTAL</b>	<b>15-17</b>

### SECOND YEAR

FALL SEMESTER	HOURS	SPRING SEMESTER	HOURS
BIOLOGY 202 Cell Biology	3	BIOLOGY 206 Genetics	3
BIOLOGY 304 Biostatistics I	3	CHEM 320/320L Elementary Organic Chemistry	5
BIOLOGY 250 Careers in Biological Sciences	1	Communication Requirement (COMM-ST 110, 140, 212 or 277)	3
GECRT-AH Critical Thinking in Arts & Humanities	3	GECDV 201 Culture & Diversity	3
ENGLISH 225 English II: Intermed Academic Prose	3		
BIOLOGY 199L Methods in Biological Research	2		
<b>TOTAL</b>	<b>15</b>	<b>TOTAL</b>	<b>14</b>

### THIRD YEAR

FALL SEMESTER	HOURS	SPRING SEMESTER	HOURS
BIOLOGY 441 Biochemistry	3	BIOLOGY 370L Biological Research Techniques II	3
BIOLOGY 306 Translational Research	3	Track Elective	3
Track Elective	3	Track Elective	3
Track Elective	3	GECUE 201 Civic & Community Engagement	3
GECRT-SS Critical Thinking in Social & Behavioral Sciences	3	Constitution Requirement (HISTORY 101, 102, POL-SCI 210, CJC 364 or HON 230)	3
<b>TOTAL</b>	<b>15</b>	<b>TOTAL</b>	<b>15</b>

### FOURTH YEAR

FALL SEMESTER	HOURS	SPRING SEMESTER	HOURS
COMP-SCI 101/101L Problem Solving & Programming I/Lab	4	LIFE-SCI 499 Undergraduate Research	3
CHEM 341WI Analytical Chemistry I	4	Track Elective	3
Track Elective	3	Track Elective	3
Track Elective	3	General Elective	3
General Elective	3	General Elective	3
<b>TOTAL</b>	<b>17</b>	<b>TOTAL</b>	<b>15</b>

Additional Graduation Requirements: Civics Exam, HEIghten Exit Exam.

**Total Credits to Graduate: 121**

# School of Science and Engineering

## Why Major in Biology



### Beyond The Classroom

Students build experience by participating in our **student-led teams or organizations**:

- Biological Sciences Society
- SSE Student Government
- Student Environmental Coalition
- Women in Science

Discover opportunities in health care by joining our **Pre-Professional Societies** related to medicine, dentistry, pharmacy, veterinary medicine, optometry, and physician assistant.

Kansas City offers opportunities for students to **shadow various professionals** from wildlife experts to medical professionals in a multitude of specialties.

Prepare for your academic journey and meet your future classmates by participating in our one week **SSE Boot Camp**.

UMKC is one of the few universities to have a School of Medicine, School of Nursing, School of Pharmacy, and School of Dentistry on our campus.



### Personalize Your Degree

Students can opt into **emphasis areas** such as:

- Bioinformatics, Biomedical Sciences, Biotechnology, or Clinical Laboratory Science

Students interested in health sciences are assigned a **pre-health advisor** to ensure they are meeting the requirements for their future goals.

**Explore areas of biology through electives** in Zoology, Evolution, Marine & Freshwater Biology, Infections Diseases, Histology, Virology, etc.

One credit **careers courses** introduce students to opportunities in industry, research, and prepare students to apply to professional medical programs.

Participate in **innovative and ground-breaking research** alongside faculty mentors:

- Explore sensory cell regeneration using zebrafish
- Join neuroscience research to examine the relationship between sleep and memory



### After Graduation

SSE connects students with industry partners and professional programs in the area through two **STEM Career Fairs** each year.

Easily earn a **master's degree** through our BS to MS program which allows students to complete a graduate degree at undergraduate tuition rates.

The Kansas City area is home to nearly **300 life science companies** allowing for ease of access to internships and future employment.

Kansas City is renowned for its **strengths in bioscience and medical research**, including:

- comparative medicine, cardiology, neuroscience, pharmaceutical development, outcomes research, and oncology

The KC Animal Health Corridor is the **largest concentration of animal health companies** in the world.