

## BACHELOR OF SCIENCE IN COMPUTER SCIENCE, CYBERSECURITY 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
MATH 210 Calculus I	4	MATH 220 Calculus II	4
COMP-SCI 101 Problem Solving & Programming I	3	COMP-SCI 191 Discrete Structures I	3
COMP-SCI 101L Problem Solving & Programming I Lab	1	COMP-SCI 201R Problem Solving & Programming II	3
ENGLISH 110 English I: Intro to Academic Prose	3	COMP-SCI 201L Problem Solving & Programming II Lab	1
GEFSE 101 First Semester Experience	3	GECRT-SS Critical Thinking in Social & Behavioral Sciences	3
<b>TOTAL</b>	<b>14</b>	<b>TOTAL</b>	<b>14</b>

### SECOND YEAR

FALL SEMESTER	HOURS	SPRING SEMESTER	HOURS
COMP-SCI 291 Discrete Structures II	3	COMP-SCI 281R Computer Architecture & Organization (Meets GECRT-SC req)	3
COMP-SCI 303 Data Structures	3	MATH 300 Linear Algebra	3
PHYSICS 240 Physics for Scientists & Engineers I	5	Constitution Requirement (HIST 101 OR 102; POL-SCI 210, CJC 364, or HON 230)	3
STAT 235 Elementary Statistics	3	Communication Requirement (COMM-ST 110, 140, 212 or 277)	3
ENGLISH 225 English II: Intermed Academic Prose	3	GECRT-AH Critical Thinking in Arts & Humanities	3
<b>TOTAL</b>	<b>17</b>	<b>TOTAL</b>	<b>15</b>

### THIRD YEAR

FALL SEMESTER	HOURS	SPRING SEMESTER	HOURS
COMP-SCI 304 Ethics & Professionalism (Meets GECUE req)	3	COMP-SCI 470 Database Management	3
COMP-SCI 320 Data Communications & Networking	3	COMP-SCI 404 Intro to Algorithms & Complexity	3
COMP-SCI 394R Applied Probability	3	COMP-SCI 361 Intro to Cybersecurity	3
COMP-SCI 431 Operating Systems	3	Life or Physical Science Requirement*	3
General Elective	3	GECDV Culture & Diversity Course	3
<b>TOTAL</b>	<b>15</b>	<b>TOTAL</b>	<b>15</b>

### FOURTH YEAR

FALL SEMESTER	HOURS	SPRING SEMESTER	HOURS
COMP-SCI 441 Programming Language Design/ Implementation	3	COMP-SCI 451R Software Engineering Capstone	3
COMP-SCI 449 Foundations of Software Engineering	3	COMP-SCI 461 Intro to Artificial Intelligence	3
COMP-SCI 426 Networking Security	3	COMP-SCI 456 Human Computer Interface	3
COMP-SCI 436 Digital Forensics	3	COMP-SCI 483 Software Security	3
General Elective	3	Comp-Sci Elective	3
<b>TOTAL</b>	<b>15</b>	<b>TOTAL</b>	<b>15</b>

Additional Graduation Requirements: Civics Exam, HEIghten Exit Exam.

**Total Credits to Graduate: 120**

\*Must select from BIOLOGY 108 or 109; CHEM 211, GEOLOGY 220, ENV-SCI 110R, or PHYSICS 250.

# School of Science and Engineering

## Why Major in Computer Science



### Beyond the Classroom

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

- Computer Science Club
- Esports
- Game Development Club
- Math Club
- UMKC Distributed Intelligent Computing Association (UDICA)
- UMKC Robotics
- Women in Science

Students can test ideas and explore the application of augmented and virtual reality in our **ARVR Showroom** on the newest spatial computing equipment.

Students have access to \$1 million-worth of equipment housed in our **High Performance Computing Lab**.

Our **BS in Computer Science is ABET accredited** providing assurance that our curriculum meets the standards for professional advancement.



### Personalize Your Degree

Students have the opportunity to earn an **emphasis in Cybersecurity** or add a minor in a variety of subjects.

Our Computer Science degree includes **specialized major electives** allowing students to expand upon their interests in areas such as:

- AI, Blockchain Technologies, Digital Forensics, Distributed Computing Systems, Network Security, and VR App Development

Students can participate in **innovative and groundbreaking research** alongside a faculty mentors who are leaders in academic patents.

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



### After Graduation

SSE offers two **STEM Career Fairs** every year to connect students with industry professionals from the **more than 3,900 tech companies** in the area.

As the **most geographically centric technology industry in the nation**, Kansas City is home to the headquarters for companies like Garmin and H&R Block.

The Kansas City region has over **100,000 technology jobs in various industries** such as:

- Biotechnology
- Cybersecurity
- Education
- Engineering
- Financial technology
- Telecommunications and more!