UMKC School of Science and Engineering

BACHELOR OF SCIENCE IN ELECTRICAL & COMPUTER ENGINEERING, 2025-26

For more information about policies and requirements, please see the UMKC 2025-26 Catalog.

FIRST YEAR

FALL SEMESTER	HOURS	SPRING SEMESTER	HOURS
MATH 210 Calculus I	4	MATH 220 Calculus II	4
MEC-ENGR 130 Engineering Graphics	3	PHYSICS 240 Physics for Scientists & Engineers I	5
BIOLOGY 102/102L Biology and Living/Lab (or CHEM 211/211L General Chemistry I/Lab)	4	ENGLISH 225 English II: Intermed Academic Prose	3
GEFSE 101 First Semester Experience	3	GECRT-SS Critical Thinking in Social & Behavioral Sciences	3
ENGLISH 110 English I: Intro to Academic Prose	3		
TOTAL	**17**	**TOTAL**	**15**

SECOND YEAR

FALL SEMESTER	HOURS	SPRING SEMESTER	HOURS
E&C-ENGR 216 Engineering Computation	4	E&C-ENGR 228/229 Intro to Computer Design/Lab	4
E&C-ENGR 226/227 Logic Design/Lab	4	E&C-ENGR 276/277 Circuit Theory I/Lab	4
E&C-ENGR 241 Applied Engineering Analysis I	3	E&C-ENGR 341R Applied Engineering Analysis II	3
PHYSICS 250 Physics for Scientists & Engineers II	5	E&C-ENGR 348 Discrete Math & Probability	3
		Communication Requirement (COMM-ST 110, 140, 212 or 277)	3
TOTAL	**16**	**TOTAL**	**17**

THIRD YEAR

FALL SEMESTER	HOURS	SPRING SEMESTER	HOURS
E&C-ENGR 334 Semiconductors & Devices	3	E&C-ENGR 302/303 Electromagnetic Waves and Fields/Lab (satisfies GECRT-SC req)	4
E&C-ENGR 376/377 Circuit Theory II/Lab	4	E&C-ENGR 330/331 Electronic Circuits/Lab	4
E&C-ENGR 380/381 Signals & Systems/Lab	4	E&C-ENGR 428R/429 Embedded Systems/Lab	4
E&C-ENGR 426/427 Microcomputer Architecture & Interfacing/Lab	4	E&C-ENGR 466 Power Systems I	3
TOTAL	**15**	**TOTAL**	**15**

FOURTH YEAR

FALL SEMESTER	HOURS	SPRING SEMESTER	HOURS
E&C-ENGR 358 Intro to Control Systems or E&C-ENGR 474 Intro to Communication Systems	3	E&C-ENGR 403 Senior Design II	2
E&C-ENGR 402 Senior Design I	3	COMP-SCI 304 Ethics & Professionalism (Meets GECUE req)	3
E&C-ENGR 486 Pattern Recognition	3	E&C-ENGR 400 level Major Elective	3
E&C-ENGR 400 level Major Elective	3	E&C-ENGR 400 level Major Elective	3
GECRT-AH Critical Thinking in Arts & Humanities	3	Constitution Requirement (HISTORY 101, 102, POL-SCI 210, CJC 364 or HONORS 230)	3
		GECDV Culture & Diverse Perspectives	3
TOTAL	**15**	**TOTAL**	**17**

Additional Graduation Requirements: Civics Exam, HElghten Exit Exam.

Total Credits to Graduate: 127

UMKC School of Science & Engineering · SS&C Student Services Center
336 Flarsheim Hall · 5110 Rockhill Road
816-235-2399 · sse@umkc.edu · sse.umkc.edu

| UNIVERSITY OF MISSOURI-KANSAS CITY |

School of Science and Engineering

Why Major in Electrical & Computer Engineering

Beyond The Classroom

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

- Baja Racing Team
- Design Build Fly (Aeroos)
- Game Development Club
- Institute of Electrical and Electronic Engineering (IEEE)
- National Society of Black Engineers (NSBE)
- Society of Hispanic Professional Engineers (SHPE)
- Society of Women Engineers (SWE)
- UMKC Robotics

Our program in **one of fewer than 20 ABET-accredited** Electrical and Computer Engineering degrees to exist in the United States.

Easily connect with industry professionals to participate in **year-round internships** with potential to be paid.

Students design and build their own **robots, off-road vehicle, unmanned aircraft, or concrete canoe** to compete against other universities in our student-led teams.

Personalize Your Degree

Our BSECE degree includes **specialized major electives** allowing students to expand upon their interests in areas like:

- microwave engineering
- power system protection and communication systems
- terahertz in 6G and beyond
- wind energy systems
- wireless networking

Students can explore their interests and gain experience through **undergraduate research** alongside faculty mentors like Dr. Ahmed Hassan. Dr. Hassan worked closely with the US Air Force Research Laboratory and the Space Science Institute to better understand the composition and properties of lunar dust for use as concrete for future settlements on the moon.

After Graduation

SSE connects students with industry partners in the area through **information sessions** and two **STEM Career Fairs** every year.

Students have **access to many engineering companies** in the metro-area such as:

- Black & Veatch, Burns & McDonnell, Evergy, Garmin, Hallmark Cards, Henderson Engineers, Honeywell FM&T, Kiewit, Olsson

Demand for engineering jobs in the Kansas City-area has grown at **more than twice the national average**.

Local companies have **designed 15% of the world's power systems.**

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

SSE 22096469

UMKC

Relay Missouri: 800-735-2966 (TTY)