



**\*\*To graduate in four years, a student must transfer to KU after one year at JCCC.\*\***

Chemical engineering has grown out of a combination of chemistry and engineering associated with industrial processes. Today, it possesses a body of knowledge used in the synthesis, design testing, scale-up, operation, control, and optimization of processes that change the physical state or composition of materials. Chemical engineers have played central roles in the industrial development of materials that have had major social influence, such as the production of fuels and lubricants, fertilizer, synthetic fibers, and plastics. They will be centrally involved in reducing the polluting effects of certain byproducts and cleaning up unwanted residues from previous processes. Within Chemical Engineering, students may also choose to complete an emphasis: Biomedical, Environmental, Materials Science, Premedical, or Petroleum.

- Admission to The University of Kansas is required, along with the following, for admission to the KU School of Engineering as a transfer student:
  1. 2.5+ cumulative college GPA
  2. "C" or better in MATH 125 Calculus I, or its direct equivalent (MATH 241 Calculus I\* at JCCC)
  3. "C" or better in all math, science and engineering coursework
- The School of Engineering recommends that students apply for transfer admission to KU by May 1 for summer and fall; December 1 for spring.
- Admission is selective. Meeting minimum requirements does not guarantee admission.
- Timely completion of prerequisite courses is imperative due to tight sequencing of major courses. Consult KU catalog and seek KU advising early.
- The B.S. in Chemical Engineering is an ABET accredited program.
- A minimum of 128 credit hours is required for the B.S. in Chemical Engineering. Students that are exempt from ENGL 101 based on ACT or SAT test score do not have to make up the 3 credit hours with another course. This exemption results in the total hours required for the B.S. degree in Chemical Engineering to be 125 credit hours.
- Sixty-four credits may be transferred to KU from community colleges. The last 30 hours of course work must be completed at KU. A minimum of 45 upper-level hours must be completed by KU.
- Transfer students will have their applications to the School of Engineering evaluated on a case-by-case basis and must have a minimum GPA of 2.5 to be considered.
- Transfer credits must have a grade of "C" or higher to be applied toward the degree.
- Pass/Fail policy: not allowed for any courses in Chemical Engineering.
- Credit/No Credit policy: Credit/No Credit is not an option for any credits counting toward a chemical engineering degree.
- Chemical Engineering student must attain a cumulative GPA of at least 2.0 in C&PE courses taken at KU for graduation with a B.S. degree in Chemical Engineering.
- Effective Fall 2024: Students transferring to KU, with an AA, AFA or AS degree from JCCC will be considered to have satisfied KU's Core 34 general education curriculum.
- Effective Fall 2024: Students who transfer to KU, without completing AA, AFA or AS degree will have courses evaluated on a course-by-course basis toward meeting KU requirements. To learn more about courses that satisfy KU Core 34 requirements visit: <https://catalog.ku.edu/core34/> and <https://credittransfer.ku.edu/>
- KU's Core 34 General Education guide can be found here: <https://www.jccc.edu/student-resources/transfer/files/transfer-guides/ku-core-requirements.pdf>

## Chemical Engineering General Option Requirements

KU Courses	Hrs	JCCC Courses	Hrs	KU Core
<b>KU Core 34</b>				
Core 34: English	6	<a href="#">See KU Core 34 General Education guide</a>	6	ENG
Core 34: Communications	3	<a href="#">See KU Core 34 General Education guide</a>	3	CMS
Core 34: Social and Behavioral Science <i>(Select two courses in two different disciplines)</i>	6	<a href="#">See KU Core 34 General Education guide</a>	6	SBS
Core 34: Arts and Humanities <i>(Select two courses in two different disciplines)</i>	6	<a href="#">See KU Core 34 General Education guide</a>	6	AH
Core 34: US Culture – Institutionally Designated	3	<a href="#">See KU Core 34 General Education guide</a>	3	USC
Core 34: Global Culture - Institutionally Designated	3	<a href="#">See KU Core 34 General Education guide</a>	3	GLBC
<b>Basic Sciences</b>				
CHEM 130 General Chemistry I	5	CHEM 124/125 General Chemistry I*/Lab*	4/1	NPS/NLEC/ NLAB
CHEM 135 General Chemistry II	5	CHEM 131/132 General Chemistry II*/Lab*	4/1	NPS/NLEC/ NLAB
EPHX 210 General Physics I for Engineers^ <b>AND</b> PHSX 216 General Physics I Lab <b>OR</b> PHSX 210 General Physics I <b>AND</b> PHSX 216 General Physics I Lab <b>OR</b> PHSX 211 General Physics I <b>AND</b> PHSX 216 General Physics I Lab <i>(Must earn a grade of "C-" or better)</i>	3/1	PHYS 220 Engineering Physics I*^	5	NPS/ NLEC/ NLAB
PHSX 212/236 General Physics II/Lab	3/1	PHYS 221 Engineering Physics II*	5	NPS/NLEC/ NLAB
<b>Advanced Chemistry</b>				
CHEM 330/331 Organic Chemistry I/Lab	3/2	CHEM 220 Organic Chemistry I*	5	N/A
<b>Mathematics</b>				
MATH 125 Calculus I	4	MATH 241 Calculus I*	5	MTS
MATH 126 Calculus II	4	MATH 242 Calculus II*	5	N/A
MATH 127 Calculus III	4	MATH 243 Calculus III*	5	N/A
MATH 290 Elementary Linear Algebra	2	MATH 246 Elementary Linear Algebra*	3	N/A
MATH 220 Applied Differential Equations	3	MATH 254 Differential Equations*	4	N/A

\*JCCC course has a prerequisite or corequisite.

^PHSX 211 (PHYS 220 at JCCC) satisfies the EPHX 210 requirement for Engineering at KU.

Note: To graduate in four years, a student must transfer to KU after one year. It is not recommended for students to complete an associate degree at JCCC. Completing an associate degree may add up to four (4) additional years to complete your KU Engineering degree.

Within Chemical Engineering, students may also choose to complete a concentration: Biomedical, Data Science, Environmental, Material Science, Petroleum, or Premedical. Students completing a concentration are required to satisfy all the requirements for the Bachelor of Science degree in Chemical Engineering general option. In addition, each concentration has specific requirements for some of the engineering and advanced science electives. Note: Environmental Concentration courses will be taken at KU.

## Chemical Engineering Concentration Requirements

KU Courses	Hrs	JCCC Courses	Hrs	KU Core
<b>Biomedical Concentration</b>				
BIOL 150 Principles of Molecular and Cellular Biology (counts towards Advanced Science elective)	3	BIOL 135 Principles of Cell and Molecular Biology <sup>^</sup>	4	NPS/ NLEC/ NLAB
<b>Data Science Concentration</b>				
EECS 168 Programming I	4	CS 200 Concepts of Programming Algorithms using C++*	4	N/A
		OR CS 202 Concepts of Programming Algorithms using Python*	4	
		OR CS 205 Concepts of Programming Algorithms using Java*	4	
EECS 268 Programming II 4	4	CS 250 Basic Data Structures using C++* OR	4	N/A
		CS 252 Basic Data Structures using Python* OR	4	
		CS 255 Basic Data Structures using Java*	4	
<b>Material Science Concentration</b>				
BIOL 150 Principles of Molecular and Cellular Biology (counts towards Advanced Science elective)	3	BIOL 135 Principles of Cell and Molecular Biology <sup>^</sup>	4	NPS/ NLEC/ NLAB
<b>Petroleum Concentration</b>				
GEOL 101 The Way The Earth Works <b>AND</b> GEOL 103 Geology Fundamentals Lab (counts towards Advanced Science requirement)	5	GEOS 130 General Geology	5	NPS/ NLEC/ NLAB
<b>Premedical Concentration</b>				
BIOL 150 Principles of Molecular and Cellular Biology (counts towards Advanced Science elective)	3	BIOL 135 Principles of Cell and Molecular Biology <sup>^</sup>	4	NPS/ NLEC/ NLAB
BIOL 152 Principles of Organismal Biology	3	BIOL 150 Biology of Organisms*	5	NPS/ NLEC/ NLAB
CHEM 335 Organic Chemistry II	3	CHEM 221 Organic Chemistry II*	5	N/A
The following courses may be required for admission into specific medical schools or be recommended for the MCAT. <b>These classes are recommended but not required:</b>				
BIOL 154 Introductory Biology Lab for STEM Majors	2	BIOL 135 Principles of Cell and Molecular Biology <sup>^</sup>	4	NPS/ NLEC/ NLAB
CHEM 331 Organic Chemistry I Lab	2	CHEM 220 Organic Chemistry I*	5	N/A
PSYC 104 General Psychology	3	PSYC 130 Introduction to Psychology	3	SBS
SOC 104 Elements of Sociology	3	SOC 122 Introduction to Sociology	3	SBS

\*JCCC course has a prerequisite or corequisite.

<sup>^</sup>BIOL 135 can only satisfy one course, either BIOL 150 or BIOL 154 at KU.

**It is the STUDENT'S RESPONSIBILITY to check for updates to all transfer information. This transfer guide is provided as a service and is updated as needed. Degree requirements at the four-year colleges are subject to change by those institutions. To ensure you have the most accurate up to date information about the program, it is imperative you meet with an advisor at the transfer institution.**