

Chemical Engineering

University of Kansas

Johnson County Community College Transfer Program to the University of Kansas	School of Engineering
School of Engineering	785-864-3881 or 785-864-4965
Chemical Engineering, Bachelor of Science (BS)	kuengr@ku.edu
Academic Year 2025-2026	https://cpe.ku.edu/

Program Description

Students interested in KU's Engineering programs need to work closely with advisors at both JCCC and KU. This helps students stay on track and not prolong the time it takes to earn an engineering bachelor's degree from KU. Students are advised to complete the Kansas Systemwide General Education requirements, and the prerequisite courses listed on the transfer guide. Students are also encouraged to use the Reverse Transfer (<https://www.jccc.edu/student-resources/transfer/>) option (if eligible) after transferring to KU. The Reverse Transfer (<https://www.jccc.edu/student-resources/transfer/>) allows students to earn their associate degree from JCCC while working towards their bachelor's degree at KU.

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 Requirements

- 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.
- A maximum of 75 hours may be transferred to KU from community colleges. Students should be aware that 45 junior/senior credit hours are required for completion of the bachelor's degree; the last 30 hours of course work must be at KU; and community college courses do not transfer as junior/senior hours.
- 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.
- Students transferring to KU, that complete the General Education requirements required for the Associate of Arts (AA) (<https://catalog.jccc.edu/degree requirements/associate-arts/>), Associate of Fine Arts (AFA) (<https://catalog.jccc.edu/degree requirements/associate-fine-arts/>) or Associate of Science (AS) (<https://catalog.jccc.edu/degree requirements/associate-science/>) degree from JCCC will be considered to have satisfied KU's Core 34 general education curriculum.
- Students who transfer to KU, without completing the General Education requirements required for the Associate of Arts (AA) (<https://catalog.jccc.edu/degree requirements/associate-arts/>), Associate of Fine Arts (AFA) (<https://catalog.jccc.edu/degree requirements/associate-fine-arts/>) or Associate of Science (AS) (<https://catalog.jccc.edu/degree requirements/associate-science/>) 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 (<https://catalog.ku.edu/core34/>) and KU CredTran (<https://creditransfer.ku.edu/>).
- Visit the KU Core 34 General Education guide (<https://nam12.safelinks.protection.outlook.com/?url=http%3A%2F%2Fnextcatalog.jccc.edu%2Ftransfer-guides%2Fku%2Fku-general-education&data=05%7C02%7Cskhalif2%40jccc.edu%7C506a4b607ca34eaa00fb08de158ef1c2%7C15244239dcf245e7aefd127b69fc5438%7C1%7C0%7C638971900858599422%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOiIwLjAuMDAwMCIsIiAiOiJXaW4zMilskFoljoiTWFpbCIsIldUljoyfQ%3D%3D%7C0%7C%7C%7C&sdata=b2O9VaVq9VFjN8MjkWQ4YCl60oq5GZXnn69Vpa2sSL0%3D&reserved=0>) for JCCC equivalents.

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 information about the program, you must meet with an advisor at the transfer institution.

Program Requirements

Chemical Engineering General Option Requirements

Course Code	Course Title	Course Hours	Transfer Code	Transfer Title	Transfer Hours
Code	Title	Hours			

KU Core 34 Requirements

KU Core 34 English (<https://catalog.jccc.edu/transfer-guides/ku/ku-transfer-core34/>)

Visit the KU Core 34 English (https://catalog.jccc.edu/transfer-guides/ku/ku-transfer-core34/) for JCCC equivalents. (two courses)	6
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KU Core 34 Communications (<https://catalog.jccc.edu/transfer-guides/ku/ku-transfer-core34/>)

Visit the KU Core 34 Communications (https://catalog.jccc.edu/transfer-guides/ku/ku-transfer-core34/) for JCCC equivalents.	3
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KU Core 34 Core 34 Social and Behavioral Sciences (<https://catalog.jccc.edu/transfer-guides/ku/ku-transfer-core34/>)

Visit the KU Core 34 Core 34 Social and Behavioral Sciences (https://catalog.jccc.edu/transfer-guides/ku/ku-transfer-core34/) for JCCC equivalents. (Select two courses in two different disciplines)	6
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KU Core 34 Arts and Humanities (<https://catalog.jccc.edu/transfer-guides/ku/ku-transfer-core34/>)

Visit the KU Core 34 Arts and Humanities (https://catalog.jccc.edu/transfer-guides/ku/ku-transfer-core34/) for JCCC equivalents. (Select two courses in two different disciplines)	6
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KU Core 34 US Culture (<https://catalog.jccc.edu/transfer-guides/ku/ku-transfer-core34/>)

Visit the KU Core 34 US Culture (https://catalog.jccc.edu/transfer-guides/ku/ku-transfer-core34/) for JCCC equivalents. Institutionally Designated	3
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KU Core 34 Global Culture (<https://catalog.jccc.edu/transfer-guides/ku/ku-transfer-core34/>)

Visit the KU Core 34 Global Culture (https://catalog.jccc.edu/transfer-guides/ku/ku-transfer-core34/) for JCCC equivalents. Institutionally Designated	3
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KU Core 34 Natural and Physical Sciences (lab required) (<https://catalog.jccc.edu/transfer-guides/ku/ku-transfer-core34/>)

Basic Sciences

CHEM 124 & CHEM 125	General Chemistry I Lecture * and General Chemistry I Lab * +	5	CHEM 130	General Chemistry I	5
CHEM 131 & CHEM 132	General Chemistry II Lecture * and General Chemistry II Lab * +	5	CHEM 135	General Chemistry II	5
PHYS 220	Engineering Physics I * +	5	PHSX 211 & PHSX 216	General Physics I Lecture and General Physics I Laboratory	5
PHYS 221	Engineering Physics II * +	5	PHSX 212 & PHSX 236	General Physics II Lecture and General Physics II Laboratory	4

Advanced Chemistry

CHEM 220	Organic Chemistry I *	5	CHEM 330	Organic Chemistry I	3
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Mathematics
Select one of the following:

MATH 241	Calculus I * #+	5	MATH 125	Calculus I	4
MATH 231 & MATH 232	Business and Applied Calculus I * and Business and Applied Calculus II * +	3	MATH 115 Calculus I AND MATH 116 Calculus II		
MATH 242	Calculus II * +	5	MATH 126	Calculus II	4
MATH 243	Calculus III * +	5	MATH 127	Calculus III	4
MATH 246	Elementary Linear Algebra * +	3	MATH 290	Elementary Linear Algebra	2
MATH 254	Differential Equations * +	4	MATH 220	Analytic Geometry Calc I	4

Engineering Electives

ENGR 251	Statics *	3	CE 201 Statics		
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Select one of the following:

ENGR 254	Dynamics *	3	CE 250 Dynamics		
ENGR 254	Dynamics *	3	ME 320 Dynamics		

Select one of the following:

CS 200	Concepts of Programming Algorithms Using C ++ *	4	EECS 168	Programming I	4
CS 202	Concepts of Programming Algorithms using Python *	4	EECS 168	Programming I	4
CS 205	Concepts of Programming Algorithms using Java *	4	EECS 168	Programming I	4

Select one of the following:

CS 250	Basic Data Structures using C++ *	4	EECS 268	Programming II	4
CS 252	Basic Data Structures Using Python *	4	EECS 268	Programming II	4
CS 255	Basic Data Structures Using Java *	4	EECS 268	Programming II	4

Select one of the following:

DRAF 129 & DRAF 143	Interpreting Architectural Drawings and Introduction to BIM Building Information Modeling *	2	ARCE 217	Computer-Asstd Building Design	3
ENGR 131	Engineering Graphics I:AutoCAD *	4	ARCE 217	Computer-Asstd Building Design	3

Advanced Science Electives

BIOL 135	Principles of Cell and Molecular Biology	4	BIOL 150 Prin. of Molecular and Cellular Biology AND BIOL 154 Introductory Biology Lab for STEM Majors		
BIOL 150	Biology of Organisms *	5	BIOL 152	Prin of Organismal Biology	3
GEOS 130	General Geology	5	GEOL 101 & GEOL 103	The Way The Earth Works and Geology Fundamentals Lab	5
CHEM 221	Organic Chemistry II *	5	CHEM 335 & CHEM 336	Organic Chemistry II and Organic Chemistry II Lab	5

Chemical Engineering Concentration Requirements

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.

Biomedical Concentration

Course Code	Course Title	Course Hours	Transfer Code	Transfer Title	Transfer Hours
BIOL 135	Principles of Cell and Molecular Biology ^	4		Prin. of Molecular Cellular Biology AND BIOL 154 Intro Biology Lab for Stem Majors	

Data Science Concentration

Course Code	Course Title	Course Hours	Transfer Code	Transfer Title	Transfer Hours
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Select one of the following:

CS 200	Concepts of Programming Algorithms Using C++ *	4	EECS 168	Programming I	4
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CS 202	Concepts of Programming Algorithms using Python * E	4	EECS 168	Programming I	4
CS 205	Concepts of Programming Algorithms using Java * E	4	EECS 168	Programming I	4

Select one of the following:

CS 250	Basic Data Structures using C++ * E	4	EECS 268	Programming II	4
CS 252	Basic Data Structures Using Python * E	4	EECS 268	Programming II	4
CS 255	Basic Data Structures Using Java * E	4	EECS 268	Programming II	4

Material Science Concentration

Course Code	Course Title	Course Hours	Transfer Code	Transfer Title	Transfer Hours
BIOL 135	Principles of Cell and Molecular Biology ^	4	BIOL 150 Prin. of Molecular Cellular Biology AND BIOL 154 Intro Biology Lab for Stem Majors		

Petroleum Concentration

Course Code	Course Title	Course Hours	Transfer Code	Transfer Title	Transfer Hours
GEOS 130	General Geology #	5	GEOL 101 & GEOL 103	The Way The Earth Works and Geology Fundamentals Lab	5

Premedical Concentration

Course Code	Course Title	Course Hours	Transfer Code	Transfer Title	Transfer Hours
BIOL 135	Principles of Cell and Molecular Biology ^	4	BIOL 150 Prin. of Molecular Cellular Biology AND BIOL 154 Intro Biology Lab for Stem Majors		
BIOL 150	Biology of Organisms * ^ 5	5	BIOL 152	Prin of Organismal Biology	3
CHEM 221	Organic Chemistry II * E	5	CHEM 335	Organic Chemistry II	3

The following courses may be required for admission into specific medical schools or be recommended for the MCAT.

These classes are recommended but not required:

Course Code	Course Title	Course Hours	Transfer Code	Transfer Title	Transfer Hours
BIOL 135	Principles of Cell and Molecular Biology	4	BIOL 150 Prin. of Molecular Cellular Biology AND BIOL 154 Intro Biology Lab for Stem Majors		
CHEM 220	Organic Chemistry I *	5	CHEM 331	Organic Chemistry I Laboratory	2



PSYC 130	Introduction to Psychology	3	PSYC 104	General Psychology	3
SOC 122	Introduction to Sociology	3	SOC 104	Elements of Sociology	3

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- * JCCC course has a prerequisite or corequisite.
 - + Must earn a grade of "C" or better
 - ^ Counts towards KU Advanced Science elective.
 - # Counts towards KU Advanced Science requirement.
 - EE Counts towards KU Engineering Elective.

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