Biomedical Engineering, BS; Computer Engineering, BS; Electrical Engineering, BS

Kansas State University

Johnson County Community College Transfer Program to the Kansas State University	College of Engineering Student Services
College of Engineering	785-532-5592
Biomedical Engineering, BS; Computer Engineering, BS; Electrical Engineering, BS	engineering@k-state.edu
Academic Year 2025-2026	engg.ksu.edu/academics/undergraduate/

Program Description

- **Biomedical engineering** applies engineering principles to design challenges faced by the medical and life science communities. Graduates from the biomedical engineering program can anticipate designing medical devices and computer software for health care applications. Two areas of emphasis are available: sensors and devices, and computation.
- The **computer engineering** curriculum establishes a theoretical basis for computer components in circuits, electronics, electromagnetics, digital systems, and microprocessors and for software in programming languages, algorithms, data structures and operating systems. A strong laboratory experience stressing digital and microprocessor system design and implementation is included.
- The **electrical engineering** curriculum establishes a theoretical basis in circuits, electronics, electromagnetics, energy conversion and controls. It includes a strong laboratory experience stressing system design and implementation. Three areas of emphasis are available: bioengineering, electronics and communications, and power systems.

Admission Requirements

- **Admissions -** Applicants must first be admitted to Kansas State University either as an incoming freshman or a transfer student. To apply for admission to Kansas State University, complete an application (https://www.k-state.edu/admissions/) online and have official transcripts from all previous colleges sent directly to the Office of Admissions, Kansas State University, 119 Anderson Hall, Manhattan, KS, 66505-0102, or faxed to 785-532-6393 or emailed via electronic transcript service to the Office of Admissions for review. For students transferring to K-State with fewer than 24 credit hours, please also send final high school transcript and ACT or SAT scores. Admission to the College of Engineering is selective. The declaration of the desired curriculum in the College of Engineering does not guarantee admission into the degree program selected. Visit the College of Engineering (https://engg.k-state.edu/academics/admissions/) for current admission information.
- Students not admitted to the College of Engineering can enter the university Open Option program or another available college/degree program. These students can still apply to enter the College of Engineering at a later date after they have completed one full-time semester at K-State as an internal transfer student.
- **Grade requirements -** In addition to the university standards and policies for grades, the College of Engineering has the following standards:
- **Curricula grades -** See the individual engineering department sections of the K-State Undergraduate Catalog (https://catalog.k-state.edu/) for the grade requirements for their curriculum and degree. All courses applied to degree requirements require a letter grade except for 0-credit hour assembly courses.
- **DirectLink** - an initiative between Kansas community colleges and Kansas State University to provide future transfer students with support as they prepare to make the transition to K-State. Visit DirectLink (https://apply2.ksu.edu/register/directlink/) to register.
- **Transferability of Courses -** Many of the fundamental courses required for a degree in engineering may be obtained through pre-engineering programs at other four-year institutions or at community colleges. However, there are differences among the curricula; students electing this route should work closely with their pre-engineering advisors**. Students should be aware that only half of the total Bachelor of Science degree credits may be earned at a two-year school, at least 30 credit hours must be K-State credit hours, and 20 of the last 30 must be K-State credit hours.** Only courses with a grade of A, B or C will be applicable toward engineering degree requirements.
- ***The Cr and D grades are not acceptable for transfer into College of Engineering programs.***
- Some K-State courses in the curriculum do not have an equivalent course at all other institutions. Visit the K-State Undergraduate Catalog (https://catalog.k-state.edu/) for details and lists of courses. To learn more about academic credit for prior learning and advanced credit, please visit K-State Advanced Standing (https://www.k-state.edu/admissions/undergrad/manhattan/apply/policies-requirements/advanced-standing-credit/) credit options.
- Visit Transfer Equivalency (https://go.k-state.edu/equiv/), to determine which courses at a particular college or university will substitute for courses at K-State.
- Students transferring to KSU, that complete the General Education requirements required for the Associate of Arts (AA) (https://catalog.jccc.edu/degreerequirements/associate-arts/), Associate of Fine Arts (AFA) (https://catalog.jccc.edu/degreerequirements/associate-fine-arts/) or Associate of Science (AS) (https://catalog.jccc.edu/degreerequirements/associate-science/) degree from JCCC will be considered to have satisfied KSU's core general education curriculum.
- Students who transfer to KSU, without completing the General Education requirements required for the Associate of Arts (AA) (https://catalog.jccc.edu/degreerequirements/associate-arts/), Associate of Fine Arts (AFA) (https://catalog.jccc.edu/degreerequirements/associate-fine-arts/) or Associate of Science (AS) (https://catalog.jccc.edu/degreerequirements/associate-science/) degree will have courses evaluated on a course-by-course basis toward meeting KSU requirements. To learn more about courses that satisfy KSU Core Requirements (https://catalog.k-state.edu/content.php?catoid=60&navoid=12133) and KSU Transfer Equivalency Tool (https://www.k-state.edu/admissions/undergrad/manhattan/apply/transfer/tools/course-search.html).
- Visit the KSU Core General Education Guide (https://nam12.safelinks.protection.outlook.com/?url=http%3A%2F%2Fnextcatalog.jccc.edu%2Ftransfer-guides%2Fk-state%2Fk-state-general-education&data=05%7C02%7Cskhalif2%40jccc.edu%7C3bbbe8fc84564328cf7008de1320415e%7C15244239dcf245e7aefd127b69fc5438%7C1%7C0%7C638969226426376370%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOiIwLjAuMDAwMCIsIlAiOiJXaW4zMiIsIkFOIjoiTWFpbCIsIldUIjoyfQ%3D%3D%7C0%7C%7C%7C&sdata=p6L6HF0HBpB3aL3uFUWnztw8qzBp%2FiSMV2qlS%2FvLwxE%3D&reserved=0) for JCCC equivalents.

Program Requirements

General Education K-State Core for Engineering

The curriculum for this major assumes students enter college prepared to take Calculus.

Course Code	Course Title	Course Hours	Transfer Code	Transfer Title	Transfer Hours
Code	**Title**	**Hours**			
K State Core English (https://catalog.jccc.edu/transfer-guides/k-state/k-state-general-education/) (2 courses)		6			
K State Core Communications (https://catalog.jccc.edu/transfer-guides/k-state/k-state-general-education/)		3			
K State Core Math and Statistics					
MATH 241	Calculus I*	5	MATH 220	Analytic Geometry Calc I	4
K State Core Natural and Physical Sciences					
PHYS 220	Engineering Physics I*	5	PHYS 213	Engineering Physics I	5
K State Core Social and Behavioral Sciences (https://catalog.jccc.edu/transfer-guides/k-state/k-state-general-education/) (Select two courses in two subject areas.)		6			
K State Core Arts and Humanities (https://catalog.jccc.edu/transfer-guides/k-state/k-state-general-education/) (Select two courses in two subject areas.)		6			
K State Core Free Elective Institutionally Designated Area (https://catalog.jccc.edu/transfer-guides/k-state/k-state-general-education/) #		6			

Biomedical Engineering (BME) (B.S.) **(**https://catalog.k-state.edu/preview_program.php?catoid=62&poid=23499&returnto=12627**)**

128 hours required for the KSU B.S. degree

The curriculum for this major assumes students enter college prepared to take Calculus.

Biomedical Engineering Requirements

Course Code	Course Title	Course Hours	Transfer Code	Transfer Title	Transfer Hours
Code	**Title**	**Hours**			
BIOL 135	Principles of Cell and Molecular Biology	4	BIOL 198	Principles of Biology	4
CHEM 124 & CHEM 125	General Chemistry I Lecture* and General Chemistry I Lab*	4	CHM 210 & CHM 220	Chemistry I and Honors Chemistry I	5
CHEM 131 & CHEM 132	General Chemistry II Lecture* and General Chemistry II Lab*	4	CHM 230	Chemistry II	4
ENGR 121	Engineering Orientation	2	DEN 160 College of Engineering Orientation AND DEN 161 Engineering Problem Solving		
ENGR 131	Engineering Graphics I:AutoCAD*	4	ME 212	Basic Engr Thermody	3
MATH 242	Calculus II*	5	MATH 221	Analytic Geometry Calc II	4
MATH 243	Calculus III*	5	MATH 222	Analytic Geometry Calc III	4

MATH 254	Differential Equations*	4	MATH 340	Elementary Differential Equatn	4
PHYS 221	Engineering Physics II*	5	PHYS 214	Engineering Physics II	5

Computer Engineering (CMPEN) (B.S) (https://catalog.k-state.edu/preview_program.php?catoid=62&poid=23603&returnto=12627)

121 hours required for the K-State B.S. degree.

The curriculum for this major assumes students enter college prepared to take Calculus.

Computer Engineering Requirements

Course Code	Course Title	Course Hours	Transfer Code	Transfer Title	Transfer Hours
Code	**Title**	**Hours**			
CS 134	Programming Fundamentals	4	CIS 115 Introduction to Computing Science AND CIS 116 Introduction to Programming		
Select one of the following:					
CS 200	Concepts of Programming Algorithms Using C++*	4	CIS 200 Programming Fundamentals		
CS 201	Concepts of Programming Algorithms using C#*	4	CIS 200 Programming Fundamentals		
CS 202	Concepts of Programming Algorithms using Python*	4	CIS 200 Programming Fundamentals		
CS 205	Concepts of Programming Algorithms using Java*	4	CIS 200 Programming Fundamentals		
ENGR 121	Engineering Orientation	2	DEN 160 College of Engineering Orientation AND DEN 161 Engineering Problem Solving		
MATH 242	Calculus II*	5	MATH 221	Analytic Geometry Calc II	4
MATH 243	Calculus III*	5	MATH 222	Analytic Geometry Calc III	4
MATH 254	Differential Equations*	4	MATH 340	Elementary Differential Equatn	4
PHYS 221	Engineering Physics II*	5	PHYS 214	Engineering Physics II	5

Electrical Engineering (EE) (B.S.) (https://catalog.k-state.edu/preview_program.php?catoid=62&poid=23493&returnto=12519)

123 hours required for the K-State B.S. degree

The curriculum for this major assumes students enter college prepared to take Calculus.

Engineering Requirements

Course Code	Course Title	Course Hours	Transfer Code	Transfer Title	Transfer Hours
Code	**Title**	**Hours**			
CHEM 124 & CHEM 125	General Chemistry I Lecture* and General Chemistry I Lab*	4	CHM 210 & CHM 220	Chemistry I and Honors Chemistry I	5
ENGR 121	Engineering Orientation	2	DEN 160 College of Engineering Orientation AND DEN 161 Engineering Problem Solving		

MATH 242	Calculus II*	5	MATH 221	Analytic Geometry Calc II	4
MATH 243	Calculus III*	5	MATH 222	Analytic Geometry Calc III	4
MATH 254	Differential Equations*	4	MATH 340	Elementary Differential Equatn	4
PHYS 221	Engineering Physics II*	5	PHYS 214	Engineering Physics II	5

* JCCC course has a prerequisite or corequisite.
\# Any 100 or 200-level courses may apply.

Last Approved Fri Dec 5 14:49:51 2025