

Physics Engineering, BS

University of Kansas

Johnson County Community College Transfer Program to the University of Kansas	School of Engineering
School of Engineering	tel:+17858644965
Physics Engineering, BS	kuengr@ku.edu
Academic Year 2026-2027	https://catalog.ku.edu/engineering/interdisciplinary-engineering-programs/bs-engineering-physics/

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.

The broad training and technical breadth of the engineering physics degree program provide students a unique flexibility in their future careers. They have the science background to pursue pure research opportunities, the engineering and design experience to solve practical problems in industry or a variety of other settings, and the understanding to act as a communication link between highly diversified divisions of an organization.

Engineering physics graduates typically work in aerospace and avionic industries, electronics industries, research and development laboratories, telecommunications, design and consulting firms, and government agencies, such as defense contractors. The degree program also prepares students to attend graduate or professional school in physics, engineering or related disciplines. Four design concentrations are offered: Aerospace Systems: Aircraft track or Spacecraft track; Chemical Systems; Digital Electronic Systems; or Electromechanical Control Systems.

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. Be admissible to KU
 2. 2.5+ cumulative college GPA
 3. "C-" or better in MATH 125 Calculus I, or its direct equivalent (MATH 241 Calculus I* at JCCC)
 4. "C" or better in all math, science and engineering courses applicable to the engineering degree
- 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 Engineering Physics is an ABET accredited program.
 - A minimum of 124 - 126 credit hours is required for the B.S. in Engineering Physics.
 - 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 Engineering Physics.
 - Credit/No Credit policy: Credit/No Credit is not an option for any credits counting toward a Engineering Physics degree.

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

Students must earn a grade of "C" or better in math, science, and engineering courses applicable to the engineering degree.

KU Core 34 Requirements

- 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://credittransfer.ku.edu/>).

Visit the KU Core 34 General Education guide (<https://catalog.jccc.edu/transfer-guides/ku/ku-general-education/>) for JCCC equivalents.

Course Code	Course Title	Course Hours	Transfer Code	Transfer Title	Transfer Hours
Code	Title	Hours			
KU Core 34 English (two courses)		6			
KU Core 34 Communications		3			
KU Core 34 Math and Statistics		3			
Select one of the following:					
MATH 241	Calculus I * (M)	5	MATH 125	Calculus I	4
OR					

MATH 231 & MATH 232	Business and Applied Calculus I * and Business and Applied Calculus II *	6	MATH 115 & MATH 116	Calculus I and Calculus II	6
KU Core 34 Natural and Physical Sciences (lab required) 4-5					
PHYS 220	Engineering Physics I *	5	PHSX 211 & PHSX 216	General Physics I Lecture and General Physics I Laboratory	5
KU Core 34 Social and Behavioral Sciences (Select two courses in two different disciplines) 6					
KU Core 34 Arts and Humanities (Select two courses in two different disciplines) 6					
KU Core 34 US Culture (Institutionally Designated) 3					
KU Core 34 Global Culture (Institutionally Designated) 3					

Course Code Code	Course Title Title	Course Hours	Transfer Code Hours	Transfer Title	Transfer Hours
Mathematics Courses					
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 Applied Differential Equations		
Physics Courses					
PHYS 221	Engineering Physics II *	5	PHSX 212 & PHSX 236	General Physics II Lecture and General Physics II Laboratory	4

Design Concentrations

Course Code Code	Course Title Title	Course Hours	Transfer Code Hours	Transfer Title	Transfer Hours
Aerospace Systems Concentrations					
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
Select one of the following:					
CS 134	Programming Fundamentals	4	EECS 168	Programming I	4
OR					
CS 235	Object-Oriented Programming Using C+ + *	4	ME 208	Intro: Digital Comp Methods	3

ENGR 251 & ENGR 254	Statics * and Dynamics * 6	CE 201 & CE 250	Statics and Dynamics	4.5-5
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Chemical Systems Concentration

CHEM 124 & CHEM 125	General Chemistry I Lecture * and General Chemistry I Lab *	CHEM 130	General Chemistry I	5
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CHEM 131 & CHEM 132	General Chemistry II Lecture * and General Chemistry II Lab *	CHEM 135	General Chemistry II	5
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CHEM 220	Organic Chemistry I *	CHEM 330	Organic Chemistry I	3
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Digital Electronic Systems Concentration

CS 134	Programming Fundamentals	EECS 168	Programming I	4
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Select one of the following:

CS 200	Concepts of Programming Algorithms Using C++ *	EECS 268	Programming II	4
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OR

CS 201	Concepts of Programming Algorithms using C# *	EECS 268	Programming II	4
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OR

CS 202	Concepts of Programming Algorithms using Python *	EECS 268	Programming II	4
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OR

CS 205	Concepts of Programming Algorithms using Java *	EECS 268	Programming II	4
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**Electromechanical Control Systems
Concentration**

CS 134	Programming Fundamentals	EECS 168	Programming I	4
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Select one of the following:

CS 200	Concepts of Programming Algorithms Using C++ *	EECS 268	Programming II	4
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OR

CS 201	Concepts of Programming Algorithms using C# *	EECS 268	Programming II	4
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OR

CS 202	Concepts of Programming Algorithms using Python *	EECS 268	Programming II	4
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OR

CS 205	Concepts of Programming Algorithms using Java *	EECS 268	Programming II	4
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Select one of the following:



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

* JCCC course has a prerequisite or corequisite.

M MATH 125 Calculus I is the "math pathway" course. If a student is not ready to start in Calculus 1, this degree will take more than 4 years to complete. This course will fulfill the Core 34 Math and Statistics requirement. Student must earn a grade of "C-" or better.

Last Approved 5/26/2026, 11:00:48 AM