Johnson County Community College
Transfer Program to the University of Kansas
School of Engineering
Applied Computing, B.S.
2024-2025 Catalog
Contact: School of Engineering Phone: 785-864-3881
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## **To graduate in four years, a student must transfer to KU after one year at JCCC.**

Through the recently approved applied computing major, students receive an enriched computer science experience, with a focus in one of 6 fields: Astronomy, Biology, Chemistry, Economics, Journalism, or Physics.

- 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 Applied Computing is an ABET accredited program.
- A minimum of 122-130 hours is required to complete the B.S. in Applied Computing. The B.S. in Applied Computing must produce graduates before becoming eligible for accreditation.
- Sixty-four credits may be transferred to a KU degree 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 at KU.
- Transfer credits must have a grade of "C" or higher to be applied toward the degree.
- 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.
- Credit/No Credit: For EECS majors, courses used to fulfill the KU Core 34 in Communications, Social \& Behavioral Sciences, Arts \& Humanities, U.S. Culture, and Global Culture accept Credit/No Credit.
- Upper Level Eligibility: In addition to prerequisites and co-requisites, EECS undergraduates are required to earn Upper Level Course Eligibility by attaining grades of "C" or better ("C-" does not qualify) in each of the following courses:
- IC ASTR: Core 34: English (both); EPHX 210, PHSX 216, 212, 236; MATH 125, 126, 127, 220, 290; EECS 101, 140, 168, 210, 268, 348
- IC BIOL: Core 34: English (both); MATH 125, 126, 127, 290; EECS 101, 140, 168, 210, 268, 348; CHEM 130, 135; BIOL 150, 152, 154
- IC CHEM: Core 34: English (both); EPHX 210, PHSX 216, 212, 236; MATH 125, 126, 127, 220, 290; EECS 101, 140, 168, 210, 268, 348;

CHEM 130, 135

- IC ECON: Core 34: English (both); Math 125, 126, 127, 290; EECS 101, 140, 168, 210, 268, 348; ECON 142, 144, and 520
- IC JOUR: Core 34: English; JMC 104, MATH 125, 126, 127, 290; EECS 101, 140, 168, 210, 268, 348
- IC PHSX: Core 34: English (both); EPHX 210, PHSX 216, 212, 236; MATH 125, 126, 127, 220, 290; EECS 101, 140, 168, 210, 268, 348
- If students earn less than a " C " in any of the above listed courses, they must repeat the course at the next available opportunity and must not take a course for which that course is a prerequisite. It is the students' responsibility to contact their advisors before beginning the new semester regarding any required repetitions and the associated enrollment adjustments (drops and adds).
- To enroll in any upper-level EECS course (numbered 300 and above), students must have fulfilled the Upper-Level Eligibility Requirements detailed above. Exceptions: EECS 312, EECS 330, EECS 361, and EECS 388 may be taken in the same semester as students are completing their upper level eligibility. Students may also petition for a Partial Waiver of Upper-Level Eligibility Requirements by completing the appropriate petition, found in the EECS office or at www.eecs.ku.edu.
- 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

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.

## Program Requirements

| KU Courses | Hrs | JCCC Courses | Hrs | KU Core 34 |
| :---: | :---: | :---: | :---: | :---: |
| KU Core 34 |  |  |  |  |
| Core 34: English | 6 | See KU Core 34 General Education guide | 6 | ENG |
| Core 34: Communications | 3 | See KU Core 34 General Education guide | 3 | CMS |
| Core 34: Social and Behavioral Science (Select two courses in two different disciplines - 6 hrs. total) | 6 | See KU Core 34 General Education guide | 6 | SBS |
| Core 34: Arts and Humanities (Select two courses in two different disciplines - 6 hrs. total) PHIL 375 Moral Issues in Computer Technology+ | 6 | See KU Core 34 General Education guide | 6 | AH |
| Core 34: US Culture - Institutionally Designated | 3 | See KU Core 34 General Education guide | 3 | USC |
| Core 34: Global Culture - Institutionally Designated | 3 | See KU Core 34 General Education guide | 3 | GLBC |
| Mathematics |  |  |  |  |
| 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 |
| EECS 210 Discrete Structures | 4 | CS 210 Discrete Structures I* AND CS 211 Discrete Structures II* | $3$ | N/A |
| Computer Science |  |  |  |  |
| EECS 168 Programming I | 4 | CS 200 Concepts of Programming Algorithms Using C++* OR <br> CS 202 Concepts of Programming Algorithms using Python* OR <br> CS 205 Concepts of Programming Algorithms using Java* | 4 <br> 4 <br> 4 | N/A |
| EECS 268 Programming II | 4 | CS 250 Data Structures using C++* OR CS 252 Basic Data Structures Using Python* OR CS 255 Basic Data Structures Using Java* | 4 4 4 | N/A |

## Program Requirements cont.

| Astronomy Concentration - In addition to the core courses above, students in the Astronomy concentration take the following courses: |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| MATH 220 Applied Differential Equations | 3 | MATH 254 Differential Equations* | 4 | N/A |
| EPHX 210 General Physics I for Engineers^\# AND PHSX 216 General Physics I Lab OR PHSX 210 General Physics I AND PHSX 216 General Physics I Lab\# OR PHSX 211 General Physics I AND PHSX 216 General Physics I | 3/1 | PHYS 220 Engineering Physics I*^\# | 5 | NPS/ <br> NLEC/ <br> NLAB |
| PHSX 212/236 General Physics II/Lab | 3/1 | PHYS 221 Engineering Physics II* | 5 | $\begin{gathered} \hline \text { NPS/NLEC } \\ \text { /NLAB } \end{gathered}$ |
| Biology Concentration - In addition to the core courses above, students in the Biology concentration take the following courses: |  |  |  |  |
| BIOL 150 Prin. of Molecular \& Cellular Biology | 3 | BIOL 135 Principles of Cell \& Molecular Biology | 4 | $\begin{gathered} \hline \text { NPS/NLEC } \\ \hline \text { /NLAB } \end{gathered}$ |
| BIOL 152 Principles of Organismal Biology | 3 | BIOL 150 Biology of Organisms* | 5 | $\begin{array}{\|c\|} \hline \text { NPS/NLEC } \\ \hline \end{array}$ |
| CHEM 130 General Chemistry I/Lab\# | 5 | CHEM 124/125 General Chemistry I*/Lab* | 4/1 | $\begin{array}{c\|} \hline \text { NPS/NLEC } \\ \hline \end{array}$ |
| CHEM 135 General Chemistry II/Lab | 5 | CHEM 131/132 General Chemistry II*/Lab* | 4/1 | $\begin{gathered} \text { NPS/NLEC } \\ \hline \end{gathered}$ |
| Chemistry Concentration - In addition to the core courses above, students in the Chemistry concentration take the following courses: |  |  |  |  |
| CHEM 130 General Chemistry I/Lab\# OR CHEM 170 Chemistry for the Chemical Sciences I OR <br> CHEM 190 Foundations for Chemistry I, Honors | 5 | CHEM 124/125 General Chemistry I*/Lab* | 4/1 | $\begin{gathered} \text { NPS/NLEC } \\ \text { /NLAB } \end{gathered}$ |
| CHEM 135 General Chemistry II/ Lab | 5 | CHEM 131/132 General Chemistry II*/Lab* | 4/1 | $\begin{gathered} \hline \text { NPS/NLEC } \\ \text { /NLAB } \\ \hline \end{gathered}$ |
| CHEM 330 Organic Chemistry I | 3 | CHEM 220 Organic Chemistry I* | 5 | $\begin{gathered} \text { NPS/NLEC } \\ \hline \text { /NLAB } \\ \hline \end{gathered}$ |
| EPHX 210^/PHSX 216 General Physics I/Lab | 3/1 | PHYS 220 Engineering Physics I*^ | 5 | $\begin{array}{\|c\|} \hline \text { NPS/NLEC } \\ \hline \end{array}$ |
| PHSX 212/236 General Physics II/Lab | 3/1 | PHYS 221 Engineering Physics II* | 5 | $\begin{gathered} \text { NPS/NLEC } \\ \hline \text { /NLAB } \\ \hline \end{gathered}$ |
| MATH 220 Applied Differential Equations | 3 | MATH 254 Differential Equations* | 4 | N/A |
| Economics Concentration - In addition to the core courses above, students in the Economics concentration take the following courses: |  |  |  |  |
| ECON 144 Principles of Macroeconomics | 3 | ECON 230 Principles of Macroeconomics | 3 | GE 1.2, 3 S |
| ECON 142 Principles of Microeconomics\# (Applies to Core 34: Social and Behavioral Science) | 3 | ECON 231 Principles of Microeconomics | 3 | SBS |
| Core 34: Natural and Physical Sciences | 4-5 | See KU Core 34 General Education guide | 4-5 | $\begin{array}{c\|} \hline \text { NPS/NLEC } \\ \hline \end{array}$ |

Program Requirements cont.
Journalism Concentration - In addition to the core courses above, students in the Journalism concentration take the following courses:

| JMC 101 Media and Society\# (Applies to Core 34: Arts and Humanities) | 3 | JOUR 120 Mass Media and Society | 3 | AH |
| :---: | :---: | :---: | :---: | :---: |
| JMC 304 Media Writing for Audiences | 3 | JOUR 122 News Writing and Reporting | 3 | N/A |
| JMC 320 Introduction to Digital Marketing Communications, Advertising and Public Relations (Journalism Elective) | 3 | JOUR 125 Fundamentals of Advertising AND JOUR 130 Principles of Public Relations | $\begin{aligned} & 3 \\ & 3 \end{aligned}$ | N/A |
| JMC 415 Multimedia Reporting (Journalism Elective) | 3 | JOUR 222 Advanced Reporting* | 3 | N/A |
| JMC 309 Data Storytelling | 3 | WEB 120 Web Analytics* | 3 | N/A |
| Core 34: Natural and Physical Sciences | 4-5 | See KU Core 34 General Education guide | 4-5 | NPS/NLEC <br> /NLAB |
| Physics Concentration - In addition to the core courses above, students in the Physics concentration take the following courses: |  |  |  |  |
| MATH 220 Applied Differential Equations | 3 | MATH 254 Differential Equations* | 4 | N/A |
| EPHX 210 General Physics I for Engineers^\# OR <br> PHSX 210 General Physics I AND PHSX 216 General Physics I Lab\# OR PHSX 211 General Physics I AND PHSX 216 General Physics I | 3/1 | PHYS 220 Engineering Physics I*^\# | 5 | NPS/ <br> NLEC/ <br> NLAB |
| PHSX 212/236 General Physics II/Lab | 3/1 | PHYS 221 Engineering Physics II* | 5 | GE 3N |

* JCCC course has a prerequisite or corequisite.
^PHSX 211 (PHYS 220 at JCCC) satisfies the EPHX 210 requirement for Engineering at KU.
$\wedge \wedge$ This course is a Required major course and is also part of Core 34: Systemwide General Education. If this course is not taken to fulfill the Core 34:SGE requirement, it must be taken in place of elective hours.
+This course is a Recommended Core 34: Systemwide General Education course. This specific course is not required but is recommended by the program's faculty.
\#This course is a Required Core 34: Systemwide General Education course. This program is approved by the Kansas Board of Regents to require this specific Core 34: Systemwide General Education course. If a student did not take this course, it must be taken in addition to other degree requirements.
Note: To graduate in four years, a student must transfer to KU after one year at JCCC. 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.

