



TRANSFER PATHWAY GUIDE

Associate in Science to Bachelor in Biosystems
Engineering

Overview

Completion of the following curriculum will satisfy the requirements for an Associate in Science at the Kentucky Community and Technical College System and leads to a BS in Biology at the University of Kentucky.

Admission Requirements

Engineering Standing upon transfer is available to students who maintain an overall and pre-major GPA of 2.5. Pre-major courses considered in the standing for Biosystems Engineering include the following or their equivalencies: CIS/WRD 110, CHE 105, MA 113, MA 114, MA 213, and PHY 231, EGR 101, EGR 102, EGR 103 (or EGR 215 in lieu of EGR 101 and 103) and BAE 200 with a grade of C or better.

KCTCS students planning to transfer to the University of Kentucky should work closely with a UK Transfer Advisor each semester to ensure that both KCTCS and UK degree requirements are met.

Degree Requirements

30 of the final 36 credit hours earned toward a UK degree must be completed at UK. To graduate, students must maintain a 2.0 cumulative GPA and complete a minimum of 120 credit hours.

General Transfer Requirements

All prospective transfer students are encouraged to receive advising from the University of Kentucky Transfer Center. Appointments are offered online and in-person, and can be scheduled online at <https://www.uky.edu/admission/transfer-advising>.

Additionally, we recommend reviewing the transfer admission requirements (<https://www.uky.edu/admission/transfer-requirements>) and the Frequently Asked Questions (<https://www.uky.edu/admission/transfer/frequently-asked-questions>) on our website: <https://www.uky.edu/admission/transfer>.

For more information, please contact the UK Transfer Center by email at UKTransfer@uky.edu, by phone at 859-257-2000, or in-person in Room 100 of the Funkhouser Building on UK's campus.

KCTCS ASSOCIATE IN SCIENCE TO UNIVERSITY OF KENTUCKY BACHELOR OF BIOSYSTEMS ENGINEERING

Kentucky Community and Technical College System

Category 1: KCTCS General Education Core Requirements (33 hours)

| KCTCS Course | Course or Category | Credits | UK Course | Completed |
|--------------|--|-----------|------------|-----------|
| ENG101 | Writing I (WC) | 3 | ENG 101 | |
| ENG102 | Writing II (WC) | 3 | ENG 102 | |
| TBS XXX | Oral Communication (OC) | 3 | TBD XXX | |
| TBS XXX | Heritage (AH) | 3 | TBD XXX | |
| TBS XXX | Humanities (AH) | 3 | TBD XXX | |
| SOC 101 | Introduction to Sociology (SB) | 3 | SOC 101 | |
| PSY 110 | General Psychology (SB) | 3 | PSY 11-- | |
| CHE 170 | General Chemistry I (NS) | 4 | CHE 105 | |
| PHY231/241 | University Physics I + Lab (NS) | 5 | PHY231+241 | |
| MAT174/175 | Calculus I (QR) | 5 | MA 113 | |
| MAT184/185 | Calculus II (QR) | 5 | MA 114 | |
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| | Subtotal General Education Core Courses | 40 | | |

TBS XXX means to be selected by KCTCS student.

One of these courses must be selected from the KCTCS identified Cultural Studies course list, indicate by placing (CS) next to the course name in Category 1 or 2 table.

Category 2: KCTCS AS Requirements (6 hours)

| KCTCS Course | Course or Category | Credits | UK Course | Completed |
|--------------|---|----------|------------|-----------|
| PHY232/242 | University Physics II | 5 | PHY232/242 | |
| CHE180 | General Chemistry II | 4 | CHE107 | |
| | Subtotal AA/AS Requirement Courses | 9 | | |

Category 3: KCTCS Electives (21 hours)

| KCTCS Course | Course or Category | Credits | UK Course | Completed |
|--------------|--|--------------|-----------|-----------|
| TBS XXX | Digital Literacy | 0-3 | TBD XXX | |
| TBS XXX | First-Year Experience | 3 | TBD XXX | |
| BIO 150 | Introduction to Biology | 3 | BIO 148 | |
| MAT 275 | Calculus III | 4 | MA 213 | |
| MAT 285 | Calculus IV | 3 | MA 214 | |
| TBS XXX | CS 115 or CIT 142/143/144/149 or CS 115U | 3 | CS 115 | |
| | | | | |
| | Subtotal Elective Courses | 16-19 | | |
| | TOTAL Associate Degree Hours | 65-68 | | |

University of Kentucky

Major Requirements for Bachelor of Biosystems Engineering

| UK Course | Course | Credits | KCTCS Course | Taken at KCTCS |
|--|--|---------|--------------|----------------|
| BAE 200 | Principles of Biosystems Engineering | 3 | | |
| BAE 202 | Probability and Statistics for Biosystems | 3 | | |
| BAE 305 | DC Circuits and Microelectronics | 3 | | |
| BAE 310 | Heat and Mass Transfer in Biosystems Engineering | 3 | | |
| BAE 400 | Senior Seminar | 1 | | |
| BAE 402 | Biosystems Engineering Design I | 2 | | |
| BAE 403 | Biosystems Engineering Design II | 2 | | |
| BIO 152 | Introductory Biology II | 3 | BIO 152 | |
| EE 305 | Electrical Circuits and Electronics | 3 | | |
| EM 221 | Statics | 3 | | |
| EM 302 | Mechanics of Deformable Solids | 3 | | |
| EM 313 | Dynamics | 3 | | |
| MA 214 | Calculus IV | 3 | MA 214 | |
| ME 220 | Engineering Thermodynamics I | 3 | ME 220 | |
| ME 330 | Fluid Mechanics | 3 | | |
| BAE 502 | Modeling of Biological Systems | 3 | | |
| PHY 232 | General University Physics | 4 | PHY 232 | |
| PHY 242 | General University Physics Laboratory | 1 | PHY 242 | |
| TBS XXX | Biological Science Elective* | 3 | | |
| TBS XXX | Biosystems Engineering Core Elective* | 9 | | |
| TBS XXX | Technical Elective* | 9 | | |
| WRD 204 | Technical Writing* | 3 | | |
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| Subtotal UK Credit Hours | | | | |
| Total Baccalaureate Degree Credit Hours | | | | |

Updated: Fall 2025

Sample Course Sequence: KCTCS Associate in Science to UK Bachelor of Biosystems Engineering

| KCTCS Fall Semester 1 | |
|-----------------------|-----------|
| ENG 101 | 3 |
| First Year Experience | 3 |
| CHE170 | 4 |
| MAT175 | 5 |
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| Total | 15 |

| KCTCS Spring Semester 1 | |
|-------------------------|-----------|
| ENG 102 | 3 |
| Oral Com. Course | 3 |
| MAT185 | 5 |
| CHE180 | 4 |
| Digital Literacy | 3 |
| | |
| Total | 15 |

| KCTCS Summer Semester 1 | |
|-------------------------|---|
| Soc. Behav. Sci. | 3 |
| Digital Literacy | 3 |
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| KCTCS Fall Semester 2 | |
|-----------------------|-----------|
| BIO 150 | 3 |
| MAT275 | 5 |
| PHY231+241 | 5 |
| Soc. Behav. Sci | 3 |
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| Total | 16 |

| KCTCS Spring Semester 2 | |
|-------------------------|-----------|
| PHY232+242 | 5 |
| Humanities | 3 |
| Soc. Behav. Sci. | 3 |
| CS115U*** | 3 |
| MAT 285 | |
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| Total | 14 |

| KCTCS Summer Semester 2 | |
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| UK Fall Semester 3 | |
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| UK Spring Semester 3 | |
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| UK Summer Semester 3 | |
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| UK Fall Semester 4 | |
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| UK Spring Semester 4 | |
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| UK Summer Semester 4 | |
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