



## TRANSFER PATHWAY GUIDE 2022-2023

Associate in Science to Bachelor of Science in Mechanical 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 the Bachelor of Science in Mechanical Engineering at the University of Kentucky.

### **Admission Requirements**

Engineering Standing upon transfer is available to students who maintain an overall and premajor GPA of 2.5. Premajor courses considered in the standing for Mechanical Engineering must be successfully completed with a C or higher and include the following or their equivalencies: CHE 105, CIS/WRD 111, EGR 101, EGR 102, EGR 103 (or EGR 215), EM 221, MA 113, MA 114, MA 213, PHY 231, PHY 241, PHY 232 and PHY 242.

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**

Students can transfer a total of 67 credit hours from a two-year institution. Additionally, 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 120 total 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](mailto: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 SCIENCE IN MECHANICAL ENGINEERING CHECKLIST

## Kentucky Community and Technical College System

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

| KCTCS Course  | Course or Category                     | Credits      | UK Course     | Completed |
|---------------|--|--------------|---------------|-----------|
| ENG 101       | Writing I (WC)                         | 3            | ENG 101       |           |
| ENG 102       | 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       |           |
| TBS XXX       | Social and Behavioral Science (SB)     | 3            | TBD XXX       |           |
| TBS XXX       | Social and Behavioral Science (SB)     | 3            | TBD XXX       |           |
| PHY 231 & 241 | University Physics I (NS)              | 5            | PHY 231 & 241 |           |
| CHE 170       | General College Chemistry I (NS)       | 4            | CHE 105       |           |
| MAT 174/175   | Calculus I (QR)                        | 4-5          | MA 113        |           |
| MAT 184/185   | Calculus II (QR)                       | 4-5          | MA 114        |           |
|               | <b>Subtotal General Education Core</b> | <b>38-40</b> |               |           |

TBS XXX means to be selected by KCTCS student.

TBD XXX means to be determined by University of Kentucky based on course selected.

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 |
|--------------|--|----------|-----------|-----------|
| CHE 180      | General College Chemistry II                   | 4        | CHE 107   |           |
|              | Additional hours completed by other coursework |          |           |           |
|              | <b>Subtotal AA/AS Requirement Courses</b>      | <b>4</b> |           |           |

### Category 3: KCTCS Electives (21 hours)\*

| KCTCS Course  | Course or Category                   | Credits      | UK Course     | Completed |
|---------------|--------------------------------------|--------------|---------------|-----------|
|               | Digital Literacy**                   | 0-3          |               |           |
|               | First-Year Experience                | 0-3          |               |           |
| CS 115U       | Introduction to Computer Programming | 3            | CS 115        |           |
| MAT 275       | Calculus III                         | 4            | MA 213        |           |
| MAT 285       | Calculus IV                          | 3            | MA 214        |           |
| PHY 232 & 242 | University Physics II                | 5            | PHY 232 & 242 |           |
|               | <b>Subtotal Elective Courses</b>     | <b>15-21</b> |               |           |
|               | <b>TOTAL Associate Degree Hours</b>  | <b>60-65</b> |               |           |

\*Students should work with their KCTCS academic advisors to ensure they earn a total of 60 credit hours from KCTCS to graduate with their AS.

\*\*It's recommended that students take the IC3 exam to bypass the Digital Literacy exam.

## University of Kentucky

### Major Requirements for Bachelor of Science in Mechanical Engineering

| UK Course                                      | Course  | Credits        | KCTCS Course | Taken at KCTCS |
|--|---|----------------|--------------|----------------|
| EE 305   | Electrical Circuits and Electronics                               | 3              |              |                |
| EGR 215  | Introduction to the Practice of Engineering for Transfer Students | 3              |              |                |
| EM 221   | Statics   | 3              |              |                |
| EM 302   | Mechanics of Deformable Solids                                    | 3              |              |                |
| EM 313   | Dynamics  | 3              |              |                |
| ME 205   | Computer Aided Engineering Graphics                               | 3              |              |                |
| ME 220   | Engineering Thermodynamics I                                      | 3              |              |                |
| ME 251   | Introduction to Materials and Manufacturing Processes             | 3              |              |                |
| ME 310   | Engineering Experimentation I                                     | 3              |              |                |
| ME 311   | Engineering Experimentation II                                    | 3              |              |                |
| ME 321   | Engineering Thermodynamics II                                     | 3              |              |                |
| ME 325   | Elements of Heat Transfer   | 3              |              |                |
| ME 330   | Fluid Mechanics   | 3              |              |                |
| ME 340   | Introduction to Mechanical Systems                                | 3              |              |                |
| ME 344   | Mechanical Design   | 3              |              |                |
| ME 411   | ME Capstone Design I  | 3              |              |                |
| ME 412   | ME Capstone Design II   | 3              |              |                |
| ME 440   | Design of Control Systems   | 3              |              |                |
| ME 501   | Mechanical Design with Finite Element Methods                     | 3              |              |                |
| TBS XXX  | Mathematics Elective*   | 3              |              |                |
| TBS XXX  | Technical Elective*   | 9              |              |                |
| WRD 204  | Technical Writing   | 3              |              |                |
| <b>Subtotal UK Credit Hours</b>                |   | <b>72</b>      |              |                |
| <b>Total Baccalaureate Degree Credit Hours</b> |   | <b>132-137</b> |              |                |

\*These courses will be selected in conjunction with a UK academic advisor.

Updated: Fall 2022

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

| KCTCS Fall Semester 1 |              |
|-----------------------|--------------|
| ENG 101               | 3            |
| First-Year Course     | 3            |
| CHE 170               | 4            |
| MAT 174/175           | 4-5          |
| CS 115U               | 3            |
|                       |              |
| <b>Total</b>          | <b>17-18</b> |

| KCTCS Spring Semester 1 |              |
|-------------------------|--------------|
| ENG 102                 | 3            |
| CHE 180                 | 4            |
| MAT 184/185             | 4-5          |
| SBS                     | 3            |
|                         |              |
|                         |              |
| <b>Total</b>            | <b>14-15</b> |

| KCTCS Summer Semester 1 |  |
|-------------------------|--|
|                         |  |
|                         |  |
|                         |  |
|                         |  |

| KCTCS Fall Semester 2 |           |
|-----------------------|-----------|
| PHY 231 & 241         | 5         |
| MAT 275               | 3         |
| Humanities            | 3         |
| Heritage              | 3         |
|                       |           |
|                       |           |
| <b>Total</b>          | <b>12</b> |

| KCTCS Spring Semester 2 |           |
|-------------------------|-----------|
| MAT 285                 | 3         |
| PHY 232 & 242           | 5         |
| Oral Comm.              | 3         |
| SBS                     | 3         |
|                         |           |
|                         |           |
| <b>Total</b>            | <b>12</b> |

| UK Summer Semester 2 |          |
|----------------------|----------|
| ME 220 or EM 221     | 3        |
| EM 313               | 3        |
|                      |          |
| <b>Total</b>         | <b>6</b> |

| UK Fall Semester 3 |  |
|--------------------|--|
|                    |  |
|                    |  |
|                    |  |
|                    |  |
|                    |  |
|                    |  |
| <b>Total</b>       |  |

| UK Spring Semester 3 |  |
|----------------------|--|
|                      |  |
|                      |  |
|                      |  |
|                      |  |
|                      |  |
|                      |  |
| <b>Total</b>         |  |

| UK Summer Semester 3 |  |
|----------------------|--|
|                      |  |
|                      |  |
|                      |  |
|                      |  |

| UK Fall Semester 4 |  |
|--------------------|--|
|                    |  |
|                    |  |
|                    |  |
|                    |  |
|                    |  |
|                    |  |
| <b>Total</b>       |  |

| UK Spring Semester 4 |  |
|----------------------|--|
|                      |  |
|                      |  |
|                      |  |
|                      |  |
|                      |  |
|                      |  |
| <b>Total</b>         |  |

| UK Fall Semester 5 |  |
|--------------------|--|
|                    |  |
|                    |  |
|                    |  |
|                    |  |
| <b>Total</b>       |  |

\*These courses will be selected in conjunction with a UK academic advisor.