



## TRANSFER PATHWAY GUIDE 2022-2023

Associate in Science to Bachelor of Science in Materials 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 Materials Engineering 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 Materials Engineering must be successfully completed with a C or higher and include the following or their equivalencies: CHE 105, CHE 107, CHE 111, CHE 113, CIS/WRD 110, MA 113, MA 114, MA 213, PHY 231 and PHY 241. Additionally, students need to complete MSE 201 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**

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 MATERIALS 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	
CHE 170/175	General College Chemistry I (NS)	5	CHE 105/111	
CHE 180/185	General College Chemistry II (NS)	5	CHE 107/113	
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
PHY 231 & 241	University Physics I	5	PHY 231 & 241	
PHY 232	University Physics II	4	PHY 232	
	<b>Subtotal AS Requirement Courses</b>	<b>9</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	
CHE 270	Organic Chemistry I	3	CHE 230	
	<b>Subtotal Elective Courses</b>	<b>13-19</b>		
	<b>TOTAL Associate Degree Hours</b>	<b>60-66</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 Materials Engineering

UK Course	Course	Credits	KCTCS Course	Taken at KCTCS
MSE 201	Materials Science	3		
MSE 202	Materials Science Laboratory	1		
CHE 236	Survey of Organic Chemistry	3		
CME 200	Process Principles	3		
EM 221	Statics	3		
MA 214	Calculus IV	3	MA 214	
PHY 232	General University Physics	4	PHY 232	
MSE 301	Materials Science II	3		
MSE 351	Materials Thermodynamics	3		
EM 302	Mechanics of Deformable Solids	3		
EE 305	Electrical Circuits and Electronics	3		
PHY 361	Principles of Modern Physics	3		
MSE 401G	Metal and Alloys	3		
MSE 402G	Electronic Materials and Processing	3		
MSE 403G	Ceramic Engineering and Processing	3		
MSE 404G	Polymeric Materials	3		
MSE 407	Materials Laboratory I	3		
MSE 408	Materials Laboratory II	3		
MSE 436	Material Failure Analysis	3		
MSE 470	Application of Materials Engineering to Design Problems	1		
MSE 480	Materials Design	3		
MSE 535	Mechanical Properties of Materials	3		
MSE 538	Metals Processing	3		
MSE 585	Materials Characterization Techniques	3		
STA 381	Engineering Statistics-A Conceptual Approach	3		
TBS XXX	Technical Elective	6		
<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 Materials 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
Heritage	3
<b>Total</b>	<b>14-15</b>

KCTCS Summer Semester 1	

KCTCS Fall Semester 2	
PHY 231 & 241	5
MAT 275	3
CHE 270	3
SBS	3
<b>Total</b>	<b>14</b>

KCTCS Spring Semester 2	
MAT 285	3
PHY 232 & 242	5
Oral Comm.	3
SBS	3
Humanities	3
<b>Total</b>	<b>17</b>

KCTCS Summer Semester 2	

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

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

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

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

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

UK Spring Semester 5	
<b>Total</b>	