



**CAREER AND TECHNICAL EDUCATION  
STATE APPROVED PROGRAMS OF STUDY**

**KENTUCKY DEPARTMENT OF EDUCATION  
OFFICE OF CAREER AND TECHNICAL EDUCATION**

*STATE APPROVED PROGRAMS OF STUDY*

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## Purpose and Guidance

Secondary Career and Technical Education programs are designed to prepare students to be transition ready as they pursue postsecondary education and career opportunities. Intentional planning and alignment of opportunities are considered in the development of career and technical education pathways and programs of study to ensure students develop the knowledge and skills necessary for entry into postsecondary education and training programs and/or the workforce.

The Office of Career and Technical Education has developed example secondary to postsecondary career pathways leading to industry certifications, certificates, diplomas and/or degrees aligned to state in-demand industry sectors and support occupations. The pathway alignments in this document are examples and should only be used as such as local schools work with postsecondary partners to develop and align seamless career pathways and programs of study.

In planning secondary to postsecondary programs of study, local school districts and partnering postsecondary institutions shall work together to ensure programs of study are aligned and implemented to meet the specialized needs of business and industry and meet the goals of the student's individual learning plan.

Secondary and postsecondary personnel should work together to

- Identify secondary career and technical education programs of study offered at high school
- Identify postsecondary programs of study at partnering postsecondary institution
- Determine and plan seamless pathway alignment by identifying the secondary general education and technical courses needed for successful entry into the postsecondary program

# Accounting

## Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Accounting and Finance Foundations (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Financial Management (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Algebra II (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Advanced Accounting (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Personal Finance (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Introduction to Management (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ ENG 101 – Writing I (3)</li> <li>○ COM 181 – Basic Public Speaking (3) <b>OR</b></li> <li>○ COM 252 – Intro to Interpersonal Communications (3)</li> <li>○ ECO – Any Economics Course (3)</li> <li>○ MAT 105 – Business Mathematics (3) or Higher Level Quantitative Reasoning</li> <li>○ Heritage/Humanities (3)</li> <li>○ Natural Sciences (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ CIT 105 – Introduction to Computers (3) <b>OR</b></li> <li>○ OST 105 – Introduction to Information Systems (3)</li> <li>○ ENG 102 – Writing II (3) <b>OR</b></li> <li>○ OST 235 – Business Communications Technology (3)</li> <li>○ BAS 160 – Introduction to Business (3)</li> <li>○ BAS 260 – Professional Development &amp; Protocol (2)</li> <li>○ BAS 270 – Business Employability Seminar (1)</li> <li>○ BAS 267 – Introduction to Business Law (3)</li> <li>○ BAS 282/MKT 282 – Principles of Marketing (3)</li> <li>○ BAS 283/MGT 283 – Principles of Management (3)</li> <li>○ ACC 201 – Financial Accounting (3)</li> <li>○ ACC 202 – Managerial Accounting (3)</li> <li>○ ACT 279 – Computerized Accounting Systems (3)</li> <li>○ ACT 281 – Individual Accounting (3)</li> <li>○ ACT 286 – Financial Accounting Topics (3)</li> <li>○ BAS 110 – Worksheets Business Application (3) <b>OR</b></li> <li>○ CIT 130 – Productivity Software (3) <b>OR</b></li> <li>○ OST 240 – Software Integration (3)</li> <li>○ ACT 196 – Payroll Accounting (3)</li> <li>○ BAS 120 – Personal Finance (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS General Business Certificate</li> <li>○ KCTCS Payroll Accounting Specialist Certificate</li> <li>○ KCTCS Accounting Certificate</li> <li>○ KCTCS Accounting Recordkeeping Specialist Certificate</li> <li>○ KCTCS Business Transfer Certificate</li> <li>○ KCTCS Accounting Diploma and Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

## Aerospace Engineering

### Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** Eastern Kentucky University

**Secondary School:**

**Postsecondary Degree:** Engineering Tech. Management (B.S.)

Grade	General Education	Technical Core	Diploma, Certifications(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering I (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering II (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1)</li> <li>○ Algebra II (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering Specialization Course aligned to Engineering Career Pathway (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1)</li> <li>○ English (1)</li> <li>○ Personal Finance (1)</li> <li>○ Electives (2)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering Capstone <b>OR</b> Engineering Co-op <b>OR</b> Engineering Internship <b>OR</b> Principles of Career and Technical Education <b>OR</b> AP Computer Science A <b>OR</b> AP Computer Science Principles <b>OR</b> Computational Thinking (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> <li>○ KWIB Approved Industry Certification(s)</li> </ul>
13	<ul style="list-style-type: none"> <li>○ BTO 100 Orientation (1)</li> <li>○ E-1A Written Communication (3)</li> <li>○ E-2 MAT 120 Trigonometry (3)</li> <li>○ E-4 CHEM 101/101L Chemistry/Lab (4)</li> <li>○ E-1B Written Communication (3)</li> <li>○ E-1C Oral Communication (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 201 – Metallic Material Process (3)</li> <li>○ TEC 161 – Computer Apps in Tech (3)</li> <li>○ AEM 195 – Computer Aided Drafting (3)</li> <li>○ EET 251 – Electricity and Electronics (3)</li> <li>○ AEM 390 – Advanced Computer Aided Design (3)</li> </ul>	
14	<ul style="list-style-type: none"> <li>○ E-5B ECO 230 Principles of Economics (3)</li> <li>○ E-4 PHY 131 College Physics (5)</li> <li>○ STA 215 Elementary Probability &amp; Stats (3)</li> <li>○ Elective (3)</li> <li>○ MAT 211 Applied Calculus (3)</li> <li>○ E-5A Historical Perspectives (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 202 – Introduction to Quality (3)</li> <li>○ AEM 301 – Non-Metallic Materials Processes (3)</li> <li>○ AEM Tech Elective (3)</li> </ul>	

Grade	General Education	Technical Core	Diploma, Certifications(s), Certificate(s), Degree(s)
15	<ul style="list-style-type: none"> <li>○ E-3A Arts (3)</li> <li>○ E-3B Humanities (3)</li> <li>○ Elective (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 308 – Methods Lean Operation (3)</li> <li>○ AEM 310W – Computer Communication in Industry (3)</li> <li>○ AEM 330 – Materials Testing and Metrology (3)</li> <li>○ AEM Tech Elective (3)</li> <li>○ AEM 349 – Cooperative Study in Technology (1)</li> <li>○ CON 420 – Engineering Economy (3)</li> <li>○ AEM Tech Elective (3)</li> <li>○ AEM 332 – Process Control &amp; Auditing (3)</li> <li>○ BTS 300 – Professional Skills Seminar (0)</li> </ul>	
16	<ul style="list-style-type: none"> <li>○ E-6 Diversity of Perspectives &amp; Exp. (3)</li> <li>○ Elective (4)</li> <li>○ E-6 Diversity of Perspectives &amp; Exp. (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 352 – Automated Devices (3)</li> <li>○ AEM 371 – Hydraulics &amp; Pneumatics (3)</li> <li>○ AEM 407 – Fundamentals of Project Management (3)</li> <li>○ AEM 408 – Human Resource Development (3)</li> <li>○ AEM 499 – Manufacturing Senior Project (3)</li> <li>○ AEM 467 – Comp. Exam (0)</li> <li>○ AEM Tech Elective (3)</li> <li>○ BTS 400 – College to Career Seminar (0)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering Technology Management B.S. Degree Manufacturing Concentration</li> </ul>

## Aircraft Maintenance Technician

### Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Introduction to Space and Aviation (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Aviation I (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Introduction to Aircraft Maintenance Technology (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Aviation Capstone (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ ENG 101 – Writing I (3)</li> <li>○ Quantitative Reasoning (3)</li> <li>○ Natural Sciences (3)</li> <li>○ Heritage/Humanities (3)</li> <li>○ Social/Behavioral Sciences (3)</li> <li>○ Digital Literacy (0-3)</li> </ul>	<ul style="list-style-type: none"> <li>○ ATE 100 – Aviation Math (3)</li> <li>○ ATE 102 – Intro to Aviation Maintenance Technology I (3)</li> <li>○ ATE 104 – Intro to Aviation Maintenance Technology II (3)</li> <li>○ ATE 106 – Intro to Aviation Maintenance Technology III (3)</li> <li>○ ATE 108 – Intro to Aviation Maintenance Technology IV (3)</li> <li>○ ATE 202 – Aircraft Structures I (3)</li> <li>○ ATE 204 – Aircraft Structures II (3)</li> <li>○ ATE 206 – Aircraft Structures III (3)</li> <li>○ ATE 208 – Aircraft Structures IV (3)</li> <li>○ ATE 222 – Aircraft Systems I (3)</li> <li>○ ATE 224 – Aircraft Systems II (3)</li> <li>○ ATE 226 – Aircraft Systems III (3)</li> <li>○ ATE 228 – Aircraft Systems IV (3)</li> <li>○ ATE 242 – Aircraft Powerplants I (3)</li> <li>○ ATE 244 – Aircraft Powerplants II (3)</li> <li>○ ATE 246 – Aircraft Powerplants III (3)</li> <li>○ ATE 248 – Aircraft Powerplants IV (3)</li> <li>○ ATE 252 – Aircraft Powerplant Systems I (3)</li> <li>○ ATE 254 – Aircraft Powerplant Systems II (3)</li> <li>○ ATE 256 – Aircraft Powerplant Systems III (3)</li> <li>○ ATE 258 – Aircraft Powerplant Systems IV (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Airframe Maintenance Technician Certificate</li> <li>○ KCTCS Powerplant Maintenance Technician Certificate</li> <li>○ KCTCS Aviation Maintenance Technology Diploma &amp; Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

## Allied Health

### Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Principles of Health Science (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Emergency Procedures (.5)</li> <li>○ Medical Terminology (.5)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Algebra II (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Allied Health Core Skills (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Medical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Body Structures and Functions (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ COM 181 – Oral Communications (3) <b><u>OR</u></b></li> <li>○ COM 252 – Intro to Interpersonal Communications (3)</li> <li>○ Mathematics (1)</li> <li>○ Science (1)</li> <li>○ HIS 108 – History of the U.S. Through 1865 (3) <b><u>OR</u></b></li> <li>○ HIS 109 – History of the U.S. Since 1865 (3)</li> <li>○ ENG 101 – Writing I (3)</li> <li>○ MAT 105 – Business Mathematics (3) or higher</li> <li>○ BIO 135 – Basic Anatomy &amp; Physiology with Lab (4)</li> <li>○ PSY 110 – General Psychology (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ CIT 105 Intro to Computers (3) <b><u>OR</u></b></li> <li>○ OST 105 Intro to Information Systems (3)</li> <li>○ OST 110 – Document Formatting &amp; Word Processing (3)</li> <li>○ AHS 115 Medical Terminology (3) <b><u>OR</u></b></li> <li>○ CLA 131 Medical Terminology from Greek or Latin (3) <b><u>OR</u></b></li> <li>○ MIT 103 Medical Office Terminology (3)</li> <li>○ MIT 230 – Medical Information Management (3)</li> <li>○ MIT 217 – Medical Office procedures (3)</li> <li>○ MIT 104 – Medial Insurance (3)</li> <li>○ MIT 224 – Medical Practice Management (3)</li> <li>○ MIT 228 – Electronic Medical Records (3)</li> <li>○ OST 240 – Software Integration (3) <b><u>OR</u></b></li> <li>○ CIT 130 – Productivity Software (3)</li> <li>○ Track 1 Course (3)</li> <li>○ Track 2 Course (3)</li> <li>○ Track 3 Course (3)</li> <li>○ Track 4 Course (3)</li> <li>○ Track 5 Course (3)</li> <li>○ MIT 295 – Medical Information Technology Capstone (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Medical Receptionist Certificate</li> <li>○ KCTCS Medical Unit Coord. Certificate</li> <li>○ KCTCS Track X Diploma &amp; Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*



# Architectural Technology

## Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Introduction to Computer-Aided Drafting (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Introduction to Architecture (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Algebra II (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Architectural Design (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Industrial Drafting Processes (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ ACH 100 – Construction Documents I (3)</li> <li>○ ACH 110 – Survey of Architectural Profession (1)</li> <li>○ ACH 120 – Theory and History of Architecture I (3)</li> <li>○ ACH 150 – Construction Documents II (3)</li> <li>○ ACH 160 – Building Materials and Construction I (3)</li> <li>○ ACH 161 – Building Materials and Construction II (3)</li> <li>○ ACH 170 – Theory and History of Architecture II (3)</li> <li>○ ACH 175 – Intro to Systems (3)</li> <li>○ ACH 195 – Computer Aided Drafting I (3)</li> <li>○ ACH 200 – Construction Documents III (3)</li> <li>○ ACH 225 – Structures (3)</li> <li>○ ACH 250 – Construction Documents IV (3)</li> <li>○ ACH 260 – Office Practice (3)</li> <li>○ ACH 275 – Mechanical and Electrical Systems (3)</li> <li>○ ENG 101 – Writing I (3)</li> <li>○ MAT 116 – Technical Mathematics (3) <b>OR</b></li> <li>○ MAT 150 – College Algebra (3) <b>OR</b></li> <li>○ Other Quantitative Reasoning approved by coordinator</li> <li>○ Heritage/Humanities (3)</li> <li>○ Natural Sciences (3)</li> <li>○ Social/Behavioral Sciences (3)</li> <li>○ Digital Literacy (0-3)</li> </ul>	<ul style="list-style-type: none"> <li>Technical courses: from list below (10)</li> <li>○ ACH 180 – Selected Topics in Architectural Technology: (Topic) (1-3)</li> <li>○ ACH 194 – Visual Composition (3)</li> <li>○ ACH 198 – Practicum in Architectural Technology (1-3)</li> <li>○ ACH 280 – Revit/Building Information Modeling (2)</li> <li>○ ACH 290 – Building Codes I (3)</li> <li>○ ACH 291 – Construction Management (3)</li> <li>○ ACH 292 – Building Codes II (3)</li> <li>○ ACH 293 – Presentation Techniques (3)</li> <li>○ ACH 294 – Specification Writing (3)</li> <li>○ ACH 295 – Computer Aided Drafting II (3)</li> <li>○ ACH 297 – Estimating Techniques (3)</li> <li>○ ACH 298 – Computer 3D Modeling (3)</li> <li>○ COE 199 – Cooperative Education: Arch Tech (1-3)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Architectural Technology Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

## Automation Engineering Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** Eastern Kentucky University

**Secondary School:**

**Postsecondary Degree:** Engineering Tech. Management (B.S.)

Grade	General Education	Technical Core	Diploma, Certifications(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering I (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering II (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1)</li> <li>○ Algebra II (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering Specialization Course aligned to Engineering Career Pathway (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1)</li> <li>○ English (1)</li> <li>○ Personal Finance (1)</li> <li>○ Electives (2)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering Capstone <b>OR</b> Engineering Co-op <b>OR</b> Engineering Internship <b>OR</b> Principles of Career and Technical Education <b>OR</b> AP Computer Science A <b>OR</b> AP Computer Science Principles <b>OR</b> Computational Thinking (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> <li>○ KWIB Approved Industry Certification(s)</li> </ul>
13	<ul style="list-style-type: none"> <li>○ BTO 100 Orientation (1)</li> <li>○ E-1A Written Communication (3)</li> <li>○ E-2 MAT 120 Trigonometry (3)</li> <li>○ E-4 CHEM 101/101L Chemistry/Lab (4)</li> <li>○ E-1B Written Communication (3)</li> <li>○ E-1C Oral Communication (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 201 – Metallic Material Process (3)</li> <li>○ TEC 161 – Computer Apps in Tech (3)</li> <li>○ AEM 195 – Computer Aided Drafting (3)</li> <li>○ EET 251 – Electricity and Electronics (3)</li> <li>○ AEM 390 – Advanced Computer Aided Design (3)</li> </ul>	
14	<ul style="list-style-type: none"> <li>○ E-5B ECO 230 Principles of Economics (3)</li> <li>○ E-4 PHY 131 College Physics (5)</li> <li>○ STA 215 Elementary Probability &amp; Stats (3)</li> <li>○ Elective (3)</li> <li>○ MAT 211 Applied Calculus (3)</li> <li>○ E-5A Historical Perspectives (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 202 – Introduction to Quality (3)</li> <li>○ AEM 301 – Non-Metallic Materials Processes (3)</li> <li>○ AEM Tech Elective (3)</li> </ul>	

Grade	General Education	Technical Core	Diploma, Certifications(s), Certificate(s), Degree(s)
15	<ul style="list-style-type: none"> <li>○ E-3A Arts (3)</li> <li>○ E-3B Humanities (3)</li> <li>○ Elective (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 308 – Methods Lean Operation (3)</li> <li>○ AEM 310W – Computer Communication in Industry (3)</li> <li>○ AEM 330 – Materials Testing and Metrology (3)</li> <li>○ AEM Tech Elective (3)</li> <li>○ AEM 349 – Cooperative Study in Technology (1)</li> <li>○ CON 420 – Engineering Economy (3)</li> <li>○ AEM Tech Elective (3)</li> <li>○ AEM 332 – Process Control &amp; Auditing (3)</li> <li>○ BTS 300 – Professional Skills Seminar (0)</li> </ul>	
16	<ul style="list-style-type: none"> <li>○ E-6 Diversity of Perspectives &amp; Exp. (3)</li> <li>○ Elective (4)</li> <li>○ E-6 Diversity of Perspectives &amp; Exp. (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 352 – Automated Devices (3)</li> <li>○ AEM 371 – Hydraulics &amp; Pneumatics (3)</li> <li>○ AEM 407 – Fundamentals of Project Management (3)</li> <li>○ AEM 408 – Human Resource Development (3)</li> <li>○ AEM 499 – Manufacturing Senior Project (3)</li> <li>○ AEM 467 – Comp. Exam (0)</li> <li>○ AEM Tech Elective (3)</li> <li>○ BTS 400 – College to Career Seminar (0)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering Technology Management B.S. Degree Manufacturing Concentration</li> </ul>

## Automotive Service Technician Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Automobile Service Technology Section A (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Automobile Service Technology Section B (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Automobile Service Technology Section C (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Automobile Service Technology Section D (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ Quantitative Reasoning (3)</li> <li>○ Natural Sciences (3)</li> <li>○ Social/Behavioral Sciences (3)</li> <li>○ Heritage/Humanities (3)</li> <li>○ Written Communications (3)</li> <li>○ Digital Literacy (0-3)</li> </ul>	<ul style="list-style-type: none"> <li>○ ADX 120/121 – Basic Automotive Electricity &amp; Lab (5)</li> <li>○ ADX 150/151 – Engine Repair &amp; Lab (5)</li> <li>○ ADX 170/171 – Climate Control &amp; Lab (4)</li> <li>○ ADX 260/261 – Electrical Systems &amp; Lab (5)</li> <li>○ AUT 110/111 – Brake Systems &amp; Lab (5)</li> <li>○ AUT 130/131 – Manual Transmissions &amp; Lab (5)</li> <li>○ AUT 140/141 – Basic Fuel &amp; Ignition Systems &amp; Lab (5)</li> <li>○ AUT 142/143 – Emission Systems &amp; Lab (5)</li> <li>○ AUT 160/161 – Suspension &amp; Steering &amp; Lab (5)</li> <li>○ AUT 180/181 – Automatic Transmission/Transaxle &amp; Lab (5)</li> <li>○ AUT 240/241 – Computer Control Systems &amp; Diagnosis &amp; Lab (5)</li> <li>○ ISX 100 – Industrial Safety (3)</li> <li>○ TQX 110 – Total Quality Management (3)</li> <li>○ B&amp;E 100 – Introduction to Business and Economics (1)</li> <li>○ TEC 100 – Communication for Business and Industry (3) <b>OR</b></li> <li>○ CMS 152 – Writing for Business and Industry (3)</li> <li>○ ACT 101 – Fundamentals of Accounting I (3)</li> <li>○ Work Experience Component (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Automotive Electrician Certificate</li> <li>○ KCTCS Engine Repair Certificate</li> <li>○ KCTCS Automotive A/C Mechanic Certificate</li> <li>○ KCTCS Brake Repairer Certificate</li> <li>○ KCTCS Front End Mechanic Certificate</li> <li>○ KCTCS Manual Transmission/Drive Train Technician Certificate</li> <li>○ KCTCS Automatic Transmission/Transaxle Technician Certificate</li> <li>○ KCTCS Tune-up Mechanic Certificate</li> <li>○ KCTCS Automotive Technician Diploma and Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

## Bricklayer Assistant Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Introductory Masonry (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Intermediate Masonry (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Industrial Safety (.5)</li> <li>○ Basic Blueprint Reading (.5)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Co-op or Internship (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ Written Communications (3) <b><u>OR</u></b></li> <li>○ Oral Communications (3) <b><u>OR</u></b></li> <li>○ Heritage/Humanities (3)</li> <li>○ Social/Behavioral Sciences (3) <b><u>OR</u></b></li> <li>○ Natural Sciences (3) <b><u>OR</u></b></li> <li>○ Quantitative Reasoning (3)</li> <li>○ Digital Literacy (0-3)</li> </ul>	<ul style="list-style-type: none"> <li>○ BRX 220 – Blueprint Reading for Construction (3)</li> <li>○ ISX 100 – Industrial Safety (3) <b><u>OR</u></b></li> <li>○ ISX 101 – Intro to Industrial Safety (3)</li> <li>○ MSY 105 – Introductory Masonry (3)</li> <li>○ MSY 115 – Intermediate Masonry (3)</li> <li>○ MSY 199 – Cooperative Education (3) <b><u>OR</u></b></li> <li>○ MSY 198 – Practicum (3)</li> <li>○ MSY 205/215 – Advanced Masonry &amp; Lab (6)</li> <li>○ MSY 225 – Brick Construction (3)</li> <li>○ MSY 235 – Special Techniques in Brick Construction (3)</li> <li>○ MSY 245 – Anchors and Reinforcement (3)</li> <li>○ MSY 275 – Fireplace Construction (3)</li> <li>○ MSY 299 – Cooperative Education (3) <b><u>OR</u></b></li> <li>○ MSY 298 – Practicum (3)</li> <li>○ MSY 291 – Special Problems (3)</li> <li>○ MSY 253 – Masonry Floors and Steps (3)</li> <li>○ MSY 257 – Stone (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Bricklayer Helper Certificate</li> <li>○ KCTCS Bricklayer Trainee Certificate</li> <li>○ KCTCS Construction Bricklayer Certificate</li> <li>○ KCTCS Stone Mason Certificate</li> <li>○ KCTCS Construction Mason Diploma</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

## Civil Engineering

### Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** Eastern Kentucky University

**Secondary School:**

**Postsecondary Degree:** Engineering Tech. Management (B.S.)

Grade	General Education	Technical Core	Diploma, Certifications(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering I (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering II (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1)</li> <li>○ Algebra II (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering Specialization Course aligned to Engineering Career Pathway (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1)</li> <li>○ English (1)</li> <li>○ Personal Finance (1)</li> <li>○ Electives (2)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering Capstone <b>OR</b> Engineering Co-op <b>OR</b> Engineering Internship <b>OR</b> Principles of Career and Technical Education <b>OR</b> AP Computer Science A <b>OR</b> AP Computer Science Principles <b>OR</b> Computational Thinking (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> <li>○ KWIB Approved Industry Certification(s)</li> </ul>
13	<ul style="list-style-type: none"> <li>○ BTO 100 Orientation (1)</li> <li>○ E-1A Written Communication (3)</li> <li>○ E-2 MAT 120 Trigonometry (3)</li> <li>○ E-4 CHEM 101/101L Chemistry/Lab (4)</li> <li>○ E-1B Written Communication (3)</li> <li>○ E-1C Oral Communication (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 201 – Metallic Material Process (3)</li> <li>○ TEC 161 – Computer Apps in Tech (3)</li> <li>○ AEM 195 – Computer Aided Drafting (3)</li> <li>○ EET 251 – Electricity and Electronics (3)</li> <li>○ AEM 390 – Advanced Computer Aided Design (3)</li> </ul>	
14	<ul style="list-style-type: none"> <li>○ E-5B ECO 230 Principles of Economics (3)</li> <li>○ E-4 PHY 131 College Physics (5)</li> <li>○ STA 215 Elementary Probability &amp; Stats (3)</li> <li>○ Elective (3)</li> <li>○ MAT 211 Applied Calculus (3)</li> <li>○ E-5A Historical Perspectives (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 202 – Introduction to Quality (3)</li> <li>○ AEM 301 – Non-Metallic Materials Processes (3)</li> <li>○ AEM Tech Elective (3)</li> </ul>	

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
15	<ul style="list-style-type: none"> <li>○ E-3A Arts (3)</li> <li>○ E-3B Humanities (3)</li> <li>○ Elective (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 308 – Methods Lean Operation (3)</li> <li>○ AEM 310W – Computer Communication in Industry (3)</li> <li>○ AEM 330 – Materials Testing and Metrology (3)</li> <li>○ AEM Tech Elective (3)</li> <li>○ AEM 349 – Cooperative Study in Technology (1)</li> <li>○ CON 420 – Engineering Economy (3)</li> <li>○ AEM Tech Elective (3)</li> <li>○ AEM 332 – Process Control &amp; Auditing (3)</li> <li>○ BTS 300 – Professional Skills Seminar (0)</li> </ul>	
16	<ul style="list-style-type: none"> <li>○ E-6 Diversity of Perspectives &amp; Exp. (3)</li> <li>○ Elective (4)</li> <li>○ E-6 Diversity of Perspectives &amp; Exp. (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 352 – Automated Devices (3)</li> <li>○ AEM 371 – Hydraulics &amp; Pneumatics (3)</li> <li>○ AEM 407 – Fundamentals of Project Management (3)</li> <li>○ AEM 408 – Human Resource Development (3)</li> <li>○ AEM 499 – Manufacturing Senior Project (3)</li> <li>○ AEM 467 – Comp. Exam (0)</li> <li>○ AEM Tech Elective (3)</li> <li>○ BTS 400 – College to Career Seminar (0)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering Technology Management B.S. Degree Manufacturing Concentration</li> </ul>

## Computer Information Technology Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Computer Literacy (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Computational Thinking (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Algebra II (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Introduction to Programming (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Statistics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ AP Computer Science (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ ENG 101 – Writing I (3)</li> <li>○ MAT 126 – Technical Algebra &amp; Trigonometry (3) or higher</li> <li>○ Social/Behavioral Science (3)</li> <li>○ Heritage/Humanities (3)</li> <li>○ Natural Sciences (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ CIT 105 – Introduction to Computers (3)</li> <li>○ CIT 111 – Computer Hardware &amp; Software (4)</li> <li>○ CIT 120 – Computational Thinking (3)</li> <li>○ CIT 170 – Database Design Fundamentals (3)</li> <li>○ CIT 180 – Security Fundamentals (3)</li> <li>○ Approved Level I Networking (4)</li> <li>○ Approved Level I Programming Language (3)</li> <li>○ CIT 293 – CIT Employability Studies (1)</li> <li>○ CIT Technical Electives (21-25)</li> <li>○ Track 1 course (3)</li> <li>○ Track 2 course (3)</li> <li>○ Track 3 course (3)</li> <li>○ Track 4 course (3)</li> <li>○ Track 6 course (3-4)</li> <li>○ Track 7 course (3-4)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS A+ Prep Certificate</li> <li>○ KCTCS Security Prep + <b>AND</b> Computer Technician Certificates</li> <li>○ KCTCS CIT Fundamentals Certificate</li> <li>○ Various KCTCS Certificates depending on Track</li> <li>○ CIT Associate in Applied Science in one CIT Track</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*



# Computerized Manufacturing and Machining

## Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Fundamentals of Machine Tools-A (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Fundamentals of Machine Tools-B (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Algebra II (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Blueprint Reading for Machinists (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Applied Machining I (1)</li> <li>○ Applied Machining II (1)</li> <li>○ Manual Programming (1)</li> <li>○ Introduction to Computer-Aided Drafting (1)</li> <li>○ Mechanical Blueprint Reading (.5)</li> <li>○ Metrology/Control Charts (.5)</li> <li>○ Co-op (Machine Tool) <b>OR</b> Internship (Machine Tool)</li> <li>○ Introduction to 3D Printing Technology (1)</li> <li>○ Engineering I (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
13-14	<ul style="list-style-type: none"> <li>○ ENG 101 – Writing I (3)</li> <li>○ MAT 116 – Technical Mathematics or higher (3)</li> <li>○ Social/Behavioral Science (3)</li> <li>○ Heritage/Humanities (3)</li> <li>○ Natural Sciences (3)</li> <li>○ Electives (Co-op or Practicum) (1)</li> <li>○ Digital Literacy (0-3)</li> </ul>	<ul style="list-style-type: none"> <li>○ CMM 100/112 – Fundamentals of Machine Tools A <b>AND</b> B (6) <b>OR</b></li> <li>○ CMM 114 – Fundamentals of Machine Tools (6)</li> <li>○ CMM 118 – Metrology/Control Charts (2)</li> <li>○ CMM 120/122 – Applied Machining I <b>AND</b> II (6) <b>OR</b></li> <li>○ CMM 124 – Applied Machining (6)</li> <li>○ CMM 130/132 – Manual Programming <b>AND</b> CAD/CAM/CNC (6) <b>OR</b></li> <li>○ CMM 134 – Manual Programming/CAD/CAM/CNC (6) <b>OR</b></li> <li>○ CMM 138 – Intro to Programming &amp; CNC Machines (6)</li> <li>○ CMM 210/212 – Industrial Machining I <b>AND</b> II (6) <b>OR</b></li> <li>○ CMM 214 – Industrial Machining (6)</li> <li>○ CMM 220/222 – Advanced Industrial Machining I <b>AND</b> II (6) <b>OR</b></li> <li>○ CMM 224 – Advanced Industrial Machining (6)</li> <li>○ CMM 2301/2302 – Intro to Conversational Programming (3) <b>AND</b> Conversational Editing and Subroutines (3) <b>OR</b></li> <li>○ CMM 230 – Conversational Programming (6) <b>OR</b></li> <li>○ CMM 234 – CNC Machines and Coding Practices (6)</li> <li>○ CMM 2401/2402 – Intro to 3-D Code Sequencing and Tool Path Production <b>AND</b> Advanced 3-D Code Sequencing and Micro Systems (6) <b>OR</b></li> <li>○ CMM 240 – Intro to 3-D Programming (6) <b>OR</b></li> <li>○ CMM 244 – Advanced Programming/Setup Practices (6)</li> <li>○ BRX 110/210 – Basic Blueprint Reading for Machinist <b>AND</b> Mechanical Blueprint Reading for Machinist (4) <b>OR</b></li> <li>○ BRX 112 – Blueprint Reading for Machinist (4)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS CNC Machining and Waterjet Technology Certificate</li> <li>○ KCTCS CNC Operator Certificate</li> <li>○ KCTCS Exploratory Machining I Certificate</li> <li>○ KCTCS Machine Tool Operator I Certificate</li> <li>○ KCTCS Machine Tool Operator II Certificate</li> <li>○ KCTCS Computerized Manufacturing and Machining Diploma &amp; Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college's dual credit course offerings.*

## Construction Architectural Engineering Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering I (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Civil Engineering (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Introduction to Construction Technology (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Ceiling and Roof Framing (1)</li> <li>○ Floor and Wall Framing (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ Written Communications (3)</li> <li>○ MAT 105 – Business Mathematics or Higher Level Quantitative Reasoning</li> <li>○ Social/Behavioral Science (3)</li> <li>○ Heritage/Humanities (3)</li> <li>○ Natural Sciences (3)</li> <li>○ Oral Communications (3)</li> <li>○ Digital Literacy (0-3)</li> </ul>	<ul style="list-style-type: none"> <li>○ BRX 220 – Blueprint Reading for Construction (3)</li> <li>○ CAR 126/127 – Intro to Construction &amp; Lab (4)</li> <li>○ CAR 140/141 – Surveying and Foundations &amp; Lab (5)</li> <li>○ CAR 150/151 – Construction Framework &amp; Lab (5)</li> <li>○ CAR 190/191 – Light Frame Construction I &amp; Lab (5)</li> <li>○ CAR 196/197 – Light Frame Construction II &amp; Lab (5)</li> <li>○ CAR 198 – Special Topics in Construction (1-6)</li> <li>○ CAR 200/201 – Light Frame Construction III &amp; Lab (5)</li> <li>○ CAR 240/241 – Light Frame Construction IV &amp; Lab (5)</li> <li>○ CAR 298 – Practicum in Construction (2) <b>OR</b></li> <li>○ CAR 299 – Co-op in Construction (2-4)</li> <li>○ ISX 100 – Industrial Safety (3)</li> <li>○ Technical Electives (10)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Basic Carpenter Certificate</li> <li>○ KCTCS Carpenter Helper Certificate</li> <li>○ KCTCS Construction Forms Helper Certificate</li> <li>○ KCTCS Residential Carpenter Certificate</li> <li>○ KCTCS Residential Roofer Certificate</li> <li>○ KCTCS Residential Site Layout Assistant Certificate</li> <li>○ KCTCS Rough Carpenter Certificate</li> <li>○ KCTCS Construction Technology Diploma &amp; Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

# Culinary Arts

## Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Foods and Nutrition (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Culinary Arts I (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Culinary Arts II (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Advanced Foods and Nutrition (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ Quantitative Reasoning (3)</li> <li>○ Social/Behavioral Science (3)</li> <li>○ Heritage/Humanities (3)</li> <li>○ Natural Sciences (3)</li> <li>○ Written Communication (3)</li> <li>○ Oral Communications (3)</li> <li>○ Digital Literacy (0-3)</li> </ul>	<ul style="list-style-type: none"> <li>○ CUL 100 – Intro to Culinary Arts (2) <b>OR</b></li> <li>○ CUL 105 – Applied Intro to Culinary Arts (2)</li> <li>○ CUL 250 – Garde Manger (4)</li> <li>○ CUL 125 – Sanitation and Safety (2)</li> <li>○ CUL 211 – Basic Food Production (4)</li> <li>○ CUL 215 – Basic Baking (4)</li> <li>○ CUL 230 – Basic Nutrition (3) <b>OR</b></li> <li>○ NFS 101 – Human Nutrition and Wellness (3)</li> <li>○ CUL 240 – Meats, Seafood and Poultry (4)</li> <li>○ CUL 270 – Human Relations Management (3)</li> <li>○ CUL 280 – Cost and Control (3)</li> <li>○ CUL 285 – Front of House (3) <b>OR</b></li> <li>○ CUL 290 – Front of House/Catering (4)</li> <li>○ CUL 220 – Advanced Baking and Pastry Arts (4)</li> <li>○ BAS 170 – Entrepreneurship (3) <b>AND</b></li> <li>○ CUL 295 – Doing Business as a Personal Chef (3) <b>OR</b></li> <li>○ BAS 160 – Intro to Business (3) <b>AND</b></li> <li>○ BAS 283 – Principles of Management (3)</li> <li>○ BAS 282 – Principles of Marketing (3)</li> <li>○ CUL 298 – Culinary Arts Practicum Experience (2-3) <b>OR</b></li> <li>○ CUL 299 – Culinary Arts Cooperative Education Experience (2-3)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Food and Beverage Management Certificate</li> <li>○ KCTCS Advanced Food and Beverage Management Certificate</li> <li>○ KCTCS Baking Certificate</li> <li>○ KCTCS Catering Certificate</li> <li>○ KCTCS Fundamentals of Culinary Arts Certificate</li> <li>○ KCTCS Culinary Arts Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

## Diesel Engine/Electrician Technician Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Mechanical Concepts (.5)</li> <li>○ Preventative Maintenance Lab (.5)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Basic Automotive Electricity (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Electrical Systems for Diesel Equipment (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Introduction to Diesel Engines (1)</li> <li>○ Diesel Engine Repair (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ Quantitative Reasoning (3)</li> <li>○ Social/Behavioral Science (3)</li> <li>○ Heritage/Humanities (3)</li> <li>○ Natural Sciences (3)</li> <li>○ Written Communication (3)</li> <li>○ Digital Literacy (0-3)</li> </ul>	<ul style="list-style-type: none"> <li>○ BEX 100/101 – Basic Electricity for Non-majors &amp; Lab (5) <b><u>OR</u></b></li> <li>○ ADX 120/121 – Basic Automotive Electricity &amp; Lab (5) <b><u>OR</u></b></li> <li>○ ELT 110 – Circuits I (5)</li> <li>○ ADX 170/171 – Climate Control &amp; Lab (4)</li> <li>○ DIT 103 – Preventive Maintenance Lab (2)</li> <li>○ DIT 110/111 – Intro to Diesel Engines &amp; Lab (5) <b><u>OR</u></b></li> <li>○ ADX 150/151 – Engine Repair &amp; Lab (5)</li> <li>○ DIT 112/113 – Diesel Engine Repair &amp; Lab (5)</li> <li>○ DIT 140/141 – Hydraulics &amp; Lab (5) <b><u>OR</u></b></li> <li>○ FPX 100/101 – Power Fluid &amp; Lab (5)</li> <li>○ DIT 150/151 – Power Trains &amp; Lab (5)</li> <li>○ DIT 190/191 – Electrical Systems for Diesel Equipment &amp; Lab (5) <b><u>OR</u></b></li> <li>○ ADX 260/261 – Electrical Systems &amp; Lab (5)</li> <li>○ DIT 180/181 – Brakes &amp; Lab (5) <b><u>AND</u></b></li> <li>○ DIT 160/161 – Steering and Suspension &amp; Lab (5)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Diesel Engine Mechanic Certificate</li> <li>○ KCTCS Diesel Mechanic Assistant Certificate</li> <li>○ KCTCS Medium and Heavy Truck Mechanic Helper Certificate</li> <li>○ KCTCS Diesel Technology Associate in Applied Science (Medium and Heavy Equipment Track)</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

## Electrical/Electronics Engineering Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** Eastern Kentucky University

**Secondary School:**

**Postsecondary Degree:** Engineering Tech. Management (B.S.)

Grade	General Education	Technical Core	Diploma, Certifications(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering I (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering II (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1)</li> <li>○ Algebra II (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering Specialization Course aligned to Engineering Career Pathway (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1)</li> <li>○ English (1)</li> <li>○ Personal Finance (1)</li> <li>○ Electives (2)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering Capstone <b>OR</b> Engineering Co-op <b>OR</b> Engineering Internship <b>OR</b> Principles of Career and Technical Education <b>OR</b> AP Computer Science A <b>OR</b> AP Computer Science Principles <b>OR</b> Computational Thinking (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> <li>○ KWIB Approved Industry Certification(s)</li> </ul>
13	<ul style="list-style-type: none"> <li>○ BTO 100 Orientation (1)</li> <li>○ E-1A Written Communication (3)</li> <li>○ E-2 MAT 120 Trigonometry (3)</li> <li>○ E-4 CHEM 101/101L Chemistry/Lab (4)</li> <li>○ E-1B Written Communication (3)</li> <li>○ E-1C Oral Communication (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 201 – Metallic Material Process (3)</li> <li>○ TEC 161 – Computer Apps in Tech (3)</li> <li>○ AEM 195 – Computer Aided Drafting (3)</li> <li>○ EET 251 – Electricity and Electronics (3)</li> <li>○ AEM 390 – Advanced Computer Aided Design (3)</li> </ul>	
14	<ul style="list-style-type: none"> <li>○ E-5B ECO 230 Principles of Economics (3)</li> <li>○ E-4 PHY 131 College Physics (5)</li> <li>○ STA 215 Elementary Probability &amp; Stats (3)</li> <li>○ Elective (3)</li> <li>○ MAT 211 Applied Calculus (3)</li> <li>○ E-5A Historical Perspectives (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 202 – Introduction to Quality (3)</li> <li>○ AEM 301 – Non-Metallic Materials Processes (3)</li> <li>○ AEM Tech Elective (3)</li> </ul>	

Grade	General Education	Technical Core	Diploma, Certifications(s), Certificate(s), Degree(s)
15	<ul style="list-style-type: none"> <li>○ E-3A Arts (3)</li> <li>○ E-3B Humanities (3)</li> <li>○ Elective (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 308 – Methods Lean Operation (3)</li> <li>○ AEM 310W – Computer Communication in Industry (3)</li> <li>○ AEM 330 – Materials Testing and Metrology (3)</li> <li>○ AEM Tech Elective (3)</li> <li>○ AEM 349 – Cooperative Study in Technology (1)</li> <li>○ CON 420 – Engineering Economy (3)</li> <li>○ AEM Tech Elective (3)</li> <li>○ AEM 332 – Process Control &amp; Auditing (3)</li> <li>○ BTS 300 – Professional Skills Seminar (0)</li> </ul>	
16	<ul style="list-style-type: none"> <li>○ E-6 Diversity of Perspectives &amp; Exp. (3)</li> <li>○ Elective (4)</li> <li>○ E-6 Diversity of Perspectives &amp; Exp. (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 352 – Automated Devices (3)</li> <li>○ AEM 371 – Hydraulics &amp; Pneumatics (3)</li> <li>○ AEM 407 – Fundamentals of Project Management (3)</li> <li>○ AEM 408 – Human Resource Development (3)</li> <li>○ AEM 499 – Manufacturing Senior Project (3)</li> <li>○ AEM 467 – Comp. Exam (0)</li> <li>○ AEM Tech Elective (3)</li> <li>○ BTS 400 – College to Career Seminar (0)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering Technology Management B.S. Degree Manufacturing Concentration</li> </ul>

## Emergency Medical Technician Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Principles of Health Science (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Emergency Procedures (.5)</li> <li>○ Medical Terminology (.5)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Emergency Medical Technician (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ EMS Training (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ ENG 101 – Writing I (3)</li> <li>○ PSY 110 – General Psychology (3)</li> <li>○ BIO 135 – Basic Anatomy &amp; Physiology with Lab (4)</li> <li>○ MAT 110 – Applied Mathematics (3) or higher</li> <li>○ Heritage/Humanities (3)</li> <li>○ Oral Communication (3)</li> <li>○ Digital Literacy (0-3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AHS 115 – Medical Terminology (3) <b>OR</b></li> <li>○ CLA 131 – Medical Terminology from Greek &amp; Latin (3)</li> <li>○ FRS 2061* – Emergency Medical Technician (6) <b>OR</b></li> <li>○ EMS 105* – Emergency Medical Technician (6)</li> <li>○ EMS 200 – Introduction to Paramedicine (4)</li> <li>○ EMS 210 – Emergency Pharmacology (3)</li> <li>○ EMS 211 – Fundamentals Lab (2)</li> <li>○ EMS 215 – Clinical Experience I (1)</li> <li>○ EMS 220 – Cardiovascular Emergencies (3)</li> <li>○ EMS 221 – Cardiac and Trauma Lab (1)</li> <li>○ EMS 225 – Clinical Experience I (1)</li> <li>○ EMS 230 – Traumatic Emergencies (4)</li> <li>○ EMS 231 – Medical Lab (1)</li> <li>○ EMS 235 – Clinical Experience III (2)</li> <li>○ EMS 240 – Medical Emergencies I (3)</li> <li>○ EMS 250 – Medical Emergencies II (3)</li> <li>○ EMS 260 – Special Populations (3)</li> <li>○ EMS 270 – EMS Operations (1)</li> <li>○ EMS 275 – Seminar in Advances Life Support (ALS) (1)</li> <li>○ EMS 285 – Field Internship &amp; Summation (5-6)</li> </ul> <p>*Students are required to hold current unrestricted registration with the National Registry EMT as an EMT to be eligible for the program. Individuals desiring initial certification as an EMT, have to be 18 years of age and hold a high school diploma or GED.</p>	<ul style="list-style-type: none"> <li>○ KCTCS Emergency Medical Services Paramedic Certificate</li> <li>○ KCTCS Emergency Medical Technician Certificate</li> <li>○ KCTCS Emergency Medical Services Paramedic Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*



## Engineering Design Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** Eastern Kentucky University

**Secondary School:**

**Postsecondary Degree:** Engineering Tech. Management (B.S.)

Grade	General Education	Technical Core	Diploma, Certifications(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering I (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering II (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1)</li> <li>○ Algebra II (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering Specialization Course aligned to Engineering Career Pathway (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1)</li> <li>○ English (1)</li> <li>○ Personal Finance (1)</li> <li>○ Electives (2)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering Capstone <b>OR</b> Engineering Co-op <b>OR</b> Engineering Internship <b>OR</b> Principles of Career and Technical Education <b>OR</b> AP Computer Science A <b>OR</b> AP Computer Science Principles <b>OR</b> Computational Thinking (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> <li>○ KWIB Approved Industry Certification(s)</li> </ul>
13	<ul style="list-style-type: none"> <li>○ BTO 100 Orientation (1)</li> <li>○ E-1A Written Communication (3)</li> <li>○ E-2 MAT 120 Trigonometry (3)</li> <li>○ E-4 CHEM 101/101L Chemistry/Lab (4)</li> <li>○ E-1B Written Communication (3)</li> <li>○ E-1C Oral Communication (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 201 – Metallic Material Process (3)</li> <li>○ TEC 161 – Computer Apps in Tech (3)</li> <li>○ AEM 195 – Computer Aided Drafting (3)</li> <li>○ EET 251 – Electricity and Electronics (3)</li> <li>○ AEM 390 – Advanced Computer Aided Design (3)</li> </ul>	
14	<ul style="list-style-type: none"> <li>○ E-5B ECO 230 Principles of Economics (3)</li> <li>○ E-4 PHY 131 College Physics (5)</li> <li>○ STA 215 Elementary Probability &amp; Stats (3)</li> <li>○ Elective (3)</li> <li>○ MAT 211 Applied Calculus (3)</li> <li>○ E-5A Historical Perspectives (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 202 – Introduction to Quality (3)</li> <li>○ AEM 301 – Non-Metallic Materials Processes (3)</li> <li>○ AEM Tech Elective (3)</li> </ul>	

Grade	General Education	Technical Core	Diploma, Certifications(s), Certificate(s), Degree(s)
15	<ul style="list-style-type: none"> <li>○ E-3A Arts (3)</li> <li>○ E-3B Humanities (3)</li> <li>○ Elective (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 308 – Methods Lean Operation (3)</li> <li>○ AEM 310W – Computer Communication in Industry (3)</li> <li>○ AEM 330 – Materials Testing and Metrology (3)</li> <li>○ AEM Tech Elective (3)</li> <li>○ AEM 349 – Cooperative Study in Technology (1)</li> <li>○ CON 420 – Engineering Economy (3)</li> <li>○ AEM Tech Elective (3)</li> <li>○ AEM 332 – Process Control &amp; Auditing (3)</li> <li>○ BTS 300 – Professional Skills Seminar (0)</li> </ul>	
16	<ul style="list-style-type: none"> <li>○ E-6 Diversity of Perspectives &amp; Exp. (3)</li> <li>○ Elective (4)</li> <li>○ E-6 Diversity of Perspectives &amp; Exp. (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 352 – Automated Devices (3)</li> <li>○ AEM 371 – Hydraulics &amp; Pneumatics (3)</li> <li>○ AEM 407 – Fundamentals of Project Management (3)</li> <li>○ AEM 408 – Human Resource Development (3)</li> <li>○ AEM 499 – Manufacturing Senior Project (3)</li> <li>○ AEM 467 – Comp. Exam (0)</li> <li>○ AEM Tech Elective (3)</li> <li>○ BTS 400 – College to Career Seminar (0)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering Technology Management B.S. Degree Manufacturing Concentration</li> </ul>

# Environmental Control System Technician

## Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Refrigeration Fundamentals (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ HVAC Electricity (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Mathematics (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Electrical Components (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Heating and Humidification (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ Quantitative Reasoning (3)</li> <li>○ Natural Sciences (3)</li> <li>○ Social/Behavioral Sciences (3)</li> <li>○ Heritage/Humanities (3)</li> <li>○ Written Communication (3)</li> <li>○ Oral Communications (3)</li> <li>○ Digital Literacy (0-3)</li> </ul>	<ul style="list-style-type: none"> <li>○ ACR 100/101 – Refrigeration Fundamentals &amp; Lab (5)</li> <li>○ ACR 102/103 – HVAC Electricity &amp; Lab (5) <b>OR</b></li> <li>○ Comparable Electrical Courses (4-5)</li> <li>○ ACR 130/131 – Electrical Components (5)</li> <li>○ ACR 170 – Heat Load/Duct Design (3) <b>OR</b></li> <li>○ ACR 209 – Manual N Commercial Load Calculations and Design (4)</li> <li>○ ACR 250/251 – Cooling and Dehumidification &amp; Lab (5)</li> <li>○ ACR 260/262 – Heating and Humidification &amp; Lab (5)</li> <li>○ ACR 270/271 – Heat Pump Application &amp; Lab (5) <b>OR</b></li> <li>○ ACR 207 – Commercial HVAC Systems (5)</li> <li>○ Electives (10-12)</li> <li>○ ACR 290 – Journeyman Preparation (3)</li> <li>○ ACR 291 – Special Problems (1) <b>OR</b></li> <li>○ ACR 298 – Practicum (2)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Domestic Air Conditioner and Furnace Installer Certificate</li> <li>○ Environmental Control System Servicer Certificate</li> <li>○ Environmental System Repair Helper Certificate</li> <li>○ KCTCS Air Conditioning Technology Diploma &amp; Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

## Flight and Aeronautics

### Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** Eastern Kentucky University

**Secondary School:**

**Postsecondary Degree:** Aviation Professional Flight (B.S.)

Grade	General Education	Technical Core	Diploma, Certifications(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Introduction to Aerospace and Aviation (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Aviation I (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1)</li> <li>○ Algebra II (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Aviation II (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1)</li> <li>○ English (1)</li> <li>○ Personal Finance (1)</li> <li>○ Electives (2)</li> </ul>	<ul style="list-style-type: none"> <li>○ Commercial Aviation <b>OR</b> Aerospace Engineering <b>OR</b> Unmanned Aircraft Systems <b>OR</b> Aviation Capstone <b>OR</b> Engineering Co-op <b>OR</b> Engineering Internship (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> <li>○ KWIB Approved Industry Certification(s)</li> </ul>
13	<ul style="list-style-type: none"> <li>○ BTO 100 Orientation (1)</li> <li>○ E-1A ENG 101 Written Communication (3)</li> <li>○ E-2 MAT 112 Algebra (3)</li> <li>○ E-1B ENG 102 Written Communication (3)</li> <li>○ E-4 PHY 101 Concepts of the Physical World (5)</li> </ul>	<ul style="list-style-type: none"> <li>○ AVN 150 – Introduction to Aviation (3)</li> <li>○ AVN 161 – Private Pilot-SEL: Ground (4)</li> <li>○ AVN 161A – Private Pilot-SEL: Flight I (1)</li> <li>○ AVN 162A – Private Pilot-SEL: Flight II (1)</li> <li>○ AVN 220 – Instrument Pilot: Ground (4)</li> <li>○ TEC 161 – Computer Systems (3)</li> <li>○ AVN 221A – Instrument Pilot: Flight I (1)</li> </ul>	
14	<ul style="list-style-type: none"> <li>○ E-1C EES 250 Interpersonal Communications (3)</li> <li>○ E-5B ECO 230 Principles of Economics (3)</li> <li>○ E-3B Humanities (3)</li> <li>○ STA 215 Intro to Statistical Reasoning (3)</li> <li>○ E-4 Natural Sciences (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AVN 222A – Instrument Pilot: Flight II (1)</li> <li>○ AVN 305 – Multi-Engine Pilot: Ground (1)</li> <li>○ AVN 315 – Aviation Safety Programs (3)</li> <li>○ AVN 300 – Commercial Pilot: Ground (2)</li> <li>○ AVN 305A – Private Pilot Multi-Engine: Flight (1)</li> <li>○ AVN 330 – Crew Resource Management (3)</li> <li>○ AVN 335 – Weather Reporting/Analysis (3)</li> <li>○ AVN 301A – Commercial Pilot: Flight I (1)</li> </ul>	

Grade	General Education	Technical Core	Diploma, Certifications(s), Certificate(s), Degree(s)
15	<ul style="list-style-type: none"> <li>○ MGT 301 Principles of Management (3)</li> <li>○ E-3A Arts (3)</li> <li>○ E-6A Diversity of Perspective (3)</li> <li>○ E-6B Diversity of Perspective (3)</li> <li>○ BTS 300 Bus &amp; Tech Seminar (0)</li> </ul>	<ul style="list-style-type: none"> <li>○ AVN 302A – Commercial Pilot: Flight II (1)</li> <li>○ AVN 325 – Aircraft Systems (3)</li> <li>○ AVN 329W – Aviation Human Factors (3)</li> <li>○ AVN 303A – Commercial Pilot: Flight III (1)</li> <li>○ AVN 350 – Air Transportation (3)</li> <li>○ AVN 415 – Instructor Pilot-SEL: Ground (3)</li> <li>○ AVN 425 – Applied Aerodynamics (3)</li> <li>○ AVN 480 – Glass Cockpit Technologies (1)</li> <li>○ AVN 304A – Commercial Pilot: Flight IV (1)</li> </ul>	
16	<ul style="list-style-type: none"> <li>○ E-5A Historical Perspective (3)</li> <li>○ Elective (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AVN 340 – Airport Operations and Security (3)</li> <li>○ AVN 390 – Aviation Decision Making (3)</li> <li>○ AVN 402 – Corporate and Business Aviation (3)</li> <li>○ AVN 410 – Air Traffic Control (3)</li> <li>○ AVN 435 – Turbine Aircraft Systems (3)</li> <li>○ AVN 370 – Aviation Leadership (3)</li> <li>○ AVN 401 – Airline Management (3)</li> <li>○ AVN 460 – Aviation Legislation (3)</li> <li>○ AVN 467 – Aviation Exit Exam (0)</li> <li>○ BTS 400 – Bus &amp; Tech Seminar (0)</li> </ul>	<ul style="list-style-type: none"> <li>○ Aviation B.S. Degree Professional Flight Concentration</li> </ul>

## Financial Services

### Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Financial Services I (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Accounting and Finance Foundations (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Personal Finance (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Financial Services II (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Introduction to Finance (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ ENG 101 – Writing I (3)</li> <li>○ MAT 105 – Business Mathematics (3) <b>OR</b></li> <li>○ MAT 100 – Applied Mathematics (3) or Higher Level Quantitative Reasoning</li> <li>○ Heritage/Humanities (3)</li> <li>○ Oral Communications (3)</li> <li>○ Natural Sciences (3)</li> <li>○ Social/Behavioral Sciences (3)</li> <li>○ Digital Literacy (0-3)</li> </ul>	<ul style="list-style-type: none"> <li>○ OST 105 – Introduction to Information Systems (3)</li> <li>○ OST 110 – Document Formatting and Word Processing (3)</li> <li>○ OST 160 – Records and Database Management (3)</li> <li>○ OST 210 – Advanced Word Processing Application (3)</li> <li>○ OST 215 – Office Procedures (3)</li> <li>○ OST 235 – Business Communications Technology (3)</li> <li>○ OST 240 – Software Integration (3)</li> <li>○ OST 275 – Office Management (3)</li> <li>○ ACT 101 – Fundamentals of Accounting I (3) or Higher Level Accounting</li> <li>○ ACT 102 – Fundamentals of Accounting II (3) or Higher Level Accounting</li> <li>○ ACT 279 – Computerized Accounting Systems (3)</li> <li>○ OST 295 – Administrative Office Technology Internship (3) <b>OR</b></li> <li>○ COE 199 – Cooperative Education (3)</li> <li>○ OST 112 – Financial Management (3)</li> <li>○ BAS 160 – Intro to Business (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Data Entry Operator Certificate</li> <li>○ KCTCS Financial Assistant Clerk Certificate</li> <li>○ KCTCS Financial Assistant Trainee Certificate</li> <li>○ KCTCS Financial Record Keeper Certificate</li> <li>○ KCTCS Integrated Office Skills Certificate</li> <li>○ KCTCS Receptionist Certificate</li> <li>○ KCTCS Administrative Office Technology Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

## Heavy Equipment Sciences

### Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Intro to Construction Technology (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Heavy Highway Construction Equipment Repair (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Heavy Equipment Operation (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Basic Troubleshooting (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ Written Communications (3) <b>OR</b></li> <li>○ Oral Communications (3) <b>OR</b></li> <li>○ Heritage/Humanities (3)</li> <li>○ Social/Behavioral Sciences (3) <b>OR</b></li> <li>○ Natural Sciences (3) <b>OR</b></li> <li>○ Quantitative Reasoning (3)</li> <li>○ Digital Literacy (0-3)</li> </ul>	<ul style="list-style-type: none"> <li>○ ISX 100 – Industrial Safety (3)</li> <li>○ DIT 103 – Preventive Maintenance Lab (2)</li> <li>○ HEO 151 – Heavy Equipment Operating I (6)</li> <li>○ HEO 201 – Heavy Equipment Operating II (6)</li> <li>○ HEO 251 – Heavy Equipment Operating III (6)</li> <li>○ HEO 125 – Special Problems I (3)</li> <li>○ HEO 225 – Special Problems II (3)</li> <li>○ HEO 110 – Power Shovel Backhoe Operator (7)</li> <li>○ HEO 111 – Bulldozer Operator (7)</li> <li>○ HEO 107 – Utility Tractor Loader Operator (7)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Backhoe Operator Certificate</li> <li>○ KCTCS Bulldozer Operator Certificate</li> <li>○ KCTCS Front End Loader Operator Certificate</li> <li>○ KCTCS Operating Engineer Diploma</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

## Industrial Electrician Assistant Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Electrical Construction 1 (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Circuits I (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Electrical Motor Controls (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Rotating Machinery Electrical Motor Controls (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ ENG 101 – Writing I (3)</li> <li>○ MAT 116 – Technical Mathematics or Higher Level Quantitative Reasoning</li> <li>○ Social/Behavioral Science (3)</li> <li>○ Heritage/Humanities (3)</li> <li>○ Natural Sciences (3)</li> <li>○ Oral Communication (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ ELT 110 – Circuits I (5) <b>OR</b></li> <li>○ EET 119 – Basic Electricity (5)</li> <li>○ Approved courses from specific track technical elective list (4-5)</li> <li>○ EET 250 – National Electric Code (4)</li> <li>○ EET 264/265 – Rotating Machinery &amp; Lab (4) <b>AND</b></li> <li>○ EET 270/271 – Electrical Motor Controls I &amp; Lab (4) <b>OR</b></li> <li>○ EET 268/269 – Rotating Machinery and Electrical Control Motors I &amp; Lab (7) <b>OR</b></li> <li>○ EET 266/267 – Rotating Machinery and Transformers &amp; Lab (6)</li> <li>○ EET 127 – Electrical Capstone (1)</li> <li>○ EET 154/155 – Electrical Construction I &amp; Lab (4)</li> <li>○ EET 252/253 – Electrical Construction II &amp; Lab (4) <b>OR</b></li> <li>○ EET 254/255 – Electrical Construction &amp; Lab (7)</li> <li>○ EET 150/151 – Transformers &amp; Lab (3)</li> <li>○ Technical Electives (9)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Electrical Construction Certificate</li> <li>○ KCTCS Electrical Motor Control Level I</li> <li>○ KCTCS Electrician Trainee Level I Certificate</li> <li>○ KCTCS Electrician Trainee Level II Certificate</li> <li>○ KCTCS Residential Electricity Level I Certificate</li> <li>○ KCTCS Residential Electricity Level II Certificate</li> <li>○ KCTCS MIT: Electrical Technology Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*



## Interdisciplinary Early Childhood Education Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Early Lifespan Development (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Child Development Services I (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Algebra II (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Child Development Services II (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Principles of Teaching (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ COM 181 – Oral Communications (3) <b>OR</b></li> <li>○ COM 252 – Intro to Interpersonal Communications (3)</li> <li>○ HIS 108 – History of the U.S. Through 1865 (3) <b>OR</b></li> <li>○ HIS 109 – History of the U.S. Since 1865 (3)</li> <li>○ ENG 101 – Writing I (3)</li> <li>○ MAT 105 – Business Mathematics (3) or higher</li> <li>○ PHY 171 – Applied Physics (4)</li> <li>○ PSY 110 – General Psychology (3)</li> <li>○ ENG 102 – Writing II (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ CIT 105 – Introduction to Computers (3)</li> <li>○ IEC 101 – Orientation to Early Childhood Education (3)</li> <li>○ IEC 102 – Foundations of Early Childhood Education (3)</li> <li>○ IEC 130 – Early Childhood Development (3)</li> <li>○ IEC 170 – Observation &amp; Assessment (3)</li> <li>○ IEC 200 – Child Guidance (3)</li> <li>○ IEC XXX – Technical Support Elective Course 1 (3)</li> <li>○ IEC XXX – Technical Support Elective Course 2 (3)</li> <li>○ IEC 180 – Approaches to Early Childhood Education Curriculum (3)</li> <li>○ IEC 216 – Literacy &amp; Language in IECE (3)</li> <li>○ IEC 221 – Creative Expressions in IECE (3)</li> <li>○ IEC 246 – Sciences &amp; Mathematics for IEC (3)</li> <li>○ IEC 235 – Introduction to Inclusive Education (3)</li> <li>○ IEC 291 – IECE Practicum/Cooperative Education (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS KY Childcare Provider Cert</li> <li>○ KCTCS Child Care Assistant Cert.</li> <li>○ KCTCS Interdisciplinary Early Childhood Education AAS</li> </ul> <p>KCTCS Certificates available depending on courses selected.</p>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

## Law Enforcement Services

### Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Introduction to Criminal Justice (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Law Enforcement (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Algebra II (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Health and Well-Being for Law Enforcement (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Criminal Investigation (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ ENG 101 – Writing I (3)</li> <li>○ ENG 102 – Writing II (3)</li> <li>○ COM 181 – Basic Public Speaking (3) <b>OR</b></li> <li>○ COM 252 – Intro to Interpersonal Communications (3)</li> <li>○ Quantitative Reasoning (3)</li> <li>○ Heritage/Humanities (3)</li> <li>○ Natural Sciences (3)</li> <li>○ POL 101 – American Government (3) <b>OR</b></li> <li>○ POL 255 – State Government (3)</li> <li>○ PSY 110 – General Psychology (3)</li> <li>○ SOC 101 – Intro to Sociology (3)</li> <li>○ Digital Literacy (0-3)</li> <li>○ Elective Courses (Gen Ed or Technical) (6)</li> </ul>	<ul style="list-style-type: none"> <li>○ CRJ 100 – Intro to Criminal Justice (3)</li> <li>○ CRJ 202 – Issues in Ethics in Criminal Justice (3)</li> <li>○ CRJ 204 – Criminal Investigations (3)</li> <li>○ CRJ 215 – Intro Law Enforcement (3)</li> <li>○ CRJ 216 – Criminal Law (3)</li> <li>○ CRJ 217 – Criminal Procedures (3)</li> <li>○ CRJ 295 – Criminal Justice Capstone (1)</li> <li>○ CRJ 108 – Advanced Firearms and Less Than Lethal Weapons (4)</li> <li>○ CRJ 201 – Intro to Criminalistics (3)</li> <li>○ CRJ 208 – Delinquency and the Juvenile Justice System (3)</li> <li>○ CRJ 211 – Liability and Legal Issues (3)</li> <li>○ CRJ 218 – Police Supervision (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Criminal Justice Certificate</li> <li>○ KCTCS Law Enforcement Certificate</li> <li>○ KCTCS Criminal Justice Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

## Maintenance Mechanic

### Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Industrial Maintenance Electrical Principles (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Industrial Maintenance Electrical Motor Controls (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Industrial Maintenance of PLC’s (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Maintaining Industrial Equipment (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ COM 181 – Oral Communications (3) <b>OR</b></li> <li>○ COM 252 – Intro to Interpersonal Communications (3)</li> <li>○ HIS 108 – History of the U.S. Through 1865 (3) <b>OR</b></li> <li>○ HIS 109 – History of the U.S. Since 1865 (3)</li> <li>○ ENG 101 – Writing I (3)</li> <li>○ MAT 116 – Technical Math (3) or higher</li> <li>○ PHY 171 – Applied Physics (4)</li> <li>○ POL 101 – American Government (3) <b>OR</b></li> <li>○ PSY 110 – General Psychology (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ FPX 100/101 – Fluid Power &amp; Lab (5)</li> <li>○ IMT 110/111 – Industrial Maintenance Electrical Principles &amp; Lab (5)</li> <li>○ IMT 150/151 – Maintaining Industrial Equipment &amp; Lab (5)</li> <li>○ BRX 120 – Basic Blueprint Reading (3)</li> <li>○ IMT 100/101 – Welding for Maintenance &amp; Lab (5)</li> <li>○ CMM 114 – Fundamentals of Machine Tools (6)</li> <li>○ IMT 220/221 – Industrial Maintenance Electrical Motor Controls I &amp; Lab (5)</li> <li>○ IMT 280/281 – Advanced Programmable Logic Controllers &amp; Lab (5)</li> <li>○ IMT 200 – Industrial Robotic &amp; Robotic Maintenance (4)</li> <li>○ MST 200/201 – Advanced Hydraulic Systems &amp; Lab (5)</li> <li>○ Digital Literacy Requirement (0-3)</li> <li>○ IMT 289 – Industrial Maintenance Technology Capstone (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Industrial Maintenance Mechanic Level I Certificate</li> <li>○ KCTCS Ind. Maintenance Mechanic Level II Certificate and</li> <li>○ KCTCS</li> <li>○ Ind. Maintenance Machinists Mechanic Certificate</li> <li>○ KCTCS Industrial Maintenance Robotic Technician Certificate</li> <li>○ KCTC Fluid Power Mechanic Certificate</li> <li>○ KCTCS Industrial Maintenance Technician Diploma</li> <li>○ KCTCS Industrial Maintenance Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

## Mechanical Engineering

### Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** Eastern Kentucky University

**Secondary School:**

**Postsecondary Degree:** Engineering Tech. Management (B.S.)

Grade	General Education	Technical Core	Diploma, Certifications(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering I (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering II (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1)</li> <li>○ Algebra II (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering Specialization Course aligned to Engineering Career Pathway (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1)</li> <li>○ English (1)</li> <li>○ Personal Finance (1)</li> <li>○ Electives (2)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering Capstone <b>OR</b> Engineering Co-op <b>OR</b> Engineering Internship <b>OR</b> Principles of Career and Technical Education <b>OR</b> AP Computer Science A <b>OR</b> AP Computer Science Principles <b>OR</b> Computational Thinking (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> <li>○ KWIB Approved Industry Certification(s)</li> </ul>
13	<ul style="list-style-type: none"> <li>○ BTO 100 Orientation (1)</li> <li>○ E-1A Written Communication (3)</li> <li>○ E-2 MAT 120 Trigonometry (3)</li> <li>○ E-4 CHEM 101/101L Chemistry/Lab (4)</li> <li>○ E-1B Written Communication (3)</li> <li>○ E-1C Oral Communication (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 201 Metallic Material Process (3)</li> <li>○ TEC 161 Computer Apps in Tech (3)</li> <li>○ AEM 195 Computer Aided Drafting (3)</li> <li>○ EET 251 Electricity and Electronics (3)</li> <li>○ AEM 390 Advanced Computer Aided Design (3)</li> </ul>	
14	<ul style="list-style-type: none"> <li>○ E-5B ECO 230 Principles of Economics (3)</li> <li>○ E-4 PHY 131 College Physics (5)</li> <li>○ STA 215 Elementary Probability &amp; Stats (3)</li> <li>○ Elective (3)</li> <li>○ MAT 211 Applied Calculus (3)</li> <li>○ E-5A Historical Perspectives (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 202 Introduction to Quality (3)</li> <li>○ AEM 301 Non-Metallic Materials Processes (3)</li> <li>○ AEM Tech Elective (3)</li> </ul>	

Grade	General Education	Technical Core	Diploma, Certifications(s), Certificate(s), Degree(s)
15	<ul style="list-style-type: none"> <li>○ E-3A Arts (3)</li> <li>○ E-3B Humanities (3)</li> <li>○ Elective (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 308 Methods Lean Operation (3)</li> <li>○ AEM 310W Computer Communication in Industry (3)</li> <li>○ AEM 330 Materials Testing and Metrology (3)</li> <li>○ AEM Tech Elective (3)</li> <li>○ AEM 349 Cooperative Study in Technology (1)</li> <li>○ CON 420 Engineering Economy (3)</li> <li>○ AEM Tech Elective (3)</li> <li>○ AEM 332 Process Control &amp; Auditing (3)</li> <li>○ BTS 300 Professional Skills Seminar (0)</li> </ul>	
16	<ul style="list-style-type: none"> <li>○ E-6 Diversity of Perspectives &amp; Exp. (3)</li> <li>○ Elective (4)</li> <li>○ E-6 Diversity of Perspectives &amp; Exp. (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AEM 352 Automated Devices (3)</li> <li>○ AEM 371 Hydraulics &amp; Pneumatics (3)</li> <li>○ AEM 407 Fundamentals of Project Management (3)</li> <li>○ AEM 408 Human Resource Development (3)</li> <li>○ AEM 499 Manufacturing Senior Project (3)</li> <li>○ AEM 467 Comp. Exam (0)</li> <li>○ AEM Tech Elective (3)</li> <li>○ BTS 400 College to Career Seminar (0)</li> </ul>	<ul style="list-style-type: none"> <li>○ Engineering Technology Management B.S. Degree Manufacturing Concentration</li> </ul>

## Medical Administrative Assisting Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Principles of Health Science (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Emergency Procedures (.5)</li> <li>○ Medical Terminology (.5)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Medical Office Procedures (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Medical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Internship: Medical Administrative Assistant (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ MAT 105 – Mathematics for Business (3) <b>OR</b></li> <li>○ MAT 110 – Applied Mathematics (3) <b>OR</b></li> <li>○ Higher Level Quantitative Reasoning</li> <li>○ BIO 135 – Basic Anatomy and Physiology with Lab (4) <b>OR</b></li> <li>○ BIO 137 – Human Anatomy &amp; Physiology I (4) <b>AND</b></li> <li>○ BIO 139 – Human Anatomy &amp; Physiology II (4)</li> <li>○ PSY 110 – General Psychology (3)</li> <li>○ ENG 101 – Writing I (3)</li> <li>○ Heritage/Humanities (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ MAI 105 – Introduction to Medical Assisting (3)</li> <li>○ MAI 120 – Medical Assisting Lab Techniques I (3)</li> <li>○ MAI 140 – Medical Assisting Clinical Procedures I (4)</li> <li>○ MAI 150 – Medical Assisting Administrative Procedures I (3) <b>OR</b></li> <li>○ MIT 217 – Medical Office Procedures (3)</li> <li>○ MAI 170 – Dosage Calculations (2)</li> <li>○ MAI 200 – Pathophysiology for the Medical Assistant (3)</li> <li>○ MAI 220 – Medical Assisting Lab Techniques II (3)</li> <li>○ MAI 230 – Medical Insurance (3) <b>OR</b></li> <li>○ MIT 104 – Introduction to Medical Insurance (3)</li> <li>○ MAI 240 – Medical Assisting Clinical Procedures II (4)</li> <li>○ MAI 250 – Medical Assisting Administrative Procedures II (3) <b>OR</b></li> <li>○ MIT 227 – Medical Office Software (3)</li> <li>○ MAI 270 – Pharmacology for the Medical Assistant (3)</li> <li>○ MAI 289 – Medical Assisting Assessment Preparation (1-2)</li> <li>○ MAI 281 – Medical Assisting Practicum (1)</li> <li>○ MAI 284 – Medical Assisting Externship (2-3)</li> <li>○ AHS 115 – Medical Terminology (3)</li> <li>○ CPR 100 – CPR for Healthcare Professionals (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Electrocardiograph Technician Certificate</li> <li>○ KCTCS Medical Office Administrative Assistant Certificate</li> <li>○ KCTCS Medical Office Insurance Billing and Coding Certificate</li> <li>○ KCTCS Medical Assisting Diploma and Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

## Pharmacy Technician Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Principles of Health Science (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Emergency Procedures (.5)</li> <li>○ Medical Terminology (.5)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Algebra II (1) – Aligned with student’s ILP</li> <li>○ Anatomy (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Pharmacy Technician</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Medical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Pharmacological and Other Therapeutic Modalities</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ COM 181 – Oral Communications (3) <b>OR</b></li> <li>○ COM 252 – Intro to Interpersonal Communications (3)</li> <li>○ BIO 135 – Basic Anatomy &amp; Physiology with Lab (4)</li> </ul>	<ul style="list-style-type: none"> <li>○ CIT 105 – Intro to Computers (3)</li> <li>○ MIT 103 – Medical Office Terminology (3) <b>OR</b></li> <li>○ AHS 115 – Medical Terminology (3) <b>OR</b></li> <li>○ CLA 131 – Medical Terminology from Greek &amp; Latin (3)</li> <li>○ PHA 110 – Pharmacy Procedures &amp; Skills (6)</li> <li>○ PHA 145 – Pharmaceutical Calculators (3)</li> <li>○ PHA 136 – Pharmacology (3)</li> <li>○ PHA 150 – Pharmacy Experience (3)</li> <li>○ PHA 200 – Admixtures for IV Therapy (3)</li> <li>○ PHA 205 – Admixture Preparations (1)</li> <li>○ PHA 236 Pharmacology II (3)</li> <li>○ PHA 240 Pharmacy Technology Career Planning (3)</li> <li>○ PHA 250 Pharmacy Experience II (3)</li> <li>○ CPR 100 CPR for Professionals (0-3)</li> </ul>	<ul style="list-style-type: none"> <li>○ KWIB Approved Industry Certification(s)</li> <li>○ KCTCS Entry Level Pharmacy Technology Certificate</li> <li>○ KCTCS Advanced Level Pharmacy Technology Diploma</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

## Plant Science Systems

### Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Principles of Agricultural Science and Technology (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Agriscience (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Algebra II (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Introduction to Greenhouse and Crop Production (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Landscape and Turf Management (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ ENG 101 – Writing I (3)</li> <li>○ ENG 102 – Writing II (3)</li> <li>○ COM 181 – Basic Public Speaking (3)</li> <li>○ MAT 110 – Applied Mathematics or higher (3)</li> <li>○ AGR 101 – The Economics of Food and Agriculture (3)</li> <li>○ Heritage/Humanities (3)</li> <li>○ BIO 112/113 – Intro to Biology &amp; Lab (4) <b>OR</b></li> <li>○ BIO 114/115 – Biology I &amp; Lab (4) <b>OR</b></li> <li>○ BIO 116/117 – Biology II &amp; Lab (4) <b>OR</b></li> <li>○ BIO 143 – Zoology &amp; Lab (4) <b>OR</b></li> <li>○ BIO 141 – Botany &amp; Lab (4) <b>OR</b></li> <li>○ BIO 150/151 – Principles of Biology I &amp; Lab (5)</li> <li>○ CHE 130/135 – Intro General &amp; Biological Chemistry &amp; Lab (4) <b>OR</b></li> <li>○ CHE 140/145 – Intro to General Chemistry &amp; Lab (4) <b>OR</b></li> <li>○ CHE 170/175 – General College Chemistry I &amp; Lab (4)</li> <li>○ Digital Literacy (3)</li> </ul>	<ul style="list-style-type: none"> <li>○ AGR 125 – Intro to Fertilizer &amp; Soils (3)</li> <li>○ AGR 130 – Field Application in Agriculture (2)</li> <li>○ AGR 140 – Issues in Agriculture (3)</li> <li>○ AGR 230 – Career Development in Agriculture (3)</li> <li>○ AGR 240 – Animal Science (3)</li> <li>○ AGR 250 – Introduction to Plants/Crop Production (3)</li> <li>○ AGR 160 – Horticulture Science (3)</li> <li>○ AGR 180 – Agricultural Internship (2)</li> <li>○ HRT 110 – Nursery Management (4)</li> <li>○ HRT 210 – Landscape Design (4) <b>OR</b></li> <li>○ HRT 240 – Greenhouse Management (4)</li> <li>○ Electives (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Horticulture Certificate</li> <li>○ KCTCS Horticulture Diploma &amp; Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*



## Plumber Assistant

### Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Introduction to Plumbing (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Basic Plumbing Skills (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Plumbing Systems (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Bathroom Install (1)</li> <li>○ Kitchen Install (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ ENG 101 – Writing I (3)</li> <li>○ Quantitative Reasoning (3)</li> <li>○ Social/Behavioral Sciences (3)</li> <li>○ Heritage/Humanities (3)</li> <li>○ Natural Sciences (3)</li> <li>○ Oral Communications (3)</li> <li>○ Digital Literacy (0-3)</li> </ul>	<ul style="list-style-type: none"> <li>○ PLB 150 – Plumbing, Introduction to the Trade (3) <b>AND</b></li> <li>○ PLB 151 – Basic Plumbing Skills (3) <b>OR</b></li> <li>○ PLB 100 – Basic Theory of Plumbing (3) <b>AND</b></li> <li>○ PLB 105 – Plumbing Principles (3)</li> <li>○ PLB 160 – Plumbing Systems, DWV and Water (3)</li> <li>○ PLB 161 – Rough-In of Plumbing Fixtures (2)</li> <li>○ PLB 250 – Plumbing Appliances and Fixtures (3)</li> <li>○ PLB 251 – Pumps and Water Heaters (2)</li> <li>○ PLB 260 – Service (2) <b>AND</b></li> <li>○ PLB 261 – Advanced Plumbing Lab (2) <b>OR</b></li> <li>○ PLB 265 – Valve and Faucet Repairs (1) <b>AND</b></li> <li>○ PLB 267 – Water Heater Service &amp; Replacement (1) <b>AND</b></li> <li>○ PLB 269 – Sewer &amp; Drain Cleaning (1)</li> <li>○ PLB 262 – Back Flow Prevention (3)</li> <li>○ PLB 270 – License Preparation for Journeyman Exam (3)</li> <li>○ PLB 298 – Plumbing Practicum/Repairs &amp; Maintenance (4) <b>OR</b></li> <li>○ PLB 299 – Plumbing Cooperative Education (4)</li> <li>○ BRX 220 – Blueprint Reading for Construction (3)</li> <li>○ BAS 120 – Personal Finance (3) <b>OR</b> EFM 100 – Personal Financial Management (3)</li> <li>○ WPP 200 – Workplace Principles (3) <b>OR</b></li> <li>○ BAS 250 – Business Employability Seminar (1)</li> <li>○ ISX 101 – Into to Industrial Safety (3) <b>OR</b> ISX 100 – Industrial Safety (3)</li> <li>○ PLB 115 – Plumbing Applications (4)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS 1<sup>st</sup> Year Plumber Certificate</li> <li>○ KCTCS 2<sup>nd</sup> Year Plumber Certificate</li> <li>○ KCTCS Certified Backflow Tester Certificate</li> <li>○ KCTCS Finish Plumber Certificate</li> <li>○ KCTCS Maintenance Plumber Certificate</li> <li>○ KCTCS Plumber’s Helper Certificate</li> <li>○ KCTCS Rough Plumber Certificate</li> <li>○ KCTCS Plumber Estimator Certificate</li> <li>○ KCTCS Service and Repair Plumber Certificate</li> <li>○ KCTCS Plumbing Technology Diploma and Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

## Pre-Nursing

### Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Principles of Health Science (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Emergency Procedures (.5)</li> <li>○ Medical Terminology (.5)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Algebra II (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Medicaid Nurse Aide (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Medical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Body Structures and Functions (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ COM 181 – Oral Communications (3) <b>OR</b></li> <li>○ COM 252 – Intro to Interpersonal Communications (3)</li> <li>○ BIO 137 – Human Anatomy &amp; Physiology I (4)</li> <li>○ HIS 108 – History of the U.S. Through 1865 (3) <b>OR</b></li> <li>○ HIS 109 – History of the U.S. Since 1865 (3)</li> <li>○ ENG 101 – Writing I (3)</li> <li>○ MAT 105 – Business Mathematics (3) or higher</li> <li>○ BIO 139 Human Anatomy &amp; Physiology II (4)</li> <li>○ PSY 110 – General Psychology (3)</li> <li>○ BIO 225 – Medical Microbiology (4)</li> </ul>	<ul style="list-style-type: none"> <li>○ NAA 100 – Nursing Assistant Skills (0-3)</li> <li>○ CPR 100 – CPR for Healthcare Professionals (0-1)</li> <li>○ NSG 101 – Nursing Practice I (9) (<b>OR</b> other courses available)</li> <li>○ NSG 210 – Medical/Surgical Nursing I (6)</li> <li>○ NSG 211 – Maternal Newborn Nursing (3)</li> <li>○ NSG 212 – Behavioral Health Nursing (3)</li> <li>○ NSG 213 – Pediatric Nursing (3)</li> <li>○ NSG 215 – Pharmacology I (1)</li> <li>○ NSG 220 – Medical/Surgical Nursing II (6)</li> <li>○ NSG 225 – Pharmacology II (1)</li> <li>○ NSG 230 – Medical/Surgical Nursing III (6)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Nursing Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

## Teaching and Learning

### Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ The Learning Community (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ The Learner-Centered Classroom (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Algebra II (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ The Professional Educator (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Pre-Calculus (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Principles of Career and Technical Education (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ ENG 101 – Writing I (3)</li> <li>○ ENG 102 – Writing II (3)</li> <li>○ COM 181 – Basic Public Speaking (3) <b><u>OR</u></b></li> <li>○ COM 252 – Intro to Interpersonal Communications (3)</li> <li>○ Arts and Humanities I (3-4)</li> <li>○ HIS 108 – History of the United States Through 1865 (3) <b><u>OR</u></b></li> <li>○ HIS 109 – History of the United States Since 1865 (3)</li> <li>○ MAT 146 – Contemporary College Algebra (3) <b><u>OR</u></b></li> <li>○ MAT 150 – College Algebra (3) <b><u>OR</u></b></li> <li>○ MA 109 – College Algebra (3) <b><u>OR</u></b></li> <li>○ MA 111 – Contemporary Math (3)</li> <li>○ Natural Sciences II (7)</li> <li>○ PSY 110 – General Psychology (3)</li> <li>○ Social/Behavioral Sciences I (6)</li> <li>○ Digital Literacy (0-3)</li> </ul>	<ul style="list-style-type: none"> <li>○ EDU 201 – Intro to American Education (3)</li> <li>○ EDU 202 – Human Development and Learning (3)</li> <li>○ EDP 203 – Teaching Exceptional Learners in Regular Classrooms (3) <b><u>OR</u></b></li> <li>○ EDP 260 – Motivation and Classroom Management (3)</li> <li>○ Technical or Support Electives (15)</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Education Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*

## Welder Entry Level Secondary-Postsecondary Pathway Alignment

**Postsecondary Institution:** KCTCS (Institutions TBD)

**Secondary School:**

**Dual Credit Hours:**

Grade	General Education	Technical Core	Diploma, Certification(s), Certificate(s), Degree(s)
9	<ul style="list-style-type: none"> <li>○ English I (1)</li> <li>○ Algebra I (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Physical Education (.5)</li> <li>○ Health (.5)</li> </ul>	<ul style="list-style-type: none"> <li>○ Oxy-fuel Systems (1)</li> </ul>	
10	<ul style="list-style-type: none"> <li>○ English II (1)</li> <li>○ Geometry (1)</li> <li>○ Science (1)</li> <li>○ Social Studies (1)</li> <li>○ Visual and Performing Arts (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ Shielded Metal Arc Welding (1)</li> </ul>	
11	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Technical Mathematics (1) – Aligned with student’s ILP</li> <li>○ Science (1) – Aligned with student’s ILP</li> <li>○ Social Studies (1) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Gas Metal Arc Welding (1)</li> </ul>	
12	<ul style="list-style-type: none"> <li>○ English (1) – Aligned with student’s ILP</li> <li>○ Mathematics (1) – Aligned with student’s ILP</li> <li>○ Electives (2) – Aligned with student’s ILP</li> </ul>	<ul style="list-style-type: none"> <li>○ Gas Tungsten Arc Welding (1)</li> </ul>	<ul style="list-style-type: none"> <li>○ High School Diploma</li> </ul>
13-14	<ul style="list-style-type: none"> <li>○ COM 181 – Oral Communications (3) <b>OR</b></li> <li>○ COM 252 – Intro to Interpersonal Communications (3)</li> <li>○ HIS 108 – History of the U.S. Through 1865 (3) <b>OR</b></li> <li>○ HIS 109 – History of the U.S. Since 1865</li> <li>○ ENG 101 – Writing I (3)</li> <li>○ MAT 110 – Applied Mathematics (3) or higher</li> <li>○ PHY 171 – Applied Physics (4)</li> <li>○ PSY 110 – General Psychology (3) <b>OR</b></li> <li>○ SOC 101 – Introduction to Sociology (3)</li> <li>○ Digital Literacy (0-3)</li> <li>○ Heritage/Humanities (3)</li> <li>○ Natural Sciences (3) <b>OR</b></li> <li>○ Introductory Physics I &amp; Lab (4)</li> </ul>	<ul style="list-style-type: none"> <li>○ WLD 100/101 – Oxy-Fuel Systems &amp; Lab (4)</li> <li>○ WLD 110/111 – Cutting Processes &amp; Lab (5)</li> <li>○ WLD 120/121 – Shielded Metal Arc Welding &amp; Lab (5)</li> <li>○ WLD 123 – Shielded Metal Arc Welding Groove with Backing Lab (3) <b>OR</b></li> <li>○ WLD 225 – Shielded Metal Arc Welding Open Groove Lab (3)</li> <li>○ WLD 140/141 – Gas Metal Arc Welding &amp; Lab (5)</li> <li>○ WLD 143 – Gas Metal Arc Welding Groove Lab (3)</li> <li>○ WLD 130/131 – Gas Tungsten Arc Welding &amp; Lab (5)</li> <li>○ WLD 133 – Gas Tungsten Arc Welding Groove Lab (3)</li> <li>○ WLD 170/171 – Blueprint Reading for Welding &amp; Lab (5)</li> <li>○ Elective (3)</li> <li>○ WLD 220/221 – Welding Certification &amp; Lab (5)</li> <li>○ WLD 298 – Welding Practicum (1-4) <b>OR</b></li> <li>○ WLD 299 – Cooperative Work Experience</li> </ul>	<ul style="list-style-type: none"> <li>○ KCTCS Gas Welder Certificate</li> <li>○ KCTCS ARC Cutter Certificate</li> <li>○ KCTCS Welder Helper Certificate</li> <li>○ KCTCS Production Line Welder Certificate</li> <li>○ KCTCS Combination Welder Diploma</li> <li>○ KCTCS Welding Technology Associate in Applied Science</li> </ul>

*Note: these are model pathways. Each high school will have to develop their own pathway based on the college’s dual credit course offerings.*