



Program Alignment Common Courses

AC/DC Circuits 4 credits

KSDE/High School Course(s):

- 17101/Fundamentals of Electrical Theory
- OR**
- 21201/Foundations of Electronics

Industrial Fluid Power 3 credits

KSDE/High School Course(s):

- 41310/Introduction to Engineering
- AND**
- 41355/Materials Science in Engineering
- AND**
- 39302/Hydraulics and Pneumatics

Programmable Logic Controllers 3 credits

KSDE/High School Course(s):

- 31001/Introduction to Computer Coding
- AND**
- 39010/Automated Integrated Systems I
- AND**
- 39020/Automated Integrated Systems II

Industrial Robotics 3 credits

KSDE/High School Course(s):

- 21009/Robotics I
- AND**
- 39009/Robotics II

KSDE Benchmarks: Qualification Requirements

1. 17101/Fundamentals of Electrical Theory - Benchmark 1: Introduction to Electricity, Benchmark 2: Electrical Components, Benchmark 3: Electrical Safety, Benchmark 4: Reading Electrical Diagrams, Benchmark 5: Electrical Measurements and Testing
2. 21201/Foundations of Electronics - Benchmark 1: Lab Practices, Benchmark 2: Demonstrate Proficiency in DC Circuits, Benchmark 3: Demonstrate Proficiency in AC Circuits
3. 41310/Introduction to Engineering - Benchmark 1: Safety & Introduction, Benchmark 2: Methodology & Communication
4. 41355/Materials Science in Engineering - Benchmark 1: Nature of Material and Material Science, Benchmark 2: Materials, Structures and Properties
5. 39302/Hydraulics & Pneumatics - Benchmark 1
6. 31001/Introduction to Computer Coding - Benchmark 1
7. 39010/Automated Integrated Systems I - Benchmark 1: PLC Basics and Overview, Benchmark 2: PLC Hardware and Processing, Benchmark 3: Programming PLC, Benchmark 4: PLC Communication
8. 39020/Automated Integrated Systems II - Benchmark 1
9. 21009/Robotics I - Benchmark 1: Introduction and Core Knowledge, Benchmark 2: Design and Troubleshooting, Benchmark 3: Programming, Benchmark 4: Technical Data and Statistics
10. 39009/Robotics II - Benchmark 1: Application and Troubleshooting Skills

Notes

To receive postsecondary credit for Automation Engineer Technology courses, the student must:

1. Complete the KSDE approved high school Career Cluster Pathway (CCP) program with a minimum of a 3.0 cumulative high school GPA. Student must earn a B or higher for any of the KSDE/high school courses listed.
2. Attain completer status through successful completion of high school CCP sequence of courses. (A completer is a student who has earned a minimum of three secondary level credits in a single CTE pathway, with at least two of those credits being a combination of technical and application-level courses. The student must also earn or complete at least one or more of the following aligned to the Pathway/Program: Industry-recognized certification or passing score on a third-party, end-of-pathway assessment; Excel in CTE Qualifying Recognized Credential; Nine + college hours leading to completion of a certificate or postsecondary program; or High-quality work-based learning career preparation experience [KSDE, *Kansas Career Cluster Guidance Handbook 2026-2027*, p.65].)
3. Provide a certified letter or official transcript from high school verifying the completion of the designated CCP to the postsecondary institution's Office of the Registrar.
4. Submit a CCP Credit Award Request Form signed by an authorized high school official verifying completion of the KSDE approved CCP to the postsecondary institution's Office of the Registrar.
5. Meet all of the postsecondary institution's admissions criteria and program prerequisites.
6. Successfully complete the next postsecondary course in the sequence.
7. Complete a minimum of 12 credit hours of postsecondary institution's undergraduate coursework as a full-time direct from high school student in good standing with at least a 2.0 GPA.

