

INDUSTRIAL MAINTENANCE TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE



The [Industrial Maintenance](#) program prepares students to diagnose and resolve industrial equipment problems using diagnostic assessment skills and core troubleshooting skills. Students will be capable of diagnosing and maintaining HVAC, Boiler systems including advanced automation that include disciplines such as fluid power, mechanical power transmission and electrical automation. Students completing this program will find careers as maintenance repair technicians, electrical maintenance technicians, power plant control room operators, or [industrial maintenance](#) technicians. The associate's degree also prepares students to move into a maintenance supervision role in their career.

Program contact: Learn more

This degree program contains one or more embedded certificates which will be automatically awarded when the certificate requirements are completed. If you do not want to receive the embedded certificate(s), please notify the Office of the Registrar at RegistrarOffice@tri-c.edu.

Learn more here about how certificate credits apply to the related degree.

Related Degrees and Certificates

- Automation Maintenance Technician, Certificate of Proficiency
- Industrial Maintenance Technician, Certificate of Proficiency
- Mechatronics, Certificate of Proficiency
- Industrial Welding, Certificate of Proficiency
- Introductory Welding, Short-Term Certificate

Related Training and Credentials

- Fast-Track Welding Certificate Program
- Electrical Technician Certificate of Completion
- Steelworkers for the Future
- Nondestructive Testing (NDT) and Quality Assurance (QA)

Program Admission Requirements

- High School Diploma/GED
- ENG-0995 Applied College Literacies or appropriate score on English Placement Test.
- MATH-0915 Basic Arithmetic and Pre-Algebra or qualified Math Placement.

Other Information

- Options available in Integrated Systems Maintenance - Fluid Power and Programmable Logic Controllers, Environmental Systems Maintenance - Boiler, HVAC, and Welding.

Program Learning Outcomes

This program is designed to prepare students to demonstrate the following learning outcomes:

- Identify, select, and operate appropriate test equipment and tools, and interpret test results to solve problems in a controlled environment.
- Use team skills to collaborate and perform in a professional and workman like fashion in a diverse workforce and a dynamic environment to meet organizational goals and objectives.
- Apply appropriate Math, Science, and computer skills to support installation, troubleshooting, and maintenance of electrical equipment and systems.
- Demonstrate effective comprehension and communication skills through listening, writing and speaking about problems, processes, and procedures to supervisors, team members, and management.
- Diagnose and resolve equipment problems by utilizing good technical assessment skills that include planning, reliability, logical thinking, ability to use drawings, schematics and documentation, and a solid understanding of electrical maintenance theory and principles.
- Work with a safety-focuses mindset and follow industry safety standards, local regulations, and company policies and procedures.
- Apply the fundamentals of electrical/electronic skills including wiring methods, motor controls, National Electric Code, troubleshooting and print reading and exhibit base knowledge in advanced skills such as PLC's, electronics and digital applications, robotics, and process controls.
- Employ cross-functional skills to differentiate between thermal, mechanical, fluid and electrical power systems, and isolate and resolve breakdown(s).

Suggested Semester Sequence

First Semester		Credit Hours
ISET-1301	Mechanical/Electrical Print Reading (1st 8 weeks)	3
ISET-1410	Applied Electricity I (1st 8 weeks)	3
ISET-1420	Applied Electricity II (2nd 8 weeks)	3
ISET-1320	Fundamentals of Fluid Power (2nd 8 Weeks)	2
ENG-1010	College Composition I	3
MATH-1190	Algebraic and Quantitative Reasoning (or higher Approved Ohio Transfer 36 Mathematics course) ¹	3
Credit Hours		17
Second Semester		Credit Hours
COMM-1000	Fundamentals of Interpersonal Communication	3
ISET-2200	Industrial Motor Controls (1st 8 weeks)	3
ISET-2240	Applied National Electric Code (1st 8 weeks)	3
ISET-2210	Commercial Wiring (2nd 8 weeks)	3

ISET-1340	Industrial Piping and Tubing (2nd 8 Weeks)	2
IT-1090	Computer Applications	3
Credit Hours		17
Third Semester		
ISET-1450	Heating Ventilation Air Conditioning/ Refrigeration I (1st 8 weeks)	2
ISET-1460	Fundamental Boiler Technology (1st 8 weeks)	3
ISET-2450	Heating Ventilation Air Conditioning/ Refrigeration II (2nd 8 Weeks)	2
ISET-2460	Applied Boiler Technology (2nd 8 Weeks)	2
BADM-1050	Professional Success Strategies	3
ENG-2151	Technical Writing	3
Credit Hours		15
Fourth Semester		
ISET-1310	Mechanical Power Transmission (1st 8 Weeks)	2
ISET-2500	Programmable Logic Controllers Maintenance I (1st 8 Weeks)	3
ISET-2990	Reliability Centered Maintenance (2nd 8 Weeks)	3
PSY-1050	Introduction to Industrial/Organizational Psychology	3
DEGR-XXXX	(Arts and Humanities/Natural Science Elective)	3
Credit Hours		14
Total Credit Hours		63

¹ MATH-1240 Contemporary Mathematics taken prior to Fall 2024 will be accepted to meet mathematics requirement for this program.

MATH-1140, MATH-1141, MATH-1200, MATH-1270, and MATH-1280 can no longer count towards fulfilling the college-level mathematics requirement. These courses were re-classified as developmental mathematics by the state of Ohio in 2016. Tri-C established a 5-year transitioning window for students who had completed these courses prior to 2016 to apply them towards meeting graduation requirements, which expired in Summer 2021. It is highly recommended to see a counselor to determine the appropriate math required for your current major.