

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 |

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|---------------------------|---|-----------|
| 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.