

Tri-Rivers Adult Education Student Handbook: Appendix

D Industrial Maintenance Handbook



This copy of the Adult Education Student Consumer Handbook is current as of the
Board Approval Date listed on the cover of the Handbook / Catalog.

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Program Information

Name: Industrial Maintenance Length: 10 Months

Total # Of Hours: 600

Preparation: Entry-Level Employment Credit Awarded: Certificate

This 600-hour Program Provides Training in A Broad Range of Industrial Maintenance Skills. The Program Prepares a Student for Industrial and Commercial Employment.

Eligibility Requirements

- Complete The Industrial Maintenance Application.
- Submit An Official High School Transcript or Ged Showing Proof of Graduation.
- Candidates Must Complete the Career Occupational Profile (Cops)—Interest Inventory and Score At Least 50% On Technology Skills.
- Completing Talent Assent Program System (Taps) For Functional Work Skill Assessment, A Manual Dexterity Test.
- Successful Completion Of Workkeys™ Workplace Documents Exam At Level 4, Workkeys™ Graphic Literacy Exam At Level 4, Workkeys™ Applied Math Exam At Level 4 (Note: Workkeys™ Graphic Literacy And Applied Math Tests Are Given During The Program After Corresponding Classes Have Been Completed.)

Certifications Available Within Program

- Students Are Allowed to Test For The Certifications. Actual Receipt Of Certification Is Based On Successful Passing Of Certification Testing And Completion Of Certifying Agency Criteria.
- National Center for Construction Education And Research NCCER ~ Core Curriculum Certification
- National Center For Construction Education And Research NCCER ~ Electrical Level 1 Certification
- American Welding Society – Aws Examination And Certification Based On Individual Student's Progress And Aptitudes
- ESCO – EPA 608 And R-410a Certification

Grades Are Assigned Using the Following Grading Scale:

A = 93% - 100% Excellent

B = 85% - 92% Good

C = 76% - 84% Average

D = 70% - 75% Below Average

F = Below 70% Or Failure

Admission Procedures/Requirements

1. Complete the application and pay the non-refundable application fee.
2. Provide proof of a high school diploma or GED.
3. Complete the COPS Interest Inventory with a score of at least 50% in technical interest
4. Successfully complete TAPS manual dexterity testing.
5. Achieve a score of 4 or higher on the WorkKeys™ Workplace Documents assessment.
6. Successfully complete additional WorkKeys™ exams in Graphic Literacy, Applied Math, and Applied Technology administered during the program.

Tuition Fees Due Dates

Tuition for each quarter is due before the first day of the quarter. Please refer to the program dates appendix.

Curriculum Industrial Maintenance Program

The Industrial Maintenance Program is ten months in length, and the student's day is usually 5:00 Pm – to 9:00 Pm, Monday through Thursday. Class Is Held on Selected Fridays. make-up days may be held on Saturday from 8:00 am To 4:00 pm. Students will be provided with class schedules at the beginning of the program.

Course Progression

Technology Intro – 8 Hrs.

OSHA 10 – 12 Hrs.

NCCER Core Curriculum – 48 Hrs.

Applied Math – 32 Hrs.

Soft Skills & Resume I – 8 Hrs.

Machine Trades – 48 Hrs.

NCCER Electrical Level One – 48 Hrs.

Electrical Controls For Machines – 60 Hrs.

Hydraulics / Pneumatics – 48 Hrs.

Electrical / Mechanical Troubleshooting – 48 Hrs.

Intro to Programmable Logic Controllers PLC's – 48 Hrs.

Intro To Robotics – 48 Hrs.

Basic Welding – 48 Hrs. Advanced Welding – 48 Hrs.

ESCP EPA 608 & R410-A – 20 Hrs.

Introduction To HVAC – 24 Hrs.

Soft Skills & Resume II – 4 Hrs.

Total Program Hours For Industrial Maintenance = 600

Course Descriptions

Technology Intro (8 hours)

Teaches students how to access TRCC systems and work with computers, manage files and folders, email, and internet research skills.

OSHA 10 (12 hours)

Covers OSHA 10 safety training. NCCER Core Curriculum (48 hours)

Teaches basic safety rules, hand and power tools, construction drawings, basic rigging, and material handling skills.

Soft Skills & Resume I (8 hours)

Covers the communication process, including listening, speaking, reading, writing skills, and resume preparation.

Applied Math (36 hours)

This course teaches basic math functions, including adding, subtracting, dividing, and multiplying whole numbers, fractions, and decimals, and explains their applications in the workplace. Students also learn how to read various measuring tools,

decimal-fraction conversions, the metric system, and basic algebra. Machine Trades (48 hours)

Teaches basic knowledge in milling machines and lathe operations. NCCER Electrical Level One (48 hours)

Introduces students to the electrical trade, covering safety rules and regulations, circuits, theory, the National Electric Code (NEC), conduit bending, raceways, conductors, drawings, residential service, and test equipment.

Electrical Controls for Machines (60 hours)

This course teaches the components used in electrical controls and their symbols. Students learn how to read a ladder diagram, wire push buttons, limit switches, and solenoid valves to make a control work and wire a motor starter to make a motor run.

Hydraulics / Pneumatics (48 hours)

Covers the basic principles and operations of hydraulic and pneumatic controls. Students learn how to read hydraulic and pneumatic symbols and follow piping diagrams.

Electrical / Mechanical Troubleshooting (48 hours)

Introduces students to electrical/mechanical troubleshooting. Students learn to read and interpret electrical, hydraulic, and pneumatic schematics and diagrams and are instructed to troubleshoot a system logically and systematically.

Intro to Programmable Logic Controllers (PLCs) (48 hours)

It teaches how to program, operate, and troubleshoot several PLC applications typically used in the industry today.

Intro to Robotics (48 hours)

Teaches basic robotics concepts with an emphasis on tool handling and basic programming.

Basic Welding (48 hours)

This course covers the basic knowledge of Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), and Oxyacetylene Gas Fuel Cutting (OFC).

Advanced Welding (48 hours)

This course is for individuals in the welding field who have previous experience with arc welding or have completed the Basic Welding class. It expands upon the knowledge gained in the Basic Welding class and prepares students to take an American Welding Society (AWS) certification test.

ESCO EPA 608 and R410-A (20 hours)

This section covers Section 608 of the Federal Clean Air Act, which, effective November 14, 1994, requires anyone who maintains, services, repairs, or disposes of appliances that contain regulated refrigerants to be certified in proper refrigerant handling techniques.

Introduction to Heating, Ventilation, and Air Conditioning (24 hours)

Introduces students to the basic heating, ventilating, and air conditioning principles and theory.

Soft Skills & Resume II (4 hours)

Focus on review and preparation for interview, presentation, and communication skills.

Course Completion Criteria

Attendance: 90%

Completion Of Workkeys™ Assessments At The Program Specific Level: Workplace Documents-4, Applied Math-4, Graphic Literacy-4

Grades: A 70% Or Higher Grade In Each Of The Individual Industrial Maintenance Courses (Students Who Fail An Individual Course Can Be Considered A Completer/Non-Graduate If They Have At Least 90% Attendance In The Overall Program And Obtain Instruction-Related Employment In The Industrial Maintenance Field.)

Length Of Time To Earn Certificate Of Completion: Evening Program – 10 Months

Academic Credential Awarded: Certificate Of Completion