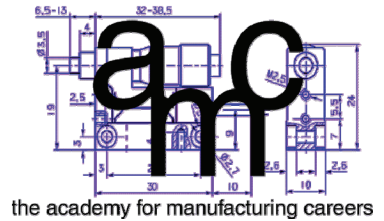


## Academy for Manufacturing Careers

### Engineering Technician Apprenticeship



the academy for manufacturing careers

*Apprentices will learn the necessary skills and earn a journeyman's certification for a Engineering Technician, using the latest tools in this four year, Department of Labor registered technical instruction program.*

A variety of classroom instruction formats including lecture, PowerPoint, group discussion, and group exercises gives the student maximum hands-on learning opportunities.



### Core Classes

Industrial Blue Print Reading

Algebra

Machining Theory & Methods

Basic Gauges & Measurement

Materials/Metallurgy

Basic Industrial Electricity

Problem Solving/Lean

Industry standards, automotive OEM requirements, best practices, and requests for this training by our local manufacturers all continue to show the need for this training.

Gives the Apprentice the foundation to build upon for future specialized instruction.

### Track Specific

Intermediate Blueprint Reading/GD&T

Intro to CAD

Geometry

Trigonometry

Precision Machining Methods

Industrial Hydraulics & Pneumatics

Jig & Fixture Design

Die Theory & Design

CNC Mill Theory & Programming

CNC Lathe Theory & Programming

EDM Theory

Machine Maintenance & Troubleshooting

Solidworks

### NOTICE OF NONDISCRIMINATORY POLICY AS TO STUDENTS

The Academy for Manufacturing Careers admits students of any race, color, national and ethnic origin, ancestry, religious creed, age, disability, marital status, sexual orientation, gender, or gender expression to all the rights, privileges, programs and activities generally accorded or made available to students at the school. It does not discriminate on the basis of race, color, national and ethnic origin, ancestry, religious creed, age, disability, marital status, sexual orientation, gender, or gender expression in administration of its educational policies, admissions policies, scholarship and loan programs, and any other school-administered programs.



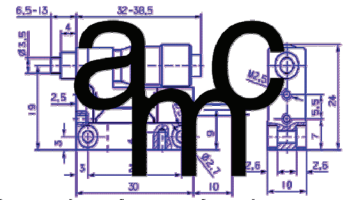
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Manufacturers Association  
Helping Manufacturers Succeed & Grow Since 1937

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## Academy for Manufacturing Careers

Engineering Technician Apprenticeship



the academy for manufacturing careers

### Industrial Hydraulics/Pneumatics

This course provides instruction in the basics of hydraulic and pneumatic systems including pumps, valving, control assemblies, and actuators. A general understanding of basic laws and formulas used in simple hydraulic circuits, including standard hydraulic symbols, and maintenance procedures will be provided.

### Machine Maintenance & Troubleshooting

This course covers methods and means used to troubleshoot and maintain machines typically found in a manufacturing environment. Problem symptoms, problem identification, maintenance records and systems will be covered.

### Precision Machining Methods

Prerequisite: Machining Theory & Methods

A basic course in machining theory and an introduction to the use of common tools and techniques in manufacturing. Topics introduced include: turning, boring, drilling, milling, grinding, use of hand tools, machine setup, preventative maintenance, efficient operation of tools, and use of the Machinery Handbook.

### SolidWorks Essentials - 3D Design

Using DASI SolidWorks mechanical design automation software, build parametric models of parts and assemblies and how to make drawings of them. Prerequisite: Intro to CAD.

### EDM Theory

This course provides the basic fundamentals and theory of the Electrical Discharge Machining processes.

### Die Theory & Design

Prerequisite: Intermediate Blueprint Reading/GD&T

This course covers techniques of die design theory and practice. Students will study forming and cutting of dies and their component parts, such as die blocks, strippers, stock guides, shredders, knockouts, nest gages, pushers, die stops, strip layout die sets, stock utilization and engineering formulas. Students will be required to complete a die design project.

### CNC Mill Theory & Programming

Prerequisite: Precision Machining Methods

This course introduces the students to the theories and basic programming fundamentals of the Computerized Numerical Controlled Mill process.

### CNC Lathe Theory & Programming

Prerequisite: CNC Mill Theory & Programming

This course introduces the students to the theories and basic programming fundamentals of the Computerized Numerical Controlled Lathe process.

### Jig & Fixture Design

Prerequisite: Intermediate Blueprint Reading

This course helps the student develop a thorough understanding of how and why jigs and fixtures are designed and built as they are. The discussion starts with fundamentals of jigs and fixtures and works through the various elements and considerations of design. Two fundamental tool design principles are constantly stressed: simplicity and economy.

### Intermediate Blueprint Reading/GD&T

Prerequisite: Industrial Blueprint Reading

Geometric Dimensioning and Tolerancing covers the fundamentals of GD&T concepts, and teaches how to read and interpret prints with GD&T symbols. Content is based upon ASME Y 14.5M-2009 standards.



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