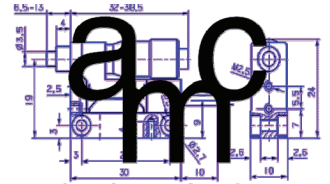


## Academy for Manufacturing Careers

Quality Engineering Apprenticeship



the academy for manufacturing careers

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



### 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.

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

### Track Specific

Intermediate Blueprint Reading/GD&T  
Intro to CAD  
Geometry  
Trigonometry  
Precision Machining Methods  
SolidWorks  
Statistical Process Control  
Advanced Gauges & Measurement/  
Intro to CMM  
8-D Problem Solving  
Design of Experiments (DOE)  
Core Tools (APQP, FMEA, PPAP)  
Six Sigma Green Belt  
Measurement Systems Analysis  
Intro to Mini-Tab  
Studio 5000 Logix Level 1

### 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.



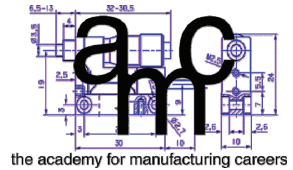
Jackson Area  
Manufacturers Association  
Helping Manufacturers Succeed & Grow Since 1937

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## Academy for Manufacturing Careers

Quality Engineering Apprenticeship



### Core Classes

Industrial Blueprint Reading, Introduction to CAD, Basic Math, Algebra, Machining Theory & Methods, Basic Gauges & Measurement, Materials/Metallurgy, Basic Industrial Electricity, Problem Solving, Intro to Lean Theory, Safety & First Aid, Basic Computer Skills and Work/Life Skills gives the apprentice the foundation to build upon for future specialized instruction.

### Advanced Gauges

This course will cover Advanced Gauges and CMM basics.

### Statistical Process Control (SPC)

Covers recommendations of the AIAG SPC guideline, including upper/lower control and tolerance limits, SPC charting of attribute data and when to apply each type.

### Core Tools (APQP, FMEA, PPAP)

Students will be able to objectively evaluate the effectiveness of the planning process (APQP, FMEA, PPAP). APQP and FMEA Exercises, PPAP activities and application of the planning results to a Control Plan.

### 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.

### Six Sigma Green Belt Training

This course covers Six Sigma DMAIC process methodology for problem-solving including Six Sigma Overview, Define and Measure, Analyze and Improve, and Control. Completion of a Six Sigma DMAIC project will be required for certification.

### 8-D Problem Solving

Brainstorming, Cause & Effect Analysis, 3 legged 5-Why Process, Scatter diagramming, Flow Charting and Root Cause Analysis. Students will be able to objectively evaluate the effectiveness of their APQP, FMEA, and PPAP.

### Measurement Systems Analysis (MSA)

Covers recommendations of the AIAG MSA guideline, recognizing need for gage accuracy and which tools apply to which type of gage. Also includes variable and attribute gage exercises.

### Design of Experiments (DOE)

Students will understand steps to create and analyze a basic experimental design by applying statistical tools and industrial research terminology. An introduction to MiniTab is provided.

### Minitab

Students will create and manipulate data files, conduct basic data analysis, and produce and edit graphs and charts



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