

# APPLIED MANUFACTURING TECHNOLOGY (ZAMT)

## ZAMT-1002 Shop Floor Calculations 1.8 CEUs

Nearly every shop activity requires basic math skills - whether calculating averages for a control chart, making machine adjustments or reading prints. Basic Shop Math teaches workers how to add, subtract, multiply and divide whole numbers, fractions and decimals. The course also shows how to perform other basic activities, such as rounding numbers and calculating averages. The focus of the course is on practical application - all examples and exercises are easily grasped and are based on operations and measurements that shop workers typically encounter on the job.

Contact hours: 18  
Not financial aid eligible.

## ZAMT-1006 Blueprint Reading for Machinists 1.8 CEUs

Blueprints are the universal form of communication in manufacturing plants and machine shops. This course teaches you how to understand the language of blueprints and how basic concepts are applied in a manufacturing environment. You will learn to read and interpret blueprints, and study different views of an object, including dimensioning techniques, tolerance methods and drawing notes.

Contact hours: 18  
Not financial aid eligible.

## ZAMT-1087 Measurement & Gaging 2.4 CEUs

Learn how to use basic measuring equipment such as rulers, calipers and micrometers to gage and measure workpieces in our state-of-the-art inspection center. The course also covers basic plate measurement techniques utilizing gage blocks, height gages and sine bars.

Contact hours: 24  
Not financial aid eligible.

## ZAMT-1088 Coordinate Measuring Machine 0.2 CEUs

Learn how to use a Coordinate Measuring Machine (CMM) to perform basic part inspection and generate reports. This hands-on class is conducted in our state-of-the-art Inspection Center.

Contact hours: 2  
Not financial aid eligible.

## ZAMT-1116 Geometric Dimensioning & Tolerancing 1.2 CEUs

Learn how to interpret the concepts of geometric dimensioning and tolerancing to engineering drawings, applying acquired skills through the completion of hands-on exercises.

Contact hours: 12  
Not financial aid eligible.

## ZAMT-1123 Safety in the Shop 1.2 CEUs

Hazards are everywhere in the shop! Protect yourself and others by practicing safe work habits. This course will show how to reduce your risk.

Contact hours: 12  
Not financial aid eligible.

## ZAMT-1134 Ford Six Sigma DMAIC Overview 0.8 CEUs

This course covers the basics of Lean Six Sigma and the DMAIC improvement model.

Contact hours: 8  
Not financial aid eligible.

## ZAMT-1161 Customized Shop Math for Forgers 4 CEUs

Course covers the mathematical calculations encountered on the shop floor in the forging industry.

Contact hours: 40  
Not financial aid eligible.

## ZAMT-1165 Customized Blueprint Reading for Forgers 4 CEUs

Customized blueprint reading class for Alcoa Forgers.

Contact hours: 40  
Not financial aid eligible.

## ZAMT-1167 2D Subtractive to 3D/RP/AM Technology & Materials Overview 0.6 CEUs

Principles of the applications of Additive Manufacturing. Advantages of using Additive Manufacturing over traditional Subtractive Manufacturing processes and materials are studied. Includes equipment technical overview, hands-on printing, lab exercises, and safety. Materials to be provided in class by instructor.

Contact hours: 6  
Not financial aid eligible.

## ZAMT-1168 2D to 3D/AM Materials Overview 0.8 CEUs

This is an introduction to materials science course. It covers the mechanical, chemical and thermal properties of engineering materials including metals, alloys, ceramics, polymers and composites. Includes materials microstructure, atomic bonding, future of fabrication, atomic arrangement, crystal structure, coexisting phases, interfaces, defects and impurities. Material topics will cover: FDM Stratasys, PBF - Z-corp, 3D Systems, EOS Machines, Renishaw, Photo Reactive Polymer - Formlabs, Object, other 3D systems, and Stereolithography.

Contact hours: 8  
Not financial aid eligible.

## ZAMT-1169 DFAM: Product Design Evolution 1.2 CEUs

Provides knowledge of the theory of Rapid Prototyping, the enabling critical thinking in new product development, process building, sustainability, future of fabrication, and innovation theories. 3D Additive Manufacturing is a paradigm shift for design in general. Advantages of using Lean Manufacturing and Six Sigma are studied. Course material provided.

Contact hours: 12  
Not financial aid eligible.

## ZAMT-1174 3D Rapid Prototyping (One-Offs) 2.4 CEUs

This course covers some of the more advanced techniques and commands for creating parts and assemblies using GeoMagic Software. Emphasis on more advanced 3D printing and scanning for custom products and rapid prototyping (One-Offs)

Contact hours: 24  
Not financial aid eligible.

**ZAMT-1182 Intro Electrical and Electronic  
4 CEUs**

Introduction to Electronic and Electrical components.  
*Contact hours: 40*  
*Not financial aid eligible.*

**ZAMT-1183 Customized Arconic Forger Apprentice Training  
8 CEUs**

Customized class for Arconic company Forger Apprentices.  
*Contact hours: 80*  
*Not financial aid eligible.*

**ZAMT-1184 Customized Hot Forging Inspector  
10.4 CEUs**

Customized training program for hot forgers at Arconic Company.  
*Contact hours: 104*  
*Not financial aid eligible.*

**ZAMT-1185 Customized Applied Math for Arconic  
3.6 CEUs**

This course covers the applied mathematics needed layout inspectors at Arconic.  
*Contact hours: 36*  
*Not financial aid eligible.*

**ZAMT-1186 Customized Blueprint Reading - Arconic Layout Inspector  
3.6 CEUs**

This course covers blueprint reading as required by layout inspectors at Arconic.  
*Contact hours: 36*  
*Not financial aid eligible.*

**ZAMT-1187 Customized Measurement for Arconic Layout Inspectors  
3.6 CEUs**

This course covers measurement and gaging techniques required on the job for layout inspection at Arconic  
*Contact hours: 36*  
*Not financial aid eligible.*

**ZAMT-1188 Customized Basic Computer for Arconic Layout Inspectors  
3.6 CEUs**

This course covers the basic computer skills needed for layout inspectors at Arconic.  
*Contact hours: 36*  
*Not financial aid eligible.*

**ZAMT-1190 Customized Blueprint Reading for VMS  
0.4 CEUs**

Customized blueprint reading class for Visual Marking Systems  
*Contact hours: 4*  
*Not financial aid eligible.*

**ZAMT-1191 Customized Measurement for VMS  
0.4 CEUs**

Course covers the measurement methods for inspection of product at Visual Marking Systems.  
*Contact hours: 4*  
*Not financial aid eligible.*

**ZAMT-1200 Siemens Mechatronic Systems Certification Program  
25.6 CEUs**

All 4 modules of the Siemens Mechatronic Systems Certification Program. This includes covering Electricity and Electrical Components, Mechanical Components and Drives, Pneumatics/Hydraulics and Digital/PLC.  
*Contact hours: 256*  
*Not financial aid eligible.*

**ZAMT-1201 NIMS Prep Level 1 Training - Measurement, Materials and Safety  
6 CEUs**

Cuyahoga Community College, in collaboration with the National Institute for Metalworking Skills (NIMS) now offers NIMS online with credentialed instructors. NIMS is the nation's only distinction for excellence in metalworking training; industry-written, industry approved skills standards. • Machining Level I - (Safety, Materials and Measurement) industry-recognized credential? • Earn an industry-recognized credential worth 12 credential points towards a high school diploma as the credential option. • Online simulations combined with virtual hands-on projects to assure participants the opportunity to earn the Level 1 credential.  
*Contact hours: 60*  
*Not financial aid eligible.*

**ZAMT-1202 NIMS Level I Assessment  
0 Contact Hours**

Cuyahoga Community College now offers National Institute for Metalworking Skills (NIMS) online testing. NIMS is the nation's only distinction for excellence in metalworking training and skills standards. Machining Level I: Safety, Materials and Measurement This course provides online simulations to prepare participants for the Level I credentialing exam.  
*Contact hours: 5*  
*Not financial aid eligible.*

**ZAMT-2721 Blueprint Reading for Arconic Layout Inspectors  
3.2 CEUs**

This course covers reading and interpreting mechanical blueprints with an emphasis on the prints in use at Arconic Forging plant  
*Contact hours: 32*  
*Not financial aid eligible.*