

The Manufacturing  
Industry Partnership of  
Southwestern PA



# COMPETE Course Catalog



Fall/Winter  
2011-2012

**COMPETE rebate based on company's eligibility, and while funding lasts.**

# TABLE OF CONTENTS

<b>NIMS On-The Job Trainer Certification.....</b>	<b>Page 1</b>
<b>Penn State New Kensington.....</b>	<b>Page 2</b>
<b>Solidworks</b>	
<b>AutoCAD I &amp; II</b>	
<b>Industrial Blue Print Reading</b>	
<b>Geometric Dimensioning &amp; Tolerancing</b>	
<b>Catalyst Connection.....</b>	<b>Pages 3</b>
<b>Frontline Leaders I</b>	
<b>Frontline Leaders II</b>	
<b>Kennametal Knowledge Center .....</b>	<b>Page 4</b>
<b>Metal Cutting Applications</b>	
<b>Prism Engineering.....</b>	<b>Pages 4, 5, 6</b>
<b>SolidWorks Essentials Training</b>	
<b>SolidWorks Drawings Training</b>	
<b>SolidWorks Part Modeling Training</b>	
<b>SolidWorks Assembly Modeling Training</b>	
<b>SolidWorks Advanced Tips &amp; Tricks</b>	
<b>SolidWorks Sheet Metal Training</b>	
<b>SolidWorks Advance Surface Modeling Training</b>	
<b>SolidWorks Mold Design Training</b>	
<b>SolidWorks Weldments Training</b>	
<b>SolidWorks Workgroup PDM Training</b>	
<b>SolidWorks Simulation Training</b>	
<b>SolidWorks Simulation Professional Training</b>	
<b>SolidWorks Flow Simulation Training</b>	
<b>Introduction to Mastercam Mill Level 1 Training</b>	
<b>Mastercam Advanced Mill Level 1 Training</b>	
<b>Mastercam Lathe Training</b>	
<b>Mastercam 3D Surfaces Programming Training</b>	
<b>Mastercam Wire EDM Training</b>	
<b>Mastercam Post Processor Training</b>	
<b>Mastercam 4 &amp; 5 Axis Training</b>	
<b>Penn State Fayette .....</b>	<b>Pages 6,7</b>
<b>Blueprint Reading</b>	
<b>Advanced Blueprint Reading</b>	
<b>Auto CAD I</b>	
<b>Applied Statistical Process Control</b>	
<b>Hydraulics I</b>	
<b>Motor, Controls and AC Drivers</b>	
<b>SafeLand USA</b>	

**COMPETE rebate based on company's eligibility, and while funding lasts.**

<b>Western Area Career and Technology Center.....</b>	<b>Pages 8, 9</b>
<b>CNC Machining</b> <b>Introduction to Welding</b> <b>Basic Fundamentals of Welding</b> <b>Welding for Certification</b> <b>Pipe Welding for Certification</b> <b>Programmable Logic Controllers</b>	
<b>Community College of Beaver County.....</b>	<b>Page 9</b>
<b>Industrial Mechanics</b>	
<b>SMC Business Councils.....</b>	<b>Pages 10</b>
<b>Advanced Safety Management: Taking your safety program to the next level—Seminar 2</b> <b>Does Your Safety Committee Need to be Rescued? - Seminar 3</b>	
<b>The National Center for Defense Manufacturing and Machining (NCDMM) .....</b>	<b>Pages 11</b>
<b>Estimating &amp; Scheduling for Profitability</b> <b>Soldering 101</b> <b>Geometric Dimensioning and Tolerancing</b>	
<b>National Tooling and Machining Association.....</b>	<b>Page 12</b>
<b>MasterCam X5 for Apprentices and other Novices</b>	

## Registration:

To register, please call the contact listed above the course you are interested in or visit the indicated website. All classes are held at the respective vendors unless otherwise indicated.

If you have questions regarding eligibility for subsidies for any classes, please contact  
Tim Brandis at 412-586-0635 or [brandis@ncsquared.com](mailto:brandis@ncsquared.com)

# The Manufacturing Industry Partnership of Southwestern PA

**COMPETE rebate based on company's eligibility, and while funding lasts.**

The **Mission** of the Manufacturing Industry Partnership of Southwestern PA (MIP-SWPA) is to provide programs and services that will continually improve the competitiveness of all sectors of the manufacturing workforce in southwestern Pennsylvania through a continuum of services from career awareness to pre-employment training and continuous lifelong incumbent worker training.

## The COMPETE Program

The COMPETE program offers a wide variety of courses for incumbent worker training.

The COMPETE program will reimburse up to 50%, (or a maximum of \$500) towards the training costs for your qualified workers.

To confirm eligibility or for more information contact Tim Brandis at 412-586-0635 or [brandis@ncsquared.com](mailto:brandis@ncsquared.com)

**Subsidies are limited to manufacturing firms from a nine-county region who enroll incumbent employees. Eligible counties include Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Washington, and Westmoreland.**

**COMPETE rebate based on company's eligibility, and while funding lasts.**

# NIMS On-The-Job Trainer Certification

A PERFECT SOLUTION FOR COMPANIES SEEKING CONSISTENCY & PRODUCTIVITY

Contact: Stephen Mandes [smandes@nims-skills.org](mailto:smandes@nims-skills.org)

703-352-4971

**ACQUIRE** knowledge to be fully competent on-the-job trainers

**DEMONSTRATE** essential on-the-job training skills & abilities

**PROVE** subject matter expertise

This one-day workshop includes lessons, activities, and demonstrations resulting in a national trainer certification pending the results of an online theory exam taken at the end of the training session.

Training Methodology | Show-Do-Tell Training Cycle

Coaching | Roles, Rules, Coaching & Feedback

Communication | Process, Barriers, Skills, Questioning Techniques

Adult Learning Styles | Principles, Guidelines, Learning Styles

Peer-To-Peer Participant Training Demonstrations Online Theory Examination

*Course Price: \$695 per person*

**COMPETE Rebate: \$348**

*Includes:*

- \* OJT Trainer Workbook
- \* Theory Instruction
- \* National Credentials
- \* Practical Applications
- \* Preparation for Certification Examination
- \* NIMS Registration & Exam Fee
- \* Participant Training Demonstrations

NIMS

10565 Fairfax Boulevard, Suite 203

Fairfax, Virginia 22030

(703) 352-4971 ph | (703) 352-4991 fax

[www.nims-skills.org](http://www.nims-skills.org)

**Penn State New Kensington**  
**3550 Seventh Street Road Route 780**  
**Upper Burrell, PA 15068**  
**Contact: Patricia Hollinger 724-334-6053**  
[www.nk.psu.edu](http://www.nk.psu.edu)

### **Solidworks**

Solidworks 2010 is the leading mainstream CAD solution because it is powerful, easy-to-use and innovative. Its unique drag and drop capabilities allow you to build assemblies in record time. This course is designed to quickly bring the user up to production level by not only teaching how to use as a tool, but how to use it efficiently.

Date: November 7 to December 12, 2011

Time: Mondays 5:00 p.m.—8:00 p.m.

Course Price: \$425.00

**COMPETE Rebate: \$213**

### **AutoCAD I and II**

A hands-on basics class which will cover topics such as Model Space, Paper Space, basic drawing commands, editing, dimensioning, layers, custom blocks and plotting.

Date: January 23 to February 27, 2012

Time: Mondays 5:00 p.m.—8:00 p.m.

Course Price: \$425.00

**COMPETE Rebate: \$213**

### **Industrial Blue Print Reading**

Designed to instruct trainees to interpret industrial prints and how to do basic shop drawings. Topics will include drafting and print reading procedures, fundamentals of shape and size descriptions, & industrial drawing types.

Date: January 18 to February 15, 2012

Time: Wednesdays 5:00 p.m.—8:00 p.m.

Course Price: \$295.00

**(No COMPETE Rebate)**

### **Geometric Dimensioning & Tolerancing**

Provides a logically organized, detailed presentation of information needed to obtain a basic working knowledge of geometric dimensioning and tolerancing as per ASME Y14.5M 1994. Essential in interpreting the modern industrial drawings being employed by companies as the look toward GD&T as a valuable tool needed to stay competitive in a global market. Covers basic terminology symbols, and rules, the datum system and what constitutes a datum. Experience in blueprint reading is a prerequisite.

Date: November 2 to December 7, 2011

Time: Wednesdays 5:00 p.m.—8:00 p.m.

Course Price: \$425.00

**COMPETE Rebate: \$213**

**Catalyst Connection**  
**2000 Technology Drive**  
**Pittsburgh, PA 15219**  
**Contact: Cindy Connelly 412-918-4263**  
[cconnelly@catalystconnection.org](mailto:cconnelly@catalystconnection.org)

### **Frontline Leadership I**

**Frontline Leadership I**

**Location:** Pittsburgh, PA

**Dates:** Wednesdays 1/18/12 through 2/22/12 (6 days total)

**Times:** 10:00 AM to 2:30 PM

**Course Price: \$1100**

**COMPETE Rebate: \$500**

### **Frontline Leadership II**

This leadership program takes frontline supervisors to the next level of leadership development. The series includes four unique modules, created by Development Dimensions International (DDI), that develop the coaching skills leaders need to achieve results more quickly in their supervisory role. This series is recommended for frontline supervisors who have completed Frontline Leadership I or those with three or more years in this role.

**Location:** Pittsburgh, PA

**Dates:** Wednesdays 11/30/11 through 12/21/11 (6 days total)

**Times:** 8:30 AM to 12:00 PM

**Course Price: \$950**

**COMPETE Rebate: \$475**

**Kennametal Knowledge Center**  
**1600 Technology Way**  
**Latrobe, PA 15650**  
**Contact: Ron Davis 724-539-5128**  
[www.kennametal.com](http://www.kennametal.com)

### **Metal Cutting Applications**

This 4-day course is designed to provide a broad base of knowledge for the selection and use of metal cutting tools. The course is divided into four sections and will cover the mechanics of metal cutting, materials technology, selection and application, and machining economics. Instruction includes lecture-style presentations, workshop labs, and machine demonstrations.

Date: Classes offered in the following months: October, December 2011 & February, April, June 2012

Course Price: \$585

**COMPETE Rebate: \$293**

**Prism Engineering**  
**Contact: Dan Wilkes 412-973-7959**  
[www.prismeng.com](http://www.prismeng.com)

**SolidWorks Essentials Training: 4 day course (8:00 a.m. – 4:00 p.m.)**

This course introduces designers & engineers to solid modeling concepts and techniques. Students will learn the fundamentals of SolidWorks, the best practices for building parametric parts, assemblies and their associated drawings.

Date: February 6, 7, 8 and 9, 2012      Course Price: \$1,295      **COMPETE Rebate: \$500**

**SolidWorks Drawings Training: 1 day course (8:00 a.m. – 4:00 p.m.)**

This course provides additional, comprehensive instruction on the use of SolidWorks Drawings. The major topics are Sheet Formatting, Views of Parts and Assemblies, Dimensions, Annotations, BOM and Tables.

Date: January 18, 2012      Course Price: \$495.00      **COMPETE Rebate: \$248**

**SolidWorks Part Modeling Training: 2 day course (8:00 a.m. – 4:00 p.m.)**

This course provides additional depth to SolidWorks Essentials. Lessons include: Sweeping, Lofting, Surfacing and Multi-body Solids.

Date: January 10, 11, 2012      Course Price: \$795      **COMPETE Rebate: \$398**

**SolidWorks Assembly Modeling Training: 2 day course (8:00 a.m. – 4:00 p.m.)**

This course explores designing parts in context and managing assemblies. Lessons include: Top-Down Assembly Modeling, Editing Assemblies and working with Assemblies: Large Assemblies, Core and Cavity Assemblies.

Date: March 27, 28, 2012      Course Price: \$795      **COMPETE Rebate: \$398**

**SolidWorks Advanced Tips & Tricks: 2 day course (8:00 a.m. – 4:00 p.m.)**

This course provides training on working with Parts, Assemblies and Drawings. SolidWorks seasoned users will find this course very helpful.

Date: TBA      Course Price: \$795      **COMPETE Rebate: \$398**

**SolidWorks Sheet Metal Training: 2 day course (8:00 a.m. – 4:00 p.m.)**

This course will incorporate new specialized tools, commands, and options specifically designed for sheet metal. Conventionally made and imported parts can be transformed into sheet metal parts. This allows flattening and the application of sheet metal specific features.

Date: January 24, 25, , 2012      Course Price: \$795      **COMPETE Rebate: \$398**

**SolidWorks Advance Surface Modeling Training: 2 day course (8:00 a.m. – 4:00 p.m.)**

This course teaches you how to build freeform shapes using SolidWorks mechanical design automation software.

Date: TBA      Course Price: \$795      **COMPETE Rebate: \$398**

**SolidWorks Mold Design Training: 2 day course (8:00 a.m. – 4:00 p.m.)**

This course teaches you how to create core and cavity from a part using automated mold design tools.

Date: TBA Course Price: \$795 **COMPETE Rebate: \$398**

**SolidWorks Weldments Training: 1 day course (8:00 a.m. – 4:00 p.m.)**

This course teaches you how to create welded structures with standard structural members. Weld beads are also covered.

Date: February 29, 2012 Course Price: \$495 **COMPETE Rebate: \$248**

**SolidWorks Simulation Professional Training: 3 day course (8:00 a.m. – 4:00 p.m.)**

This course includes Simulation training, plus Heat Transfer analysis, Frequency Analysis, Stability Analysis based on linear Buckling concepts, and Drop Test studies.

Date: March 13, 14, 15, 2012 Course Price: \$1,795 **COMPETE Rebate: \$500**

**SolidWorks Flow Simulation Training: 2 day course (8:00 a.m. – 4:00 p.m.)**

This course provides an in-depth session on the basics of turbulent fluid flow analysis, in addition to covering meshing concerns, modeling concerns, analysis, post-processing, available options and preferences.

Date: TBA Course Price: \$1,795 **COMPETE Rebate: \$500**

**Introduction to Mastercam Mill Level 1 Training: 3 day course (8:00 a.m. – 4:00 p.m.)**

Includes creating manipulating wireframe drawings, contouring, pocketing, drilling and High Speed toolpaths, importing and manipulating data from other CAD systems, verification, post processing and more.

Date: January 4, 5, 6, 2012 Course Price: \$1,095 **COMPETE Rebate: \$500**

**Mastercam Advanced Mill Level 1 Training : 3 day course (8:00 a.m. – 4:00 p.m.)**

Includes creating & using user defined views & planes, using WCS effectively, level management, multiple machine definitions, using tool libraries, verification, post processing and more.

Date: March 19, 20, 21, 2012 Course Price: \$1,095 **COMPETE Rebate: \$500**

**Mastercam Lathe Training: 3 day course (8:00 a.m. – 4:00 p.m.)**

Includes creating wireframe drawings in D+Z+, OD & ID roughing & finishing, grooving, threading, drilling, C & Y axis toolpaths, verification, post processing and more.

Date: February 20, 21, 22, 2012 Course Price: \$1,095 **COMPETE Rebate: \$500**

**Mastercam 3D Surfaces Programming Training: 3 day course (8:00 a.m. – 4:00 p.m.)**

Includes creating and modifying surfaces, view & WCS management, surface rough, surface finish & High Speed toolpaths applied to both surface and solid models and more.

Date: TBA Course price: \$1,095 **COMPETE Rebate: \$500**

**Mastercam Wire EDM Training: 2 day course (8:00 a.m. – 4:00 p.m.)**

Includes creating 2D / 3D wireframe drawings, contour, no core & 4 axis toolpaths on open and closed chains, chain syncing, verification, post processing and more.

Date: TBA Course price: \$1,095 **COMPETE Rebate: \$500**

**Mastercam Post Processor Training: 3 day course (8:00 a.m. – 4:00 p.m.)**

Includes the structure of the post, numeric and string variables, formatting and controlling output and more.

Date: TBA

Course price: \$1,095 **COMPETE Rebate: \$500**

**Mastercam 4 & 5 Axis Training: 3 day course (8:00 a.m. – 4:00 p.m.)**

Includes both classic and advanced multiaxis toolpaths and more.

Date: TBA

Course Price: \$1,295 **COMPETE Rebate: \$500**

**Penn State Fayette, The Eberly Campus  
Outreach Campus  
Contact: Michelle Sinal  
Phone: 724-430-4100 ext. 4516  
[msn14@psu.edu](mailto:msn14@psu.edu)**

**Blueprint Reading**

Gain a conceptual and practical understanding of manufacturing blueprint reading. Entry-level production or support personnel should attend.

Date: TBA

Time: 8:30 AM—5:00 PM

Course price: \$395 **(No COMPETE Rebate)**

**Advanced Blueprint Reading**

Improve proficiency in blueprint reading. Interactive exercises will explore international drawing methods, section views for specific details, powder metal materials callouts, and surface finish.

Date: TBA

Time: 8:30 AM—5:00 PM

Course price: \$395 **COMPETE Rebate: \$198**

**Auto CAD I**

Entry level course that will take trainees with no working knowledge to understand drawing concepts, dimensioning, toolset and end up drawing isometrics, arrays, layouts.

Date: TBA

Time: 8:30 AM—5:00 PM

Course price: \$395 **COMPETE Rebate: \$198**

## **Applied Statistical Process Control**

Learn how Statistical Process Control relates to quality costs, and on time delivery, then moves quickly to concepts of variation and an analysis of the organization-specific SPC application. The program shows how SPC is an integral part of improving and maintaining consistent production.

Date: TBA

Time: 8:30 AM—5:00 PM

Course price: \$395     **COMPETE Rebate: \$198**

## **Hydraulics I**

Gain working knowledge of basic hydraulic circuit including construction, operation and maintenance.

Date: TBA

Time: 8:30 AM—5:00 PM

Course price: \$395     **COMPETE Rebate: \$198**

## **Motors, Controls and AC Drives**

Gain working knowledge of AC and DC motors, motor control circuits, and AC motor drives. Students will learn operation, maintenance, repair, testing and troubleshooting skills in relation to motors, controls and AC drives.

Date: TBA

Time: 8:30 AM—5:00 PM

Course price: \$395     **COMPETE Rebate: \$198**

## **Programmable Logic Controllers I**

Acquire skills in Programmable Logic Controllers programming, including installation, maintenance, and troubleshooting. A few of the topics covered include editing and troubleshooting simple ladder logic programs.

Date: TBA

Time: 8:30 AM—5:00 PM

Course price: \$395     **COMPETE Rebate: \$198**

## **SafeLand USA**

Offered in collaboration with DMS/Unified Employer Solutions, Inc. This course enables participants to work more safely on the jobsite. Topics covered include, but are not limited to, incident reporting and investigation, accident prevention signs and tags, hard safety, material handling, behavioral safety, first-aid/CPR/AED, hazardous materials, electrical safety, workplace violence prevention, environmental regulations, site specific hazards and emergency evacuation and much more.

Date: TBA

Time: 8:30 AM—5:00 PM

Course price: \$445     **(No COMPETE Rebate)**

**Western Area Career and Technology Center**  
**688 Western Ave.**  
**Canonsburg, PA 15317**  
**Contact: Tim Angert 724-746-2890 Ext. 182**  
[www.wactc.net](http://www.wactc.net)

### **CNC Machining**

This course will enable individuals to develop the knowledge and understanding of machining fundamentals, Topics include: terminology, components and functions, manufacturing processes, shop math, G&M codes and programming, safety and hands on experience with CNC machining.

Date: Spring Classes TBA  
Time: 6:00 PM.—9:00 PM  
Course price: \$240

**COMPETE Rebate: \$120**

### **Introduction to Welding**

This course teaches manual arc welding in all positions and the cutting of steel with oxy acetylene torch and plasma cutter.

Date: Spring Classes TBA  
Time: Tuesday and Thursday 4:00 PM.—9:00 PM  
Course price: \$350

**(NO COMPETE Rebate)**

### **Basic Fundamentals of Welding**

This course is designed for students who have already take the introduction course or who have some experience welding. Students in the course will have the opportunity to practice manual arc welding in all positions, as well as MIG and TIG machines.

Date: Spring Classes TBA  
Time: Tuesday and Thursday 4:00 PM.—9:00 PM  
Course price: \$375

**(No COMPETE Rebate)**

### **Welding for Certification**

This course is designed for students to have previously take welding fundamentals and are preparing to take certification exams.

Date: Spring Classes TBA  
Time: Tuesday and Thursday 4:00 PM.—9:00 PM  
Course price: \$650

**COMPETE Rebate: \$325**

## **Pipe Welding for Certification**

This course is designed to instruct welders in arc welding process for welding to meet API 1104 (vertical down) welding code. The class is intended for experienced welders only. Students will be required to weld a sample plate consisting of vertical and overhead welds with the E-6010 electrode.

Date: Spring Classes TBA

Time: Tuesday and Thursday 4:00 PM.—9:00 PM

Course price: \$650 **COMPETE Rebate: \$325**

## **Programmable Logic Controllers**

This course covers the programming and use of Programmable logic controllers in Industrial settings.

Date: Spring Classes TBA

Course price: \$150 **COMPETE Rebate: \$75**

**CCBC**  
**Aviation Science Center in Chippewa**  
**Room 143**  
**Contact: 724-480-3448**

## **Industrial Mechanics**

This is a comprehensive introduction to fundamental industrial mechanical concepts, principles, and equipment. The course covers common industrial topics such as precision measurement, blue print reading, tools, rigging, ladders/scaffolds, hydraulics/pneumatics, lubrication, bearings, flexible belt/mechanical drives, vibration, alignment, electricity, and safety.

Date: January 10, 2012—April 3, 2012

Time: Tuesdays and Thursdays 5:30 PM to 9:30 PM

Course price: FREE with a \$145 materials fee **(No COMPETE Rebate)**

First come first serve basis for up to 25 students

**SMC Business Councils**  
**Contact: 1-800-553-3260**  
<http://www.smc.org/events>

**Advanced Safety Management: Taking Your Safety Program to the Next Level - Seminar 2.**

Take your established safety program to the next level by enhancing your existing program to improve cost savings and production. Make your organization's compliance and safety program more self-sufficient. Utilize existing staff to implement the programs and take advantage of free or inexpensive resources. Go beyond basic OSHA compliance requirements and look further at the tools and techniques that will move your safety program to a higher level. Review the ten OSHA regulations most often violated by businesses. Review OSHA regulations common to many manufacturers and how to assure compliance. Use site inspections to identify hazards and fix them before someone gets hurt. Use safety communication methods to develop a comprehensive safety culture. Help production supervisors become effective safety supervisors. Create a comprehensive safety management system that mimics the Injury and Illness Prevention Program (I2P2) that OSHA is working to mandate in nearly all workplaces.

Date: November 2, 2011

Time: 8:00 AM—12:00 noon

Course price: \$79

**(No COMPETE Rebate)**

**Does your Safety Committee Need to be Rescued?—Seminar 3.**

Ensure your Safety Committee meets the certification requirements required by the Pennsylvania Department of Labor and Industry (PA DOLI) and be eligible to earn a 5% discount on Workers Compensation insurance premiums. An effective Safety Committee creates sound working relationships between management and labor, united around a common endeavor. If your company has a Safety Committee that is failing to achieve its objectives or has lost its way and seems to be mired in mediocrity, this session is designed to reinvigorate even the most sluggish Safety Committee. It is also designed to assist those organizations contemplating starting a Safety Committee to avoid the most common pitfalls. Ensure the mandate for a Safety Committee is solid and rooted in management commitment. Lay the foundation for success from the very first meeting. Establish goals and objectives in the early stages of the Safety Committee that will help it hit the ground running. Quickly restore focus and energy to a Committee that is floundering. Get results that are cost-effective AND sustainable.

Date: November 2, 2011

Time: 1:00 PM—3:00 PM

Course price: \$39

**(No COMPETE Rebate)**

# The National Center for Defense Manufacturing and Machining (NCDMM)

1600 Technology Way  
Latrobe, PA 15650

Contact: Amy Good 724-539-4796

[amy.good@ncdmm.org](mailto:amy.good@ncdmm.org)

## Estimating & Scheduling for Profitability

This 1 1/2 day program is intended to improve the ability of estimators and shop floor managers to accurately quote and effectively manage shop floor activities. Attendees will learn how to choose profitable jobs, establish accurate breakeven points, understand the impact of product volume and mix on profitability, and more.

Date: November 16-17, 2011

Time: 8:00 a.m.—4:00 p.m.

Cost: \$595

**COMPETE Rebate: \$298**

## Soldering 101

This is a 2 day program that is intended to enhance the skills and knowledge of beginning soldering trainees or those new to the electronic industry. The students will be exposed to classroom lecture and hands on skill development through instructor demonstration and real time instructor feedback.

Date: February 7-8, 2012

Time: 8:00 a.m.—4:00 p.m.

Cost: \$695

**(No COMPETE Rebate)**

## Geometric Dimensioning and Tolerancing

This 1 1/2 day course intended to enhance the skills and knowledge of machinists, toolmakers, engineers, and quality personnel in the manufacturing industry. Attendees will learn common GD&T symbols and applications along with how to understand geometric tolerance zones; feature control frames; and material condition modifiers. They will also determine position tolerance verification and an understanding what dimensions are critical and whether a part fall within a given tolerance.

Date: February 21-22, 2012

Time: 8:00 a.m.—4:00 p.m.

Cost: \$595

**COMPETE Rebate: \$298**

## National Tooling & Machining Association

Contact: Liz Blashock

412-258-6628

[blashock@ncsquared.com](mailto:blashock@ncsquared.com)

MasterCam X5 for Apprentices and other Novices – 20 Hours

Location: Westmoreland County Community College, 400 ARMBRUST RD., YOUNGWOOD, PA 15697

Students will have access to a computer, M-CAM software and all instructional material needed for this course. No prior MasterCam knowledge is required but attendees should have some manufacturing work experience.

Date: January 9, 2012 – February 13, 2012 (5 week course with Jan. 16<sup>th</sup> off)

Time: Monday 5:30 PM – 9:30 PM

Course price: \$700

**COMPETE Rebate: \$350**

MasterCam X5 for Apprentices and other Novices – 24 Hours

Location: Training Innovation Center, 305 E. Carson St, Pittsburgh, PA 15219

Students will have access to a computer, M-CAM software and all instructional material needed for this course. No prior MasterCam knowledge is required but attendees should have some manufacturing work experience.

Date: Nov 7, 14, 21, (No Class Nov 28 for 1<sup>st</sup> day of hunting ), Dec 5, 12 & 19

Time: Monday 5:30 PM – 9:30 PM

Course price: \$1,000

**COMPETE Rebate: \$500**

### Registration:

To register, please call the contact listed above the course you are interested in or visit the indicated website. All classes are held at the respective vendors unless otherwise indicated.

If you have questions regarding eligibility for rebates for any classes, please contact Tim Brandis at 412-586-0635 or [brandis@ncsquared.com](mailto:brandis@ncsquared.com)