COMPETE

Course Catalog

MANUFACTURING INDUSTRY PARTNERSHIP OF SOUTHWESTERN PENNSYLVANIA

NEW CENTURY CAREERS

Training America's Workforce

THE MANUFACTURING INDUSTRY PARTNERSHIP OF SOUTHWESTERN PA:

The Mission of the Manufacturing Industry Partnership of Southwestern PA (MIP-SWPA) is to provide programs and services that will continually improve the competiveness 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.

NEW CENTURY CAREERS:

New Century Careers is a Southwestern Pennsylvania non-profit manufacturing workforce development organization. New Century Careers contributes to the economic health of Southwestern Pennsylvania through meeting manufacturing workforce needs by working to deliver a capable workforce to employers of the region. New Century Careers seeks to improve the lives of individuals through the development of new skills that lead to good family wage jobs and careers. New Century Careers manages the MIP-SWPA under contract with the Westmoreland-Fayette Workforce Investment Board.

THE COMPETE PROGRAM:

The COMPETE program will reimburse up to 50% towards the training costs for your qualified workers on a first come, first served basis. The COMPETE program offers a wide variety of courses for incumbent worker training. Funding is provided by the Pennsylvania Department of Labor and Industry. Not all listed classes are eligible for reimbursement.

To confirm eligibility or for more information contact:

Neil Ashbaugh at 412-212-0828 or

ashbaugh@ncsquared.com

Subsidies are limited to manufacturing firms from a nine-county region who enroll incumbent employees for training. Eligible counties include: Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Washington, and Westmoreland counties representing our four Workforce Investment areas.

CLASS REGISTRATION:

To register for a listed class, please call the contact person listed for the course you are interested in or visit the indicated website. If a date is not listed, please contact the vendor for when they are offering the next class. All classes are held at the respective vendors unless otherwise indicated. You should pay the vendor directly for the class.

OBTAINING REBATE:

To obtain the COMPETE Rebate, if eligible, you must submit demographic data on the trainee and furnish a paid-in-full invoice for the course. Please contact Neil Ashbaugh for details. Slots are limited and are available on a first come, first served basis.

TABLE OF CONTENTS

PITTSBURGH CHAPTER NTMA

Pages 4-6

FISHER UNITECH

Page 7

CATALYST CONNECTION

Pages 8-16

Geometric Dimensioning and Tolerancing

Essentials of Leadership Skills

Lean Six Sigma Green Belt Training with Certification

Lean Office

Principles of Lean Manufacturing

Value Stream Mapping with Kaizen Planning

Risk Management Principles & Guidelines

Practical Problem Solving Training

Effective Root Cause and Corrective Action

KENNAMETAL KNOWLEDGE CENTER

Page 17

Metalcutting Application Course

PITTSBURGH CHAPTER NTMA
305 East Carson St.
Pittsburgh, PA 15219
Contact: Neil Ashbaugh
(412)212-0828

CNC PROGRAMMING 1

Instructor: Matt Aubele

Price: $1,000 COMPETE Rebate: $500

Classes begin 4/15 @ 8:00 a.m. - 4:00 p.m. and will continue for 6 weeks

DESCRIPTION:

This is the first part of a comprehensive course on the programming, setup, and operation of CNC machines using the EIA/ISO standards (G&M Codes). Basic concepts and principles of computer numerical control machines are covered along with the various addressing formats and machine codes. Students will learn to develop process plans for simple parts and write part programs to machine these parts. Students will download their programs to machine controllers, set up jobs on the machines, verify their programs, and run the machines to manufacture various parts.

COURSE GOALS:

Upon completion of this course, a student will: - Understand the fundamentals of CNC programming – Be able to develop and verify CNC codes for simple parts – Understand and work with CNC controllers to set up tooling and parts and run CNC machines

CNC PROGRAMMING 2

Instructor: Matt Aubele

Price: $1,000 COMPETE Rebate: $500

Classes begin 4/15 @ 8:00 a.m. - 4:00 p.m. and will continue for 6 weeks

Pre-requisites: CNC Programming 1

DESCRIPTION:

This is the second part of a comprehensive course on the programming, setup, and operation of CNC machines using the EIA, ISO standards (G&M Codes). Building on the basics taught in the first course (CNC Programming 1) in manual programming, this course will address tool compensation, canned cycles, and code generation for three-dimensional geometry among other advanced topics. Students will download their programs to machine controllers, set up jobs on the machines, verify their programs, and run the machines.

COURSE GOALS:

Upon completion of this course, a student will: - Be able to CNC program to run a variety of parts – Be able to develop and verify CNC codes using advances features such as canned cycles, cutter compensation, and three-dimensional geometry – Understand and work with CNC controllers to set up tooling to run more advanced parts on CNC machines

GEOMETRIC DIMENSIONING AND TOLERANCING - ADVANCED

Instructor: Leo Wozniak- ASME GDTP Senior Level

Price: $1,000 **COMPETE Rebate: $500**

4/15, 4/29, 5/6, 5/13 @ 8:00 a.m. – 2:00 p.m.

Fee includes course book

DESCRIPTION:

In this class, participants will review the symbology learned in the Basics class, and then will apply that to setting up and inspecting parts.

This class is mostly hands-on as the participants will apply the Basics to ensure they are inspecting parts properly.

This ensures that good parts pass inspection and bad parts fail. Depending on part set-up, good parts may fail inspection, as bad parts pass inspection.

In short, this class prepares the participant with the ability to inspect their parts.

This training covers the materials contained in the ASME Y14.5-2009 standards on Geometric Dimensioning and Tolerancing.

COURSE OUTLINE:

GD&T Basics Review, Drawing (Blueprint) Study / Types of Inspection, Checking Form (Straightness, Roundness, Flatness, Cylindricity), Lab - Calculating Bonus Tolerances & Boundaries, Theory - Gages & Fixtures / Locating Features, Composite Tolerancing / Compound

Controls, Checking Orientation (Perpendicularity, Parallelism, Angularity), Checking Profile of a Surface & Line Elements, Checking Total Runout & True Position / Coaxial Features, Final Review / Group Discussion

ON-THE-JOB TRAINER PREPARATION WORKSHOP

Presented by: National Institute for Metalworking Skills (NIMS)

Instructor: Montez King (703)278-2162 mking@nims-skills.org

Price: $1,000 **COMPETE Rebate: $500**

6/8 & 6/9 @ 9:00 a.m. – 5:00 p.m.

Fee includes NIMS registration and exam fees, OJT Trainer Workbook, OJT Trainer Performance Demonstration Report, professional instruction, and catered breakfast and lunch for each day

DESCRIPTION:

There is a solution for companies seeking consistency and productivity. In a facilitated two-day workshop, your employees will learn the theory and practical skills necessary to become a NIMS Certified OJT Trainer. - This training is beneficial to businesses of any size, from small to Fortune 500 companies. - No previous experience with NIMS is necessary. - A formal training program is not required.

WHO SHOULD ATTEND?:

Those employees who teach others how to perform job functions in your shop.

WHAT WILL THEY LEARN?:

By participating in the workshop, attendees will: - Acquire knowledge to be fully competent trainers - Demonstrate essential training skills and abilities - Prove training subject matter expertise by taking and passing the NIMS OJT Trainer Exam

FISHER UNITECH

2000 Cliff Mine Rd. #440
Pittsburgh, PA 15275
Dan Wilkes 412-973-7959
www.funtech.com

MASTER CAM COURSES

MASTERCAM ESSENTIALS LATHE - 6/19 Pittsburgh *$995*

COMPETE Rebate: $497.50

MASTERCAM ESSENTIALS MILLING 5/22 Pittsburgh *$1250*

COMPETE Rebate: $625

MASTERCAM ADVANCED LATHE - 4/17 Pittsburgh *$995*

COMPETE Rebate: $497.50

MASTERCAM ADVANCED MILLING - 3/27 Pittsburgh *$1250*

COMPETE Rebate*:* $625

SOLIDWORKS TRAINING

SOLIDWORKS ESSENTIALS – 4/10, 6/12 Pittsburgh, PA *$1495*

COMPETE Rebate: $747.50

Please refer to www.funtech.com for more information.

CATALYST CONNECTION
2000 Technology Drive
Pittsburgh, PA 15219
Cindy Connelly 412-918-4273
cconnelly@catalystconnection.org
www.catalystconnection.org/trainings

GEOMETRIC DIMENSIONING AND TOLERANCING

Price: $500 **COMPETE Rebate: $250**

Fee Includes lunch and course book

Trainings not yet scheduled. Please contact for more information.

DESCRIPTION:

This one-day program is intended to enhance the skills and knowledge of machinists, toolmakers, engineers, and quality personnel in the manufacturing industry. Practical examples are used throughout the training.

Geometric Dimensioning and Tolerancing (GD&T) is a specific method of communicating dimensions and tolerances for size, location, orientation, and form.

KEY BENEFITS:

Learning common GD&T symbols and applications - How to understand geometric tolerance zones - How to read and understand feature control frames - How to understand material condition modifiers – MMC (Maximum Material Condition) - LMC (Least Material condition) - RFS (Regardless of Feature size) - How to determine position tolerance verification: hole at MMC and LMC - How to determine what dimensions are critical and whether a part falls within a given tolerance

WHO SHOULD ATTEND?:

Machinists, toolmakers, engineers and quality personnel in the manufacturing industry. This course will be limited to 12 students.

ESSENTIALS OF LEADERSHIP SKILLS

Trainings not yet scheduled, please contact for more information

Price: $1,895 COMPETE Rebate: $650

Fee includes course materials, continental breakfast, lunch, and up to three hours of one-on-one coaching

OBJECTIVE:

Transform supervisors and managers into leaders and coaches. Catalyst Connection has partnered with Developmental Dimensions International (DDI) to offer this powerful six-part program. This program develops the skills that leaders need for today's business climate. Participants will learn how to support ambitious change efforts, address poor performers, develop employees using developmental feedback, and improve the organization's overall culture. In addition to meeting as a group, participants will receive up to three hours of one-on-one coaching, to be used as needed, with certified leadership instructors via in-person meetings, phone calls or email.

BENEFITS:

Participants will gain the knowledge required to:

Reduce stress associated with the shift to leading others - Act with authenticity to build trust - Impact business outcomes by leading effectively - Effectively resolve workplace conflict and enhance productivity, efficiency and morale - Build the team's capabilities and capacity through developmental delegations - Encourage people to take ownership of, and be accountable for, their work performance - Make the best use of available resources

WHO SHOULD ATTEND?:

Recently appointed supervisors or group leaders; employees, promoted from the ranks to leadership roles, who have yet to receive "people skills" training; leaders who managers perceive as "too tough" on people; accomplished employees earmarked for leadership.

LEAN SIX SIGMA GREEN BELT TRAINING WITH CERTIFICATION

Price: $5500 No Rebate Available

Fee includes course materials and continental breakfast and lunch

Trainings not yet scheduled. Please contact for more information.

DESCRIPTION:

Becoming a Lean Six Sigma Green Belt means you have mastered the Six Sigma methodology—a disciplined, data-driven approach for eliminating defects in any process.

COURSE OBJECTIVE:

In our Green Belt training, you will learn to how to fix problems permanently by using the Six Sigma DMAIC methodology. In the Define phase we focus on defining the problem and scoping a project, how to build a business case to quantify the financial impact of the project to the business, and building a project team. In the Measure phase you will learn how to identify potential causes to the problem, validate your measurement system with MSA (measurement system analysis), and baseline your current process and its capability. During the Analyze phase we discuss various sampling strategies, how to determine the correct sample size, data distributions, and a multitude of data analysis tools. In the Improve phase we cover how the Lean tools integrate with the Six Sigma methodology. We also delve into correlation, regression, and designed experiments. Finally, in the control phase, we look at strategies to sustain your process improvements. These strategies range from human behavior and resistance to change to the more analytical strategies of SPC (statistical process control) charts and control plans. Most importantly, this training enables the individual to become data/process driven and team-oriented, which helps them become more effective in working on, leading, and supporting Lean Six Sigma project objectives linked to an organization's profit and strategic objectives.

Attendees will learn to apply Lean tools to reduce and eliminate wastes, and the DMAIC methodology to reduce process variations and defects to achieve quantifiable bottom-line business improvements by working on a certification project during training. Typically, Green Belt projects spin off at least 25k$ to 50k$ in cost savings in process improvement. Those choosing to receive Green Belt certification will also receive project coaching specific to a process improvement project that they bring to the course; one-on-one project review and coaching by the Master Black Belt will be available.

The training will begin with a pre-training conference call to align the trainees to collecting baseline data and to develop the project charter by engaging the project champion and developing the process or value stream map of the current process as is. This will be followed by face-to-face training in three sessions, over a period of three months. In the four weeks between sessions, you will apply the principles and techniques you have learned to your improvement projects.

This training is Minitab-based; therefore, participants will need to bring a laptop with Minitab on it. You can receive a 30-day free trial at Minitab.com.

BENEFITS:

Six Sigma Green Belt training will enable you to: - Reduce defects - Reduce costs - Decrease cycle time - Increase capacity and productivity - Improve quality – Increase profits

WHO SHOULD ATTEND?:

Anyone involved in continuous improvement activities, including manufacturing engineers, process engineers, manufacturing managers, and continuous improvement managers. Traditionally, Lean Six Sigma tools have been used in manufacturing; however, these tools are used to improve any transactional, service, or healthcare process.

LEAN OFFICE

Price: $395 **No Rebate Available**

Fee includes course materials, continental breakfast, and lunch

Trainings not yet scheduled. Please contact for more information.

Almost every manufacturing process has an engineer focused on improvements. Very few office processes have received that kind of attention. 25% to 60% of costs in a typical manufacturer come from back office processes- 80% in some industries. Most office employees have not even heard of many Lean trainings. Lean Office is taking the principles of Lean Manufacturing and applying them to an office environment to identify and eliminate non-value added activities to increase throughput and reduce cycle.

COURSE OBJECTIVE:

The Lean Office training workshop involves a mix of classroom style learning with an interactive live simulation where class participants take on the roles of managers and workers within a company. During the class time, participants learn Lean definitions and techniques. Then the participants work in a traditional office environment with forms, calculators, and procedures. Through the implementation of the Lean techniques, the office is transformed from a confused and slow process to a much more efficient and effective operation by eliminating waste and non-value added steps in the process.

BENEFITS:

Reduce cycle times - Reduce Work-in-Process (WIP) - Reduce costs - Increase capacity - Improve lead times - Increase sales - Increase productivity - Improve quality - Increase profits

WHO SHOULD ATTEND?:

CEO's, Senior Management, Middle Management, Finance, Sales/Marketing, Customer Service, Buyer/Planners, Engineering, Production Control/Materials.

PRINCIPLES OF LEAN MANUFACTURING

Price: $395 **No Rebate Available**

Fee includes training materials, continental breakfast, and lunch

Trainings not yet scheduled. Please contact for more information.

DESCRIPTION:

The Principles of Lean Manufacturing training continue to be a key component for companies seeking a culture of continuous improvement. This introductory course provides participants with the foundational knowledge of Lean Manufacturing tools and concepts. The training combines a classroom setting with hands-on simulation, which gives the participants the opportunity to see the benefits of the Lean concepts.

The simulation portion of the training will begin by "manufacturing" products in a simulated factory. The results of the first simulation round will provide the basis for continuous improvement as you apply Lean Manufacturing principles in subsequent rounds. Participants will learn about one-piece flow, cellular production, takt time, pull and kanbans, POUS, quick changeover, quality at the source, batch reduction, teams, standardized work, workplace organization, and visual controls. Each concept will build the ability to identify and eliminate manufacturing waste. Lean is all about getting the most out of the resources you already have.

Our approach is an interactive, enjoyable, team experience that makes the prospect of change less threatening. It also has the following benefits to the company:

- Expands the basic understanding of Lean Manufacturing techniques among the workforce
- Dramatically reduces the acceptance period associated with implementation as participants see for themselves the benefits of applying the techniques
- Increases knowledge and understanding, through firsthand experience, which will lead to more effective implementation

PARTICIPANTS WILL:

Learn how to identify the eight wastes - Understand how various Lean tools help to eliminate waste - Have an understanding of Lean terminology - Understand the importance of eliminating waste

VALUE STREAM MAPPING WITH KAIZEN PLANNING

Price: $350 **No Rebate Available**

Trainings not yet scheduled, please contact for more information

Value stream mapping is a practical, powerful tool for uncovering waste and prioritizing improvements that support reductions in lead time and cost. It will allow your team to create a game plan for attaining smoother, more efficient flow of material and information.

COURSE OBJECTIVE:

In this course, a real-world case study will help you learn to identify and document the flow of product and information from order entry and raw materials through production to delivery to the customer. The first step is the creation of a current-state map — a system view of the value stream — that documents present conditions and uncovers waste. Participants then apply Lean Manufacturing techniques to diagnose the sources of waste and create a future-state map. This map depicts an efficient, Lean value stream that's more flexible and responsive to customer demands. To bridge the gap between the current and future states, you will use brainstorming and similar techniques to build an action plan for prioritizing and managing improvements.

You can amplify the impact of your manufacturing improvement activities by using kaizen, a structured rapid-improvement method that follows a standard approach and uses standard tools. The kaizen method achieves immediate, tangible, sustainable results in days, rather than months.

Learning this proven approach for planning and structuring improvement activities will enable you to maximize team participation, set realistic goals, measure improvements, and implement controls. Kaizen is the most effective method for implementing an improvement plan and developing a team's ability to pursue continuous improvement. In addition to a course workbook, you will receive a set of electronic templates to assist you in applying kaizen effectively.

BENEFITS:

Participants will learn how to - Trace a value stream and identify waste in its flow - View products from a system perspective - Map the value stream's material and information flows - Prioritize activities needed to achieve the future state - Plan effective change processes

WHO SHOULD ATTEND?:

Manufacturing managers, team leaders, and team members charged with improving the efficiency and effectiveness of their operations.

RISK MANAGEMENT PRINCIPLES & GUIDELINES

Price: $300 **No Rebate Available**

Fee includes continental breakfast, lunch, and course materials

Trainings not yet scheduled. Please contact for more information.

COURSE OBJECTIVE:

To raise basic awareness of risk management concepts and mechanisms so that participants can effectively identify and manage risks within their own organizations.

BENEFITS:

At conclusion of the training session, participants should be able to: -Understand risk management - Understand how risk management affects decision-making - Conduct a risk analysis by developing a risk profile and using a risk matrix - Identify risks/uncertainties to achieving a set of objectives and expected results - Prioritize these uncertainties - Decide how to act on the uncertainties within a structured framework.

WHO SHOULD ATTEND?:

Persons responsible for quality management systems that require risk management processes or anyone engaged in risk assessment, mitigation and management.

PRACTICAL PROBLEM SOLVING TRAINING

Price: $300 **No Rebate Available**

Fee includes course materials, continental breakfast, and lunch

Trainings not yet scheduled. Please contact for more information.

COURSE OBJECTIVE:

What makes this Lean tool unique is the straightforwardness of the application. By simply using the materials provided to you during the training, you will be able to step through the process to solve the problem knowing that each phase is completed. The worksheets can be used for communication of the problem and the follow up effectiveness within your organization. It can also be used to respond to customer complaints and be valid towards any formal complaint resolution procedure required by governing bodies.

The Catalyst Connection consultant will work with you to develop the skill sets essential to practical problem solving. The course involves applying the training by assigning a real-life problem to be solved by your staff.

Participants will receive instruction on the following tools that are used in Practical Problem Solving:

- **Problem Definition** - How to properly define a problem and plan improvements
- **Root Cause Analysis** - Determine point of cause of defect(s) and find true root cause.
- **Countermeasure Implementation** - Communicate and execute short- and long-term countermeasures to eliminate problem(s) and adjust as needed to stay on target.
- **Effectiveness and Standardization** - Follow up on countermeasures and performance indicators of solution. Standardize effective countermeasure, leverage to other opportunities, and take action to begin the problem solving process again.

BENEFITS:

As a result of utilizing this approach to the Practical Problem Solving tools, companies report seeing reoccurring problems, eliminated reduced costs, and a highly effective and engaged workforce. Additionally, this specific approach becomes the driving force behind sustaining your improvements and standardizing countermeasures.

The training will help you to answer questions around the following: - Declining profit margins. - Difficulty controlling costs, poor levels of productivity - High defect or scrap rates - Low customer satisfaction

Additional benefits expected for all participants include the following: - Problem solving is a process and skill set that you develop over time, to be used when the need to solve immediate problems in order to achieve goals - An opportunity to transfer knowledge from the key participants of your team that will be responsible for maintaining this tool, to others in the organization

EFFECTIVE ROOT CAUSE AND CORRECTIVE ACTION

Trainings not yet scheduled. Please contact for more information.

Catalyst Connection

Price: $300 No Rebate Available

Fee includes course materials, continental breakfast, and lunch

COURSE OBJECTIVE:

The best approach to corrective action involves a thorough examination of possible causes, followed by careful analysis to isolate the root cause(s). Some of the most effective and practical tools for generating possible causes will be discussed (brainstorming, 5-Why, Is/Is Not, 8D, and others). Application examples of each of these tools will be presented and explained. Techniques for identifying options for corrective action and dealing with constraints will be presented. The session will include a discussion of the characteristics of effective systems that support continual improvement, as opposed to ineffective systems that consume resources and provide little or no return.

TARGET AUDIENCE:

Persons responsible for responding to noted conditions that require investigating cause, formulating corrective actions, assessing impact of proposed actions, and confirming the effective implementation of those actions.

COURSE OUTLINE:

The major topics will include: - Presentation, explanation, and discussion of effective and practical analysis tools for generating possible causes (brainstorming, 5-Why, Is/Is Not, 8D, and other tools) - Presentation and review of two historical disasters with focused discussion on the active and latent errors contributing to each calamity - Discussion of risk management and its relationship with effective RC/CA – primarily assignment of appropriate resources for problem resolution - Explanation of methods for evaluating and recording the effectiveness of implemented corrective actions - Practical exercises will reinforce the understanding of RC/CA techniques

KENNAMETAL KNOWLEDGE CENTER

1600 Technology Way
Latrobe, PA 15650
Please contact: k-na-knowledge.center@kennametal.com to register
www.kennametal.com

METALCUTTING APPLICATION COURSE

Price: $585 **No Rebate Available**

6/5-6/8

OVERVIEW:

The Metalcutting Application Course is designed to provide a broad base of knowledge for the selection and use of metalcutting tools. This course is divided into four sections with each being covered by lecture, lab, and machine demonstrations.

1. *Mechanics of Metalcutting* will cover tooling from a design perspective. This section starts with a discussion on How Tools Cut and progresses through the design elements related to turning, milling, and drilling. All aspects of cutting geometry will be discussed along with its relationship to the cutting edge, workpiece material, and power.
2. *Materials Technology* will start with a discussion of common cutting tool materials and how they relate to each other. A discussion of powder metal technology will start with How Carbide is made and progress through modern carbide and ceramic grade technology. Coating technology will include common application methods as well as the latest advances in coating materials.
3. *Selection and Application* will introduce the tool path method of selecting and applying tooling. This section will be divided into the three main operations of turning, milling, and hole making. Selection and application will include processing exercises to provide hands-on experience.
4. *Machining Economics* will cover elements that affect productivity and overall cost, such as establishing operating conditions to gain maximum efficiency; the cause and effect relationship between operating conditions and tool failure; machinability, testing methods, and cost justification.

WHO SHOULD ATTEND?:

This four-day seminar is intended to provide state-of-the-art information to mechanical engineers, manufacturing engineers, industrial engineers, tool engineers, process engineers, shop supervisors, and technical specialists in machining.