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Where do ICD and Advanced Manufacturing meet?

Advanced Manufacturing: Use of innovative technologies to create existing products and the creation of new products. Advanced manufacturing can include production activities that depend on information, automation, computation, software, sensing and networking.
According to: Manufacturing.gov

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Other terms and definitions relating to Advanced Manufacturing:

3D Printing:

Also know as additive manufacturing, refers to processes used to create a three-dimensional object in which layers of material are formed under computer control to create an object.

According to: Wikipedia

Automation:

Using control systems to operate an apparatus, process, or system with minimal or reduced direct human intervention.

According to: Manufacturing.gov

Computer-Aided Design:

Computer-aided design (CAD) software is used by architects, engineers, drafters, artists, and others to create precision drawings or technical illustrations. CAD software can be used to create two and three-dimensional models.

According to: WhatIs.com

Computer Numerical Control (CNC):

The digital control of a physical machine that consists of a series of integrated actuators, power electronics, sensors, and dedicated computer running under a real-time operating system.

According to: Manufacturing.gov

Programmable Logic Controller:

A programmable logic controller (PLC) is an industrial computer which has been ruggedised and adapted for the control of manufacturing processes, such as assembly lines, or robotic devices, or any activity that requires high reliability control and ease of programming and process fault diagnosis.

According to: Wikipedia

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UNITED STEELWORKERS ICD PARTICIPATING COMPANIES

Many universities and community college are offering training in Advanced Manufacturing.

Do you know what's offered in your area?

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Example:

Cuyahoga Community College
Cleveland, OH

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Cuyahoga Community College

0-3 month programs that earns a Certificate of Completion for each class.

4-12 months, earns a Short-Term Certificate

1 year plus, earns an Associates Degree

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Cuyahoga Community College

0-3 months,Certificate of Completion

Computer Aid Design
Manufacturing Technical Readiness Program
Precision Machining Technology
Siemens Mechatronic System Certification

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Cuyahoga Community College

4-12 months, Short-Term Certificate

CNC Machining and Composites Manufacturing–27 Credit hrs.
Digital Manufacturing & Product Launch-16 Credit Hrs.
Digital Design & Product Innovation-16 Credit Hrs.

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Customized Classes that relate to Advanced Manufacturing

Why would a participant be interested?
What classes could be offered at your site?
Barriers… Instructors, Equipment, Facility, Cost, and Participant Interest

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ICD Customized Class (2016)
3D Printing

Number of classes: 5
Average training hours: 9.2
Average cost per person: $246.88
Average number of participants per class: 5.4

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3D Printing
Locations represented in the class

USW/ArcelorMittal – Burns Harbor
USW/Bridgestone – Bloomington
USW/US Steel – Fairfield, Gary & Mon Valley

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ICD Customized Class (2016)
Computer-Aided Design (CAD)

Number of classes: 3
Average training hours: 33
Average cost per person: $548
Average number of participants per class: 5.3

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Computer-Aided Design (CAD)
Locations represented in the class

USW/ArcelorMittal – Steelton
USW/Goodyear - Topeka
USW/US Steel – Mon Valley

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ICD Customized Class (2016)
CAD and 3D Printing

Number of classes: 2
Average training hours: 16.75
Average cost per person: $498.57
Average number of participants per class: 3.5

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(CAD) and 3D Printing
Locations represented in the class

USW/ArcelorMittal – Joblink
USW/US Steel – Gary and Midwest

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ICD Customized Class (2016)
Computer Numerical Control (CNC)

Number of classes: 7
Average training hours: 11.7
Average cost per person: $345
Average number of participants per class: 7.14

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CNC
Locations represented in the class

USW/US Steel – Granite City & Great Lakes

*Classes made some type of project via router or plasma cutter.

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ICD Customized Class (2016)
Programmable Logic Controller

Number of classes: 4
Average training hours: 27
Average cost per person: $265
Average number of participants per class: 9.25

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PLC
Locations represented in the class

USW/ArcelorMittal - Steelton
USW/US Steel – Fairfield

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ICD Customized Class (2016)
Flying a Drone and Video Drone Editing

Number of classes: 2
Average training hours: 20
Average cost per person: $621
Average number of participants per class: 5.5

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Flying a Drone and Video Drone Editing
Locations represented in the class

USW/ArcelorMittal – Indiana Harbor West &
JobLink

USW/ATI - Brackenridge

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Observations

Number of classes
Average training hours
Average cost per person
Average number of participants per class

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Customized classes that could be "on the fence" of Advanced Manufacturing.

Computer Networking

Fiber Optics

Hydraulics

Industrial & Advanced Welding

Industrial & Modern Electronics

Maintenance Technician Electrical

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Comments and Questions?