*i*NAM

Illinois Network for Advanced Manufacturing

INAM Grant Meeting

Community College Consortium Members

May 1 – 2, 2013

Wednesday May 1st 9 AM – 4 PM

Thursday May 2nd 8:30 – 1 PM

T – Building, Room 1001

Conference Center

Meeting held at

Joliet Junior College
1215 Houbolt Road, Joliet, IL 60431

(815) 729-9020

Hotels for overnight accommodations

Fairfield Inn; 1501 Riverboat Center Drive; Joliet, IL	815.741.3499
TownePlace Suites; 1515 Riverboat Center Drive; Joliet, IL	815.741.2400
Additional Option:	
Hollywood Casino; 777 Hollywood Blvd; Joliet, IL	888.436.7737

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Illinois Network for Advanced Manufacturing

INAM Consortium Committee Meeting

May 1 Wednesday 8:30 AM – 4 PM
May 2 Thursday 8 AM – 12 Noon followed by lunch

Joliet Junior College 1215 Houbolt Road, Joliet, IL 60431

Building T - Conference Center Room 1001

AGENDA

Goal of conference: *To better understand how all INAM Grant components coalesce to demonstrate to DOL, the consortium is meeting its obligations. To answer questions, issues, or concerns related to accomplishment of grant deliverable. To foster an exchange of information and ideas among consortium members.*

WEDNESDAY, MAY 1

8:30 AM	FULL BREAKFAST	(provided by the Consortium)
9:00 AM	Welcoming remarks ➢ Introduction of attendees ➢ Review of Agenda and meeting packet	R Lake
9:20 AM	Overview of intent of INAM Grant How do we meet the DOL objectives	R Lake M Coons
10:30 AM	Short Break	
10:45 AM	Beginning the work on grant Strategies	R Lake
NOON	LUNCH (provided by the Consortium)	
1:00 PM	Strategy Task Force Breakout Sessions Task Force 1.2, 2.1 and 2.2 Task Force 2.3 (5 curriculum groups)	Group
2:45 PM	Short Break	

3:00 PM Sharing of work by Strategy Task Force Groups — Group

4:00 PM Adjourn Dinner on own
Suggested restaurant located next to Ramada
Heroes West Sports Grill 815-725-1234
153 Commerce Dr. Joliet, Illinois

THURSDAY, MAY 2

8:00 AM CONTINENTAL BREAKFAST (provided by the Consortium)

8:30 AM Welcome and introduction of Evaluator Team

8:40 – 10:00 AM Overview of quantitative data required — George Fox

Participants from each college will set together using the laptop of the person inputting the data to better understand what data is required for the data base system

Counting of the students:

1) Starts July 1, 2013 those meeting specific criteria:
   a) an Educational Plan *(signed by student)*
   b) enrolled in designated curriculum in one or more of 5 Mfg curriculums (2-3 certificates and degree in each) and the CPT certificate.

2) Continues until September 30, 2015

Implementation data (the second part of the data to be collected) will be obtained by utilizing interviews, focus groups, and surveys with the assistance of each INAM Consortium College.

10:00 AM Short Break
Room will be reset for President's Advisory Meeting

10:30 AM Consortium College President Advisory Meeting

NOON LUNCH (provided by the Consortium)

Adjournment after lunch. Thank You for all your hard work and travel safely.

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Illinois Network for Advanced Manufacturing

List of INAM Consortium Member Colleges

1. College of DuPage
2. College of Lake County
3. Daley (City Colleges)
4. Danville Area
5. Elgin
6. Harper (Grant Fiscal Agent)
7. Illinois Eastern
8. Illinois Valley
9. John Wood
10. Joliet
11. Kankakee
12. Kishwaukee
13. Lincoln Land
14. McHenry
15. Oakton
16. Prairie State
17. Richland
18. South Suburban
19. Southwestern
20. Triton
21. Waubonsee

INAM GRANT REPORTS DUE

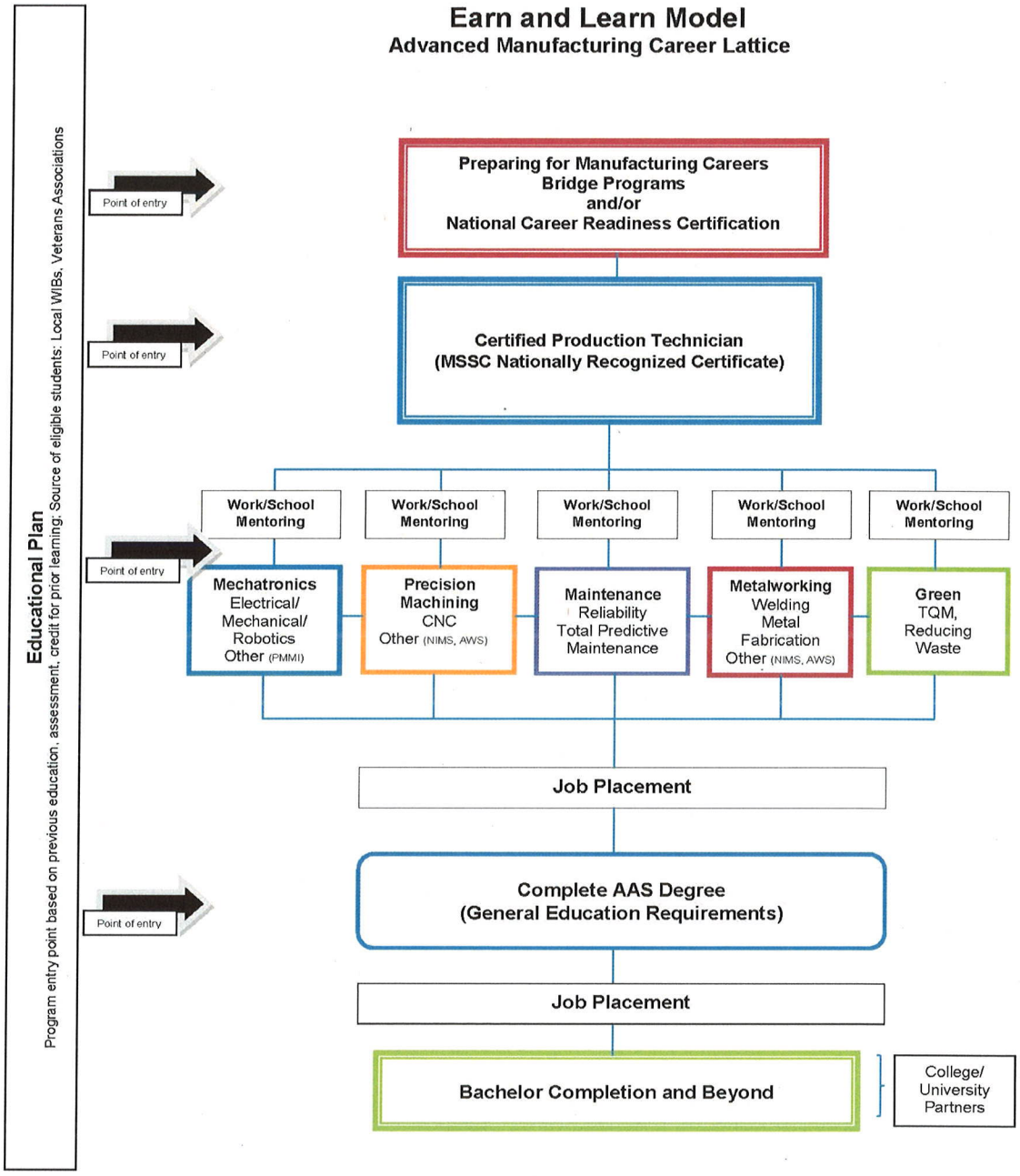
1st Year: October 2012 – September 30, 2013

Quarter Ends	Quarterly Report Due	Reporting Activities Occurring Between
December 31, 2012	February 14, 2013	Oct 1 – Dec 31, 2012
March 31, 2013	May 15, 2013	Jan 1 – Mar 31, 2013
June 30, 2013	August 14, 2013	April 1 – June 30, 2013
September 30, 2013	October 15, 2013	July 1 – Sept 30, 2013

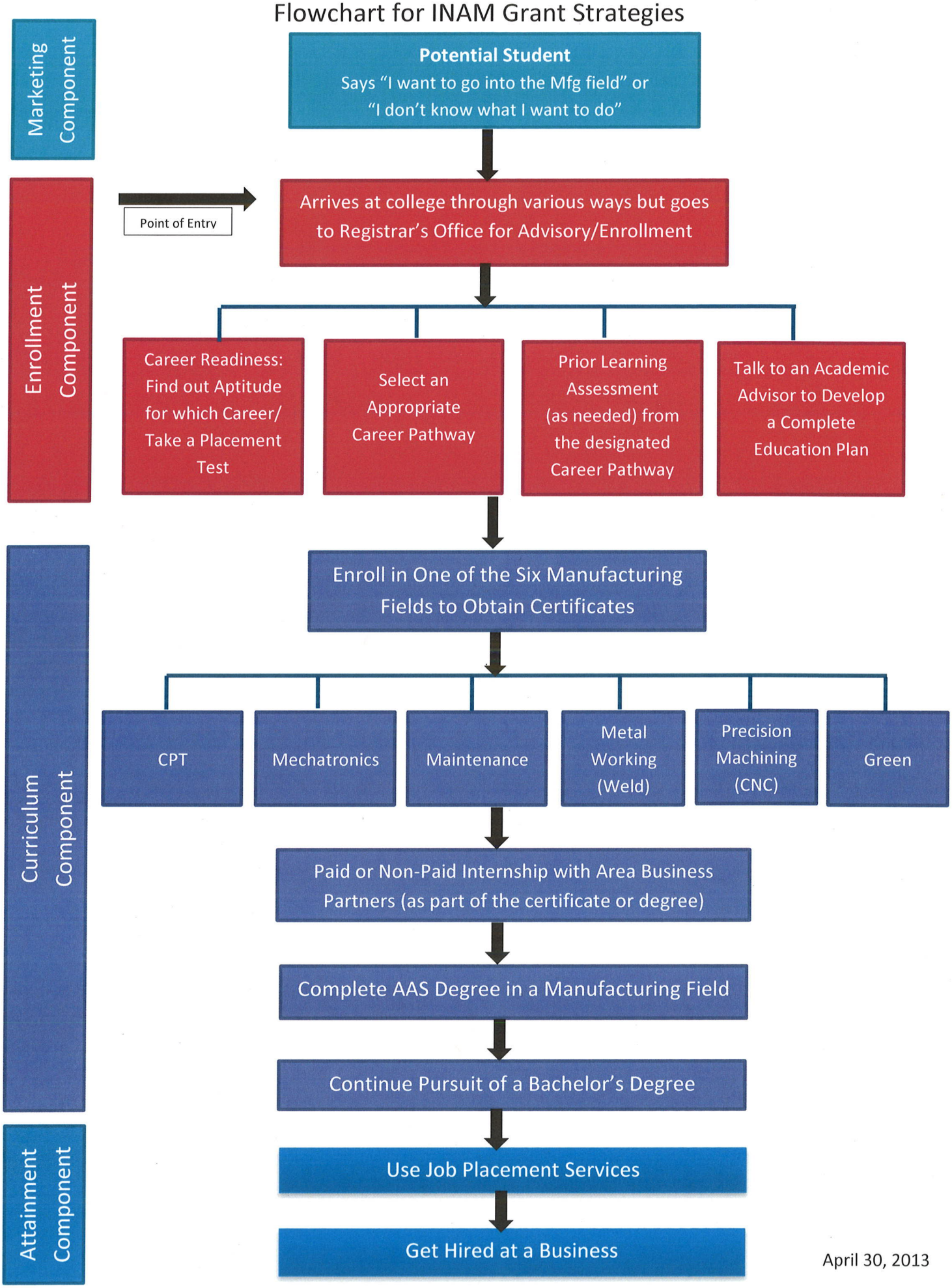
Consortium members: a) Monthly Activity Report of college INAM Grant activities due to grant office 1st of each month

b) Monthly Invoice for reimbursement of approved expenses due to grant office 15th of each month

Diagram 1


Earn and Learn Model
Advanced Manufacturing Career Lattice
Educational Plan
Program entry point based on previous education, assessment, credit for prior learning; Source of eligible students: Local WIBs, Veterans Associations
Point of entry
Point of entry
Point of entry
Point of entry
Preparing for Manufacturing Careers
Bridge Programs
and/or
National Career Readiness Certification
Certified Production Technician
(MSSC Nationally Recognized Certificate)
Work/School Mentoring
Work/School Mentoring
Work/School Mentoring
Work/School Mentoring
Work/School Mentoring
Mechatronics
Electrical/
Mechanical/
Robotics
Other (PMMI)
Precision Machining
CNC
Other (NIMS, AWS)
Maintenance
Reliability
Total Predictive
Maintenance
Metalworking
Welding
Metal
Fabrication
Other (NIMS, AWS)
Green
TQM,
Reducing
Waste
Job Placement
Complete AAS Degree
(General Education Requirements)
Job Placement
Bachelor Completion and Beyond
College/
University
Partners

Flowchart for INAM Grant Strategies



April 30, 2013

EARN AND LEARN ILLINOIS NETWORK FOR ADVANCED MANUFACTURING Priorities and Strategies	
Priority 1.0	Create educational plans that provide a clear pathway and lattice to industry-recognized credentials in advanced manufacturing.
Strategy 1.1	Develop educational plans outlining coursework and timelines.
Strategy 1.2	Develop a mechanism for awarding academic credit for prior learning.
Priority 2.0	Implement programs along the career pathway and lattice that meet advanced manufacturing industry needs and result in industry-recognized credentials and/or associate degrees.
Strategy 2.1	Offer bridge programs in technical skills.
Strategy 2.2	Offer programming leading to the National Career Readiness Certificate (NCRC).
Strategy 2.3	Enhance programming in areas of specialization certificate programs.
Strategy 2.4	Offer associate degree completion.
Priority 3.0	Develop online and technology-enabled learning by strategically aligning INAM programs with technology purchased by the Illinois Green Economy Network (IGEN), a first-round TAA awardee.
Strategy 3.1	Engage in a partnership with IGEN in using National Training Education Resource (NTER) System.
Priority 4.0	Develop partnerships with employers that include paid internships and on-the-job training opportunities in advanced manufacturing.
Strategy 4.1	Engage employers to secure paid internships and on-the-job training.
Strategy 4.2	Conduct regular employer input and feedback sessions.
Priority 5.0	Provide placement services that connect students to available jobs in advanced manufacturing.
Strategy 5.1	Develop a platform that provides job posting capabilities for employers and résumé posting for students.
Strategy 5.2	Enhance the image of advanced manufacturing.
Priority 6.0	Improve articulation of credit between two-year and four-year colleges to facilitate pursuit of additional education in advanced manufacturing.
Strategy 6.1	Develop articulation agreements with four-year colleges and universities.

Advanced Manufacturing Occupations Targeted in Grant with the Planned INAM Programs Leading to Certification

Manufacturing Job Cluster	INAM Programs leading to Certificates, Degrees and Industry Recognized Credentials	Manufacturing Pathways, Industries, and Occupations
Entry-level	Certified Production Technician	Manufacturing Trainee/Paid Intern Leads to intermediate positions in Mechatronics, Computer Numerical Control (CNC) Machinist, Industrial Maintenance Technician, Welder, Waste Management Specialist, Advanced Manufacturing Technology
Intermediate	**Mechatronics:** Certificates in Motion, Sensors, Electronics, Robotics, PMMI Certification	Certified Technician, Robotics Technician to advanced positions in Advanced Manufacturing Technology
	CNC: Certificates in Precision Machining, NIMS Certifications	Certified Technician, Precision Machinist to advanced positions in Advanced Manufacturing Technology
	Industrial Maintenance: Certificate in Machine Maintenance	Certified Maintenance Technician to advanced positions in Advanced Manufacturing Technology
	Welding/Metalworking: AWS, NIMS Certifications	Welder, Advanced Welder to advanced positions in Advanced Manufacturing Technology
	Green Manufacturing: Certificates in Waste Management, Lean Manufacturing	Waste Management Specialist, Lean Manufacturing Specialist to advanced positions in Advanced Manufacturing Technology
Advanced	Associates Degree in Advanced Manufacturing Technology, Associates Degree in Welding	Manufacturing Supervisor, Senior Technician
Professional	Bachelor's Degree in Manufacturing Engineer Technology, Bachelor's Degree in Industrial Management and Technology, Bachelor's in Technical Resource Management, Bachelor's Degree in Industrial Technology, Bachelor's Degree in Electrical Technology, Bachelor's Degree in Welding Engineering Technology	Section Manager, Department Manager, Plant Manager

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Identified Lead INAM Colleges
Work Currently Started on These Strategies

Program/Topics	Lead College	Partner Colleges	Certifications/Outcomes
Educational plans **(Strategy 1.1)**	Harper	All INAM Colleges	Develop education plan format for those students participating in the grant funded Mfg programs of study to be used by Illinois community colleges (continuity)
Prior learning credit **(Strategy 1.2)**	Oakton	All INAM Colleges	Create a Prior Learning Assessment (PLA) program to be used by Illinois community colleges (continuity)
Bridge programs for technical skills **(Strategy 2.1)**	Lincoln Land	All INAM Colleges	Design a bridge program applicable to Mgf programs of study to be used by Illinois community colleges
Enhancing readiness/ NCRC **(Strategy 2.2)**	Joliet	All INAM Colleges	Develop NCRC (National Career Readiness Certification) program to be used by Illinois community colleges (continuity)
CPT **(Strategy 2.3)**	Triton	All INAM Colleges	MSSC (Manufacturing Skills Standards Certification)
Mechatronics **(Strategy 2.3)**	Oakton	All INAM Colleges	PMMI Mechatronics Certificate (Package Machinery Manufacturers Institute)
Maintenance **(Strategy 2.3)** **Note: Table 2**	Illinois Eastern	All INAM Colleges	IMI (Industrial Maintenance International)
Metal working – (Welding) **(Strategy 2.3)**	College of DuPage	All INAM Colleges	AWS (American Welding Society)
Precision Machining (CNC) **(Strategy 2.3)**	College of Lake County	All INAM Colleges	NIMS (National Institute for Metalworking Stills, Inc.)

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Start Work on Strategies Listed Below
Summer and Early Fall 2013

Program/Topics	Lead College	Partner Colleges	Certifications/Outcomes
Green **(Strategy 2.3) Note: Table 2**	*Not yet selected*	All INAM Colleges	SME (Society of Manufacturing Engineers)
Ass. Degree completion (Strategy 2.4)	Harper	All INAM Colleges	Discover creative avenues colleges can award AAS Mfg degrees to increase the number of Illinois students with degrees
Online & Tech-enabled learning **(Strategy 3.1)**	Harper	All INAM Colleges	Enhance & create ways to embed online & tech-enabled learning in Mfg certificate and degree programs of study
Develop Manufacturing Partnerships **(Strategy 4.1; 4.2)**	Harper	All INAM Colleges	Establish and sustain partnerships between Mfg businesses and Illinois community colleges
Provide web-based job placement services **(Priority 5.1)**	Harper	All INAM Colleges	Establish centralized Web-based job-placement service for those in the Mfg field to enable linking employers needs with qualified employees
Advance manufacturing image **(Strategy 5.2)**	Harper	All INAM Colleges	Create and launch marketing campaign for Mfg field to be used in Illinois community colleges
Enhance articulation agreement to 4Yr institutions **(Strategy 6.1)**	Harper Kishwaukee	All INAM Colleges	Increase number and ease of students with AAS Mfg degrees matriculating to Illinois colleges with 4 year degrees in various Mfg programs of study

Strategy 2.3: Work of the 5 Curriculum Task Force Groups

Step 1: Leader is convening/coordinating group work
(fostering work not just for their own college but for the Task Force)

a) convenes conference calls

b) Leaders have sent out surveys to gather information from members about curriculum, equipment, or additional data the group wanted

Step 2: Task Force Group now decides on the 2-3 certificates and a degree they want to work on found in that specific Mfg curriculum. The Mfg courses in these selected certificates and degree are the ones that will be shared to meet the intent of the grant and to count students.
These certificates and degree may be obtained from different consortium colleges. This narrowing down of the certificates and degree allows for a workable number of courses to be tweaked (for some colleges) or simply adopted to the list of Mfg courses at other colleges. Either way, they will be shared with all members of the consortium.

Step 3: Task Force Group agrees on the terminal objectives for the selected 2-3 certificates and degree. These should stress the *outcome at the successful completion of these terminal objectives the student is eligible to set for a national credential in that Mfg field.* Also important certificates be developed in such a way that a student with a national credential can be awarded credit for it in a course in this certificate to accelerate their completion.

This group agreement also allows for consistency across the 21 consortium colleges Mfg curriculums.

Step 4: The terminal objectives for the 2-3 certificates and degree is shared with all 21 consortium colleges. Feedback is obtained and tweaks made for the Task Force. Some of colleges must seek input and feedback from their Mfg advisory committees or business & industry partners.

Step 5: The "tweaked" final terminal objectives for the 2-3 certificates and degree selected by the Task Force are sent back out to all 21 consortium colleges to use.

Step 6: All course syllabi from all colleges contained in these selected certificates and degree are to be shared. This fosters the enhancement of current courses and/or development of INAM Grant specified Mfg curriculums as well as new certificates and/or a Mfg degree for any college.

INAM Grant Strategy 2.4
Inventory of Manufacturing Certificates/Degrees

	Manufacturing Area	Inventory of Degrees and Certificates	Credit Hours
College of DuPage	*Certified Production Technician (CPT)*	Manufacturing Skills Standards Certificate (MSSC)	7
	Mechatronics	Certificate Process Control Instrumentation	35
		AAS Degree - Electro-Mechanical Technology	65
	Maintenance	AAS Degree - Facilities Management	66
	Metal Working (Welding)	Certificate Automated Manufacturing Systems	35
		AAS Degree - Automated Manufacturing Systems	66
		Certificate Manufacturing Technology	34
		AAS Degree - Manufacturing Technology	65
		Certificate Tool & Die	31
		Certificate Mold Making	31
		AAS Degree - Manufacturing Engineering Technology	65
	Precision Machining (CNC)	Computer Numerical Control (CNC) Certificate test	
		Certificate Drafting/Design	38
		Certificate Computer-Aided Design	24
	Green	Certificate Renewable Energy	30
College of Lake County	*Certified Production Technician (CPT)*	N/A	
	Mechatronics	Mechanical Engineering Technology Design Certificates:	
		MET I: Toolbox	9
		MET II: Nuts & Bolts	7
		MET III: Mechatronics	9
		MET IV: Design & Innovation	17-18
		AAS Degree - Mechanical Engineering Technology	68-69
	Maintenance	Mechanical Service Technician I Certificate	17
		Mechanical Service Technician II Certificate	18
	Metal Working (Welding)	Shielded Metal Arc Welding Certificate	21
		Gas Metal Arc Welding Certificate	18
		Gas Tungsten Arc Welding Certificate	24
		Welding Certificate	41-42
	Precision Machining (CNC)	Basic Machining Certificate	15
		Machine Tool Trades Certificate	35
		Tool & Mold Maker Certificate	50
		AAS Degree - Machine Tool Trades	65
		CNC Operations Certificate	15
		CNC Programming/Operations Certificate	30
		AAS Degree - CNC Programming	64-65
	Green	Sustainable Design & Construction Certificate	16
		Residential Energy Audit Certificate	16
		Alternative Energy Technologies Certificate	25
		Energy Audit Certificate	33
		AAS Degree - Energy Audit	66
Daley City Colleges	*Certified Production Technician (CPT)*	**Bridge Program: Students can earn credentials including the MSSC Safety Module. CPT modules are being built into core courses of the AAS Degree in Manufacturing Technology.*	
	Mechatronics	Basic Certificate in Factory Automation	20
		Advanced Certificate in Factory Automation	35
	Maintenance	N/A	
	Metal Working (Welding)	Basic Certificate in Welding (in progress, will submit for approval soon)	12
	Precision Machining (CNC)	Basic Certificate in CNC Machining	19
		Advanced Certificate in CNC Machining	37
	Green	N/A	
	Other	Basic Certificate in Quality Assurance	16
		AAS Degree - Manufacturing Technology (Includes MSSC CPT)	62
Danville Area CC	*Certified Production Technician (CPT)*	N/A	
	Mechatronics	Mechatronics Certificate	24
		AAS Degree - Electronic Technology	67
		AAS Degree - Manufacturing Engineering Technology	67
		AAS Degree - Manufacturing Engineering Technology CAD Option	63
	Maintenance	Maintenance Mechanic Certificate	37

INAM Grant Strategy 2.4
Inventory of Manufacturing Certificates/Degrees

	Manufacturing Area	Inventory of Degrees and Certificates	Credit Hours
		Advanced Maintenance Mechanic Certificate	18
		AAS Degree - Advanced Manufacturing	67
	Metal Working (Welding)	Welding Certificate	19
		Advanced Welding Certificate	29
	Precision Machining (CNC)	N/A	
	Green	N/A	
Elgin CC	*Certified Production Technician (CPT)*	N/A	
	Mechatronics	N/A	
	Maintenance	Basic Vocational Specialist Certificate Electrical Systems	11
		Basic Vocational Specialist Certificate Automated Electronic Systems	9
		Basic Vocational Specialist Certificate Mechanical Systems	14
		AAS Degree - IST/Maintenance Technology	62-67
	Metal Working (Welding)	Vocational Specialist Certificate Welding	33
		Basic Vocational Specialist Certificate Welding	16
		Basic Vocational Specialist Certificate ARC Welding	12
		Basic Vocational Specialist Certificate MIG Welding	12
		AAS Degree - Welding Fabrication Technology	60
	Precision Machining (CNC)	Basic Vocational Specialist Certificate CNC Operator	20
		Vocational Specialist Certificate Computer Integrated Manu	40
		AAS Degree - Computer Integrated Manufacturing	65
		Vocational Specialist Certificate Machine Tool Operations	32
		Vocational Specialist Certificate Mold Making	32
		Basic Vocational Specialist Certificate Tool and Die Making	21
		AAS Degree - Industrial Manufacturing Technology	67-70
		AAS Degree - Machine Tool Technology	70
	Green	N/A	
Harper College	*Certified Production Technician (CPT)*	Certified Production Technician	16
	Mechatronics	Certificate in Mechatronics/Automation	29
	Maintenance	Certificate in Maintenance	45
		AAS Degree - Maintenance Technology	61
	Metal Working (Welding)	Basic Welding Certificate	16
		Advanced Welding Certificate	33
		Certificate in Metal Fabrication	32
		AAS Degree - Welding Technology	60
	Precision Machining (CNC)	Certificate in Computer Numerical Control (CNC) Operator 1	18
		Certificate in Computer Numerical Control (CNC) Operator II	29
		AAS Degree - Advanced Manufacturing Technology	60
	Green	N/A	
Illinois Eastern CC	*Certified Production Technician (CPT)*	N/A	
	Mechatronics	Manufacturing Design Certificate	7
		Automation Certificate	12
		AAS Degree - Advanced Manufacturing	63
	Maintenance	IMT: Industrial Maintenance Level I Certificate	16
		IMT: Industrial Maintenance Level II Certificate	16
Illinois Eastern CC		IMT: Industrial Maintenance Level III Certificate	14
		AAS Degree - Industrial Maintenance	65
		Reliability Maintenance Certificate	15
		Industrial Technician Certificate - Basic	15
		Industrial Technician Certificate - Intermediate	30
		Industrial Technician Certificate - Advanced	45
	Metal Working (Welding)	Welding Certificate	30
	Precision Machining (CNC)	Advanced Machining Certificate	12
	Green	AAS Degree - Energy Technology	68
Illinois Valley CC	*Certified Production Technician (CPT)*	N/A	

INAM Grant Strategy 2.4
Inventory of Manufacturing Certificates/Degrees

	Manufacturing Area	Inventory of Degrees and Certificates	Credit Hours
	Mechatronics	AAS Degree - Electronics & Electricians	67
	Maintenance	Industrial Maintenance Certificate	25
		Industrial Electricians Certificate	30
	Metal Working (Welding)	Welding OAW Certificate	6
		Welding GMAW Certificate	8
		Welding GTAW Certificate	10
		Welding Production Certificate	30
		Welding Basic Construction Certificate	30
		Welding Advanced Construction Certificate	42
		AAS Degree - Welding Construction	66
		AAS Degree - Welding Production	66
	Precision Machining (CNC)	Machinist and Tool and Die Making Certificate	28
		Computer Numerical Control Operators Certificate	29
		AAS Degree - Manufacturing Technology	67
	Green	Basic Renewable Wind Energy Technician Certificate	35.5
		Advanced Renewable Wind Energy Technician Certificate	53.5
John Wood CC	*Certified Production Technician (CPT)*	N/A	
	Mechatronics	Electrician Certificate	29
		AAS Degree - Electrical Technology	64
	Maintenance	N/A	
	Metal Working (Welding)	Welding Certificate	16
	Precision Machining (CNC)	CAD/CAM Certificate	18
		AAS Degree - Manufacturing Technology (CAD/CAM)	64
	Green	N/A	
Joliet Junior College	*Certified Production Technician (CPT)*	N/A	
	Mechatronics	Certificate of Completion - Basic Electronics	8
		Certificate of Achievement - Electronics Engineering Technology	34
		AAS Degree - Electronic Engineering Technology	64
		Certificate of Completion - Electrical/Electronics	16
		Certificate of Achievement - Industrial Electrical/Electronics	42
		AAS Degree - Electrical/Electronic Automated Systems	64
		Certificate of Completion - Integrated Systems	18
	Maintenance	Certificate of Completion - Industrial Technology	19
		Certificate of Achievement - Industrial Maintenance Technology	32
		AAS Degree - Industrial Maintenance Technology	67
	Metal Working (Welding)	Certificate Tests: (GTAW, GMAW, FCAW, SMAW 6G Pipe Cert, SMAW Plate Cert)	
		Certificate of Achievement - Industrial Welding Technology	30
		AAS Degree - Industrial Welding Technology	64
	Precision Machining (CNC)	Certificate of Achievement - Mechanical Production Technology	48
		AAS Degree - Mechanical Production Technology	64
Joliet Junior College		Certificate of Completion - Computer Numerical Control	13
		Certificate of Completion - Blueprint Reading	13
		Certificate of Completion - Dimensional Metrology	17
		Certificate of Completion - Machine Tool Metalworking	23
		AAS Degree - Precision Machine Technology	68
	Green	N/A	
Kankakee College	*Certified Production Technician (CPT)*	N/A	
	Mechatronics	Industrial Motor Controls Certificate	14
		Pneumatic and Hydraulic Power Certificate	14
		Programmable Logic Controllers Certificate	14
		Residential & Industrial Wiring Certificate	14
		Electrical Technology Advanced Certificate	37
		AAS Degree - Track I Industrial Electrical Technology	68
		AAS Degree - Track 2 Industrial Instrumentation/Process Control	69
		AAS Degree - Track 3 Industrial Machinery Maintenance	68
	Maintenance	N/A	

INAM Grant Strategy 2.4
Inventory of Manufacturing Certificates/Degrees

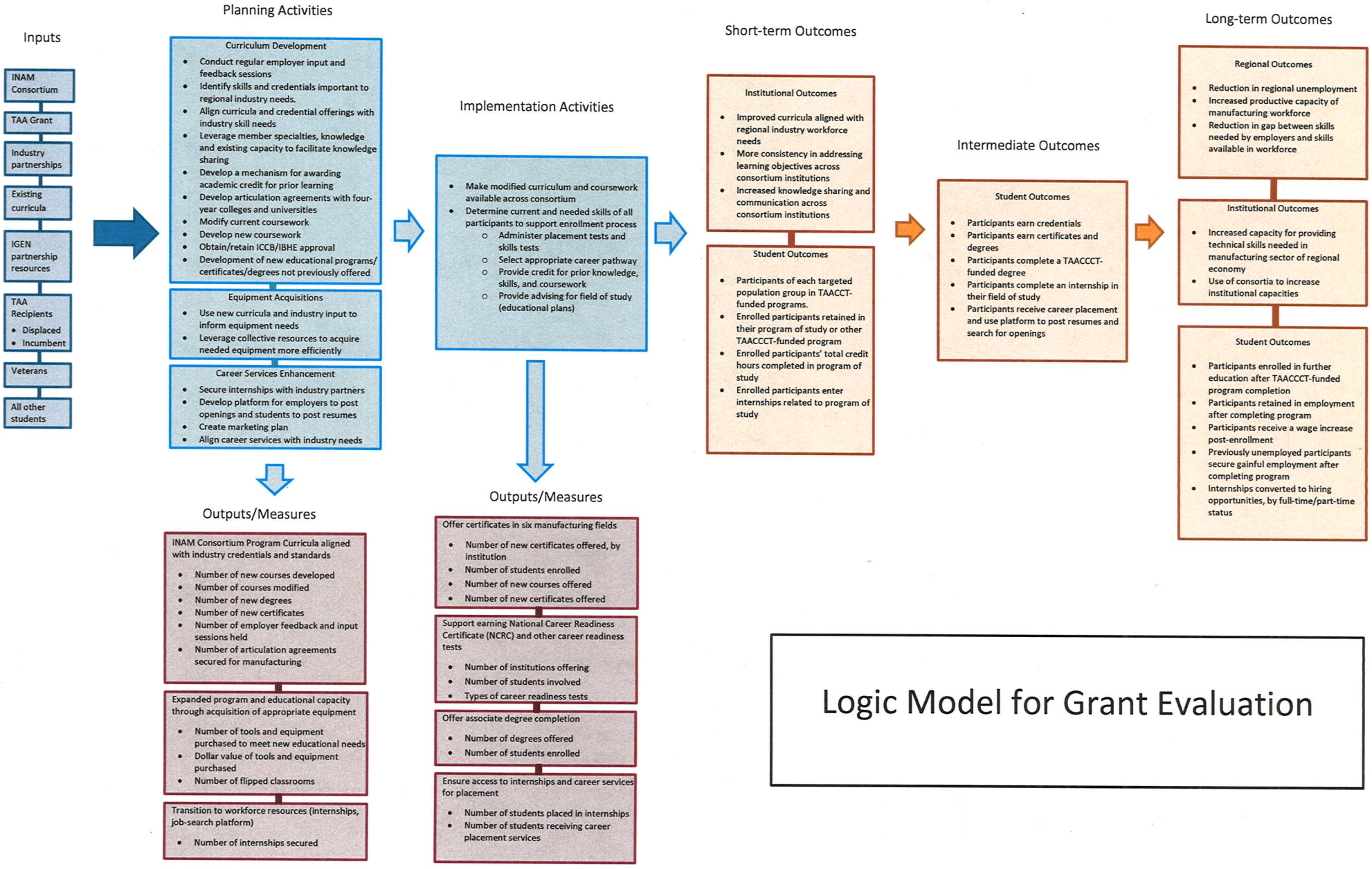
	Manufacturing Area	Inventory of Degrees and Certificates	Credit Hours
	Metal Working (Welding)	Shielded Metal Arc Certificate	8
		Tungsten Inert Gas & Metallic Inert Gas Certificate	8
		Pipe Welding Certificate	12
		Maintenance Welding Certificate	12
		Advanced Certificate in Welding Technology	27
		Machine Tool Technology Advanced Certificate	34
		Millwright Advanced Certificate	47
		AAS Degree - Welding Technology	64
	Precision Machining (CNC)	N/A	
	Green	Entry-Level Solar-PV Technology Certificate	21
		Entry-Level, Solar-Thermal Technology Certificate	21
		Entry-Level, Small-Wind Technology Certificate	21
		AAS Degree - Track 4 Renewable Energy Technology	68
Kishwaukee College	*Certified Production Technician (CPT)*	N/A	
	Mechatronics	Certificate in Industrial Electricity	16
		Certificate in Industrial Electronics/A+ Preparation & Controls	30
	Maintenance	Certificate in Automated Industrial Technology	28
	Metal Working (Welding)	Certificate in Welding Technology	20
	Precision Machining (CNC)	Certificate in Precision Machining (CNC) Apprentice	27
		Certificate in Automated Engineering	31
		AAS Degree - Automated Engineering Tech/CNC	64
	Green	Certificate in Alternative Energy Technology	16
Lincoln Land CC	*Certified Production Technician (CPT)*	N/A	
	Mechatronics	N/A	
	Maintenance	N/A	
	Metal Working (Welding)	**Welding Program meets certified AWDS Standards*	
		Certificate of Completion - Welding Operator	16
		Certificate of Achievement - Welding Specialist	30
	Precision Machining (CNC)	N/A	
	Green	*N/A*	
McHenry County College	*Certified Production Technician (CPT)*	N/A	
	Mechatronics	Robotics Systems Programmer Certificate	32
		AAS Degree - Robotics Systems Engineering	64
	Maintenance	N/A	
McHenry County College	*Metal Working (Welding)*	N/A	
	Precision Machining (CNC)	Certificate in Computer Numerical Control (CNC) Machining	12
		AAS Degree - Engineering Technology	63
	Green	N/A	
Oakton CC	*Certified Production Technician (CPT)*	N/A	
	Mechatronics	Automation and Controls Certificate	14
	Maintenance	Manufacturing Technology Certificate	32
		AAS Degree - Manufacturing Technology	60
	Metal Working (Welding)	N/A	
	Precision Machining (CNC)	CNC Operations and Programming Preparation Certificate	10
		CNC/CAM Programming Certificate	12
	Green	N/A	
Prairie State College	*Certified Production Technician (CPT)*	N/A	
	Mechatronics	N/A	
	Maintenance	Certificate Industrial Electrician	36-37
		AAS Degree - Industrial Electrician	66-68
		Certificate in Industrial Maintenance Technician	34-35
		Certificate Millwright	32
		Certificate Hydraulics	34
	Metal Working (Welding)	Certificate Welding Specialist	20

INAM Grant Strategy 2.4
Inventory of Manufacturing Certificates/Degrees

	Manufacturing Area	Inventory of Degrees and Certificates	Credit Hours
		Certificate Welding Technician	34
	Precision Machining (CNC)	Certificate CNC Operator	32
		Certificate Machinist	31
		Certificate Tool & Die	37
		Certificate Manufacturing Technology	31
		AAS Degree - Tool & Die	60-61
		AAS Degree - Industrial Technology	62
		AAS Degree - Manufacturing Technology	61
	Green	N/A	
Richland CC	*Certified Production Technician (CPT)*	N/A	
	Mechatronics	Electrical Systems Certificate	52
		AAS Degree - Engineering Technology, Electrical Systems	68
		Fluid Power Systems Technician Certificate	52
		AAS Degree - Engineering Technology, Fluid Power Systems	68
		Instrumentation Technician Certificate	52
		AAS Degree - Engineering Technology, Instrumentation Systems	68
		Manufacturing Engineering Technician Certificate	50
		AAS Degree - Engineering Technology, Manufacturing Engineering	66
		Mechanical Systems Technician Certificate	51
		AAS Degree - Engineering Technology, Mechanical Systems	67
		AAS Degree - Engineering Technology Electrical Systems Specialty	67
	Maintenance	Building Maintenance Certificate	26
		Facilities Maintenance Technician Certificate	50
		AAS Degree - Engineering Technology, Facilities Maintenance	66
		Machine Repair Technician Certificate	53
		AAS Degree - Engineering Technology, Machine Repair Specialty	69
	Metal Working (Welding)	Basic Welding Certificate	31
		Welding Technician Certificate	45
		Pipefitting & Pipe Welding Certificate	52
		AAS Degree - Welding Technology Industrial & Equipment	64
		AAS Degree - Welding Technology Construction & Pipe	68
Richland CC	*Precision Machining (CNC)*	CNC Operator Certificate	27
		CNC Technology Certificate	49
		AAS Degree - Engineering Technology, CNC Technology	68
	Green	Wind Energy Systems Certificate	39
		AAS Degree - Engineering Technology, Wind Energy Systems	62
		AAS Degree - Engineering Technology, Renewable Energy	62
		AAS Degree - Engineering Technology, Sequestration Specialty	67
		BioFuels Control Systems Technician Certificate	27
		BioFuels Technician Certificate	50
		AAS Degree - Engineering Technology, BioFuels Technician	68
South Suburban College	*Certified Production Technician (CPT)*	**A certified MSSC testing site*	
	Mechatronics	N/A	
	Maintenance	N/A	
	Metal Working (Welding)	*N/A*	
	Precision Machining (CNC)	N/A	
	Green	N/A	
Southwestern Illinois	*Certified Production Technician (CPT)*	N/A	
	Mechatronics	Automated Control Electronics Certificate	20
		Electronics Technology Certificate	28
		Electrical Technology Certificate	33
		Industrial Electricity Certificate	32
		AAS Degree - Electronics Technology	68-70
		AAS Degree - Industrial Electricity	70-71
	Maintenance	Stationary Engineering Certificate	16
		Industrial Maintenance Mechanics Certificate	32
		AAS Degree - Industrial Maintenance Mechanics	70.5

INAM Grant Strategy 2.4
Inventory of Manufacturing Certificates/Degrees

	Manufacturing Area	Inventory of Degrees and Certificates	Credit Hours
		*Accredited through NIMS (National Institute of Metalworking Skills) and serve as a test site.	
		Welding Technology Specialized Certificate	10
		Advanced Welding Manufacturing Certificate	10
		Welding Technology Advanced Certificate	12
		Welding Technology Certificate	14
		AAS Degree - Welding Technology	68-69
	Precision Machining (CNC)	CNC Machining Certificate	8
		MasterCam Certificate	8
		Solid Works Certificate	8
		Advanced CNC Programming Certificate	8
		Precision Machining Technology Certificate	37.5
		AAS Degree - Precision Machining Technology	69.5
	Green	Sustainability Certificate	15
Triton College	*Certified Production Technician (CPT)*	*N/A*	
	Mechatronics	Engineering Technology - Mechatronics Certificate	21
		AAS Degree - Engineering Technology (Design focused)	66-68
	Maintenance	Engineering Technology/Design Certificate	26
	Metal Working (Welding)	Engineering Technology/Fabrication Certificate	15
	Precision Machining (CNC)	Engineering Technology/Fabrication Certificate (minus welding)	15
	Green	N/A	
Waubonsee CC	*Certified Production Technician (CPT)*	N/A	
	Mechatronics	N/A	
	Maintenance	Basic Industrial Maintenance Certificate	3
Waubonsee CC		Intermediate Industrial Maintenance Certificate	15
		Advanced Industrial Maintenance Certificate	30
		Industrial Maintenance Management Certificate	30
		AAS Degree - Industrial Maintenance	60
	Metal Working (Welding)	Beginning Welding Certificate	16
		Advanced Welding Certificate	37
		AAS Degree - Welding Technology	60
	Precision Machining (CNC)	CNC Operator Certificate	9
		Advanced CAD/CAM Certificate	29
	Green	Automotive Recycling Certificate	3
		Geothermal Basics Certificate	3
		Geothermal Certificate	26
		Photovoltaic Basics Certificate	3
		Photovoltaic Certificate	9
		Solar Thermal Certificate	9
		Small Wind Certificate	9


Inputs
INAM Consortium
TAA Grant
Industry partnerships
Existing curricula
IGEN partnership resources
TAA Recipients
Displaced
Incumbent
Veterans
All other students
Planning Activities
Curriculum Development
Conduct regular employer input and feedback sessions
Identify skills and credentials important to regional industry needs.
Align curricula and credential offerings with industry skill needs
Leverage member specialties, knowledge and existing capacity to facilitate knowledge sharing
Develop a mechanism for awarding academic credit for prior learning
Develop articulation agreements with four-year colleges and universities
Modify current coursework
Develop new coursework
Obtain/retain ICCB/IBHE approval
Development of new educational programs/ certificates/degrees not previously offered
Equipment Acquisitions
Use new curricula and industry input to inform equipment needs
Leverage collective resources to acquire needed equipment more efficiently
Career Services Enhancement
Secure internships with industry partners
Develop platform for employers to post openings and students to post resumes
Create marketing plan
Align career services with industry needs
Outputs/Measures
INAM Consortium Program Curricula aligned with industry credentials and standards
Number of new courses developed
Number of courses modified
Number of new degrees
Number of new certificates
Number of employer feedback and input sessions held
Number of articulation agreements secured for manufacturing
Expanded program and educational capacity through acquisition of appropriate equipment
Number of tools and equipment purchased to meet new educational needs
Dollar value of tools and equipment purchased
Number of flipped classrooms
Transition to workforce resources (internships, job-search platform)
Number of internships secured
Implementation Activities
Make modified curriculum and coursework available across consortium
Determine current and needed skills of all participants to support enrollment process
Administer placement tests and skills tests
Select appropriate career pathway
Provide credit for prior knowledge, skills, and coursework
Provide advising for field of study (educational plans)
Outputs/Measures
Offer certificates in six manufacturing fields
Number of new certificates offered, by institution
Number of students enrolled
Number of new courses offered
Number of new certificates offered
Support earning National Career Readiness Certificate (NCRC) and other career readiness tests
Number of institutions offering
Number of students involved
Types of career readiness tests
Offer associate degree completion
Number of degrees offered
Number of students enrolled
Ensure access to internships and career services for placement
Number of students placed in internships
Number of students receiving career placement services
Short-term Outcomes
Institutional Outcomes
Improved curricula aligned with regional industry workforce needs
More consistency in addressing learning objectives across consortium institutions
Increased knowledge sharing and communication across consortium institutions
Student Outcomes
Participants of each targeted population group in TAACCT-funded programs.
Enrolled participants retained in their program of study or other TAACCCT-funded program
Enrolled participants' total credit hours completed in program of study
Enrolled participants enter internships related to program of study
Intermediate Outcomes
Student Outcomes
Participants earn credentials
Participants earn certificates and degrees
Participants complete a TAACCCT-funded degree
Participants complete an internship in their field of study
Participants receive career placement and use platform to post resumes and search for openings
Long-term Outcomes
Regional Outcomes
Reduction in regional unemployment
Increased productive capacity of manufacturing workforce
Reduction in gap between skills needed by employers and skills available in workforce
Institutional Outcomes
Increased capacity for providing technical skills needed in manufacturing sector of regional economy
Use of consortia to increase institutional capacities
Student Outcomes
Participants enrolled in further education after TAACCCT-funded program completion
Participants retained in employment after completing program
Participants receive a wage increase post-enrollment
Previously unemployed participants secure gainful employment after completing program
Internships converted to hiring opportunities, by full-time/part-time status
Logic Model for Grant Evaluation
Contextual Factors: Long-term unemployment, on-going gap between skills in workforce and skills needed by regional manufacturing employers, on-going recession, structural changes to macro economy, high unemployment

*i*NAM

Illinois Network for Advanced Manufacturing

INAM Grant Evaluation

Evaluator Group: Paul T. Bucci PhD LLC (PTB), Westat, Inc., and GEM Software Development, Inc. (GEM)

Members: Paul Bucci, PTB
Doug Fox, PTB
George Smith, GEM
Brad Chaney, Westat

Composition of the evaluation team includes:

a) PTB will provide management and technical oversight;
b) GEM will lead the data collection and reporting effort, including software development (the software will be used on an ongoing basis following the grant period);
c) Westat will be responsible for the qualitative and quantitative evaluation tools development and data analysis. INAM will work with the evaluation team to ensure that all necessary data are collected, and will consult regularly concerning the evaluation findings.

Evaluation of the INAM Grant is primarily directed by the TAACCCT Round 2 Annual Performance Report (APR). Mixed methods research design will be used to evaluate the implementation and impact of the INAM Grant. This design incorporates two types of studies: 1) an implementation (qualitative) study to provide for continuing program improvement over the course of the grant, and 2) an impact (quantitative) study to provide data of the program's impact on students' education and employment outcomes.

The implementation study gathers information to facilitate replication of the INAM program design by sites wishing to adopt these innovative strategies and the program's implementation process.

The impact study not only provides data regarding the nine DOL outcome deliverables but also additional measures to foster a more complex picture of the participants in the project and benefits each obtained through the use of the program strategies and components. Statistical data, when presented in aggregate numbers will provide a measure of total program output

and when applied to individual participants, the outcome measures will be used in logistic regressions to estimate the degree to which the overall program (or specific program features such as marketing, enrollment activities, educational plans, internships, etc.) influenced attainment of the outcomes.

Each INAM college established outcome participant targets. Table 1 reflects the nine numerical outcome measures as specified by DOL as well as the annual and total grant period targets (including a follow-up year for specific measures) aggregated across program participants (modified October 2012). Since the first year is comprised of start-up activities, the counting of students is to begin in Year 2. Therefore, those colleges having numbers allocated to Year 1 will need to roll those numbers into Years 2 and 3.

Table 1: Outcome Measure Projections

Indicator	Targets for TAACCCT Program				
	Year 1	Year 2	Year 3	Year 4	Total
1. Total Unique Participants Served	587	883	1,017	-	2,487
2. Total Number of Participants Completing a TAACCCT-Funded Program of Study	222	452	618	-	1,292
3. Total Number of Participants Still Retained in Their Program of Study or Other TAACCCT-Funded Program	223	415	494	-	1,132
4. Total Number of Participants Completing Credit Hours	415	757	882	-	2,054
5. Total Number of Credentials	337	630	859	-	1,826
6. Total Number of Participants Enrolled in Further Education After TAACCCT-funded Program of Study Completion	59	128	181	94	462
7. Total Number of Participants Employed After TAACCCT-funded Program of Study Completion	149	303	402	235	1,089
8. Total Number of Participants Retained in Employment After Program of Study Completion	119	254	347	195	915
9. Total Number of Those Participants Employed at Enrollment Who Received a Wage Increase Post-Enrollment:	91	159	207	108	565

Note: Although Federal funding for the program aspects of the grant will end after the third year, the programs will continue and students will continue to enroll, earn certificates and degrees, and enter employment and/or further education during year 4 and beyond. However, in accordance with the example in the SGA, outcomes for Measures 1-5 purposely have been left blank and outcomes for Measures 6-9 are for follow-up purposes.

Tracking Procedures

Student eligible to be counted are selected by two criteria:

1) a completed Educational Plan which participants must sign signifying they are aware of this data reporting and willing to provide their social security number;

2) enrolled in a designated curriculum for each of the 5 manufacturing curriculum areas plus the CPT certificate.

Each college in the iNAM consortium has student information systems that will be employed for to track student progress. However, additional data will need to be obtained from the student and then entered by the data steward. These interactions by the person assisting with completing the student's Educational Plan and/or the data steward should be interacting with designated student participants at least at the beginning of the semester or course and the end.

Data collected is secure and available to only that college, the evaluator team, and the INAM office. Confidentiality will be maintained in accordance with state and federal requirements.