Minnesota Dual-Training Pipeline
Advanced Manufacturing Industry Forum
February 9, 2021
Welcome and Introductions
Minnesota Dual-Training Pipeline refresher
Advanced Manufacturing Proposed New Occupations
Pipeline Updates
Breakout Discussions
Improving your Diversity, Equity and Inclusion Efforts through Dual Training
Dual Training Grant update
Next Steps and Wrap-Up
What is Minnesota Dual-Training Pipeline?

- Source of support to employers to develop their own employment-based, dual-training programs
- An innovative approach to address current and future workforce needs in the key industries of advanced manufacturing, agriculture, health care services and information technology
- Private Investment, Public Education, Labor and Industry Experience
Employment-Based Training

Structured on-the-job training

Taking a variety of forms

Related Instruction

with a chosen training provider

Benefit to all

Engaged employee

Powerful learning
Minnesota Dual-Training Pipeline Strategies

- **Industry Forums:** *Inform* and *direct* Minnesota Dual-Training Pipeline on industry trends and needs through discussion and strategic planning aimed to expand dual training.

- **Competency Councils:** *Define* and *identify* specific occupational competencies for the four key industries.

- **Dual-Training Consulting:** *Create* and *disseminate* dual training resources for employers, employees and dual trainees: toolbox, grants, and expanding mentorship networks to set up dual training.
Current Advanced Manufacturing Occupations

- Computer Numerical Control (CNC) Programmer
- Coordinate Measuring Machine (CMM) Programmer
- Extrusion Molding Technician
- Flexo Technician
- Injection Molding Technician
- Logistics and Supply Chain Manager
- Machinist/ Tool and Die Maker
- Machinist / CNC Operator
- Maintenance and Repair Worker
- Mechatronics Technician
- Print Press Operator
- Quality Assurance/ Food Safety Supervisor
- Quality Assurance Technician
- Safety Technician
- Solderer
- Welder
Minnesota Dual-Training Pipeline
Competency Model for Advanced Manufacturing
Occupation: Manufacturing Engineer (DRAFT)

Employer-Specific Requirements

Occupation-Specific Competencies

- Sales and customer service
- Data recording
- Quality assurance and inspection coordination
- Troubleshoot quality and machine/equipment issues
- Project management
- Communication skills
- Budgeting
- Training/adult learning

Industry-Sector Technical Competencies*

- Engineering design graphics, blueprint design
- Advanced math and measurement
- Continuous improvement principles
- Raw material awareness, safe handling
- Thermodynamics and heat conduction
- Geometric dimensioning and tolerancing (GD&T)

Industry-Wide Technical Competencies

- Power systems
- Manufacturing automation and CAD/CAM software

Workplace Competencies

- Business basics
- Teamwork
- Adaptable and flexibility
- Technical work instructions
- Planning and organizing
- Problem solving, decision making
- Working with tools, technology
- Checking, examining, and recording
- Sustainable practices

Academic Competencies

- Science principles
- Basic computer skills
- Mathematics
- Reading and writing
- Communication: listening and speaking
- Critical and analytic thinking
- Information literacy

Personal Effectiveness Competencies

- Interpersonal skills
- Integrity
- Professionalism
- Initiative
- Dependability and reliability
- Lifelong learning

Based on: Advanced Manufacturing Competency Model Employment and Training Administration, United States Department of Labor, April 2010.

*Pipeline recommends the Industry-Sector Technical Competencies as formal training opportunities (provided through related instruction) and the Occupation-Specific Competencies as on-the-job training opportunities

Minnesota Dual-Training Pipeline
Competency Model for Advanced Manufacturing
Occupation: Manufacturing Production Supervisor (DRAFT)

Employer-Specific Requirements

Occupation-Specific Competencies*
- Team building, motivating others
- Data recording
- Project management
- Personal safety
- Tracking systems
- Scheduling
- Quality insurance, inspection
- Communication skills

Industry-Sector Technical Competencies*
- Machine tool theory
- Continuous improvement principles
- Quality management
- Blueprint reading
- Raw material awareness and safe handling
- Lean manufacturing
- Business math and accounting
- Training/adult learning
- Management principles

Industry-Wide Technical Competencies
- Quality Safety
- Production installation chain
- Root cause analysis

Workplace Competencies
- Business basics
- Teamwork
- Adaptable and flexibility
- Customer service focus
- Planning and organizing
- Problem solving, decision making
- Working with tools, technology
- Checking, examining, and recording
- Sustainable practices

Academic Competencies
- Science
- Basic computer skills
- Basic and technical mathematics
- Reading and writing
- Communication: listening and speaking
- Critical and analytic thinking
- Information literacy

Personal Effectiveness Competencies
- Interpersonal Skills
- Integrity
- Professionalism
- Initiative
- Dependability and reliability
- Lifelong learning
- Emotional intelligence

* Pipeline recommends the Industry-Sector Technical Competencies as formal training opportunities (provided through related instruction) and the Occupation-Specific Competencies as on-the-job training opportunities.

Minnesota Dual-Training Pipeline
Competency Model for Advanced Manufacturing
Occupation: Robotics Operator (DRAFT)

Employer-Specific Requirements

Occupation-Specific Competencies
- General housekeeping and maintenance
- Preventative maintenance - automated machinery maintenance
- Troubleshoot
- Documentation
- Testing
- Quality/inspection
- Programming PLCs
- Robotics safety

Industry-Sector Technical Competencies
- Blueprint reading
- Shop math and measurement
- PLC systems drivers power systems
- Raw material awareness and safe handling
- Manufacturing automation software, hardware
- Motor controls hydraulic systems
- Electrical and electronic systems

Industry-Wide Technical Competencies
- Manufacturing process design & development
- Production
- Maintenance, installation, and repair
- Quality assurance, continuous improvement
- Sustainable and green manufacturing
- Health, safety, security and environment
- Computer applications

Workplace Competencies
- Business basics
- Adaptability and flexibility
- Marketing, customer focus
- Planning and organizing
- Problem solving, decision making
- Working with tools, technology
- Checking, examining and recording
- Sustainable practices

Academic Competencies
- Science
- Basic computer skills
- Mathematics
- Reading and writing
- Communication: listening and speaking
- Critical and analytic thinking
- Information literacy

Personal Effectiveness Competencies
- Interpersonal skills
- Integrity
- Professionalism
- Initiative
- Dependability and reliability
- Lifelong learning

Based on: Advanced Manufacturing Competency Model Employment and Training Administration, United States Department of Labor, April 2010.

Proposed New Occupations

Robotics Operator

Minnesota Dual-Training Pipeline – Virtual Community Conversations

- Brainerd
- Duluth
- Mankato
- Owatonna
- Rochester
- St. Cloud
- Shakopee (Feb. 17)
- Twin Cities
- Willmar
Hiring slowed as a result of COVID, but is leveling and slowly picking up pace.

Shift to on-line services and retail due to COVID, which will remain.

Many industries experiencing challenges recruiting new workers.
Breakout Discussion Logistics

- We are moving in to three separate breakout groups.
- You will need to click on “Join”.
- Once we wrap up the breakout discussion, we will all move back, with a one-minute warning.
- You will need to click “OK” to rejoin the group.
- You will be muted upon re-entering the full group.
- Facilitators will provide a two-sentence report out.
Breakout Discussion – Question 1

- What is your top workforce goal for 2021?

***Note from Forum***

The group discussions yielded many thoughts, but the most common observations noted were efforts to expand recruitment and even more noted was work to do more for employee retention in 2021.
Breakout Discussions – Question 2

- As it relates to dual training, what is holding you back from getting a program started at your organization?

***Note from Forum***

Several factors were discussed in the break outs and the ones that were noted most were having workers who are able to fit dual training into their schedules, availability of local education opportunities and challenges of COVID-19’s impacts on current available kinds of instruction.
Breakout Discussion – Question 3

- For those who have done dual training, how did it work out for you? What would you do again? What would you do differently?

***Note from Forum***

Everyone spoke positively about their experience with dual training and remains interested in continuing with it again. Some suggested that this year COVID-19 has been particularly challenging for both getting staff to participate, and for finding courses that are in-person.
Improving Your Diversity, Equity and Inclusion Efforts through Dual Training

- **Speaker Series Events**: Malissa Stanton Adams, Jonathan Stuart and Ramon Pastrano

- **What Resources would your business benefit from?**
  - Tools for individuals
  - Business-wide Assessment
  - Coaching/Mentoring
  - Unconscious bias assessment
    - Project Implicit [https://implicit.harvard.edu/implicit/education.html](https://implicit.harvard.edu/implicit/education.html)
    - Intercultural Development Inventory [https://idiinventory.com/](https://idiinventory.com/)

- **How can we help?**
Dual Training Grant Overview

- Up to $150,000/year per grantee
  - Up to $6,000/year per dual trainee
- Pays for related instruction tuition, fees, required books/materials
- Reimbursement model for payment
- 25% match required for employers with annual revenue exceeding $25 million
Dual Training Grant Update

- MN Office of Higher Education Update/Legislative Update
- Next Grant Round opens March 2 and closes April 16
- Grant Writing Webinars:
  - March 8, 2021: 1:00p.m. – 3:00p.m.
  - March 18, 2021: 10:00a.m. – 12:00noon
- Approximately $2.8 million in Dual Training Grant funds are available
- Questions?
Each year, Dual-Training Pipeline team updates the inventory of related instruction, which is searchable by industry and occupation.

Updates will be available March 1.
Upcoming Minnesota Dual-Training Pipeline Events

- **Minnesota Dual-Training Pipeline 101 Introductory Webinar**
  Tuesday, February 16 from 9 to 10 a.m.

- **Pipeline Workforce Community Conversation**
  Shakopee and surrounding communities: Wednesday, February 17 from 9 to 10a.m.

- **Pipeline Speaker Series**
  Wednesday, March 17 from 9:00 – 10:00a.m.

- **Pipeline All Industry Forum**
  Tuesday, June 15 at 9:00a.m.
Vote for next Pipeline Speaker Series Topic in the Chat

1. Mental Health First Aid Training for Employers
2. Health and Wellness in the Workplace
3. Employment for workers with Disabilities
4. The Benefits of Mentorship in the Workplace
5. Second Chance Hiring

***Note from Forum***

#4 got the most votes followed by #5 then #2, #3 and #1. Pipeline will use this input as best as possible as we work to set up our next Speaker Series event.
Thank You!

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