LEAP Manufacturing Framework (Northern Cluster) Framework resembles "Highway" with "on" and "off" ramps and flexible multiple K-8+ outreach effort **OSHA** MSi High School / Siemens **MSSC AWS NIMS** MT 1 Safety Mechatronics Production Technician Metalworking Transfer 12 - 15 credits Drafting & Design Electronic **OSHA** Transfer Technology up to 34 credits Safety "2 +3" Certificate of Achievement (COA) Manufacturing Technology Transfer Mechanical MSi to UNR 2-Years Technology Transfer 9 - 16 credits Skills Certificate (SC) MT 1 Welding at Technology Apprenticeships: Aerospace **MSSC** Transfer XX – XX credits 3-Years at Industrial Maintenance Mechanic, TMCC / Engineering CNC Machine Operator, Production Operator Production UNR for Electrical **WNC** Technician **TMCC** Engineering Accelerated Employment Credential on-ramp: B.S. Transfer 10 - 20 credits Mechanical e.g. P3 program M3\* & M4\* \* under development A.A.S. Engineering Mechanical Associated **NIMS** for **Accelerated Employment Engineering** Certificates Variable Transfer credits Credential on-ramp: AAS A.A.S. e.g. P3 program M1 & M2, Advanced starting in 9th grade **AWS** Manufacturing **Gigafactory Gateway** Transfer 6 - 9 credits AAS Accelerated Work-based learning Automation & Siemens **Employment** Robotics Transfer up to 24hrs / 30 credits Credential on-ramp: Dual Credit / Mecha-P3 program M1 Jump Start tronics **NCRC NCRC** Diversified 2<sup>nd</sup> & 3<sup>rd</sup> tier Machining **Entry level Position Advanced Manufacturing Technician Industry Engineer** 

ADVANCED MANUFACTURING SKILLS

OBTAINED



CTE











Industry Excellence





## **Matching Skills with Job Titles**

## In the 21st Century need to view job titles as an agglomeration of Skills

- Employability Skills (work ethic. attendance/punctuality, communication. honest/candor, problem solving, career expectations/promotion) Critical Thinking &
- Problem solving Drawing & Reading **Prints**
- Safety
- Pre-Engineering Measurement
- Math Skills (fractions, decimals, conversion, dimensioning, tolerances, geometry)
- Reading comprehension
- Measurements
- Attention to Detail
- Multiple processes Manufacturing Processes
- Electromechanical basics
- Introduction to
- Automation
- Diagnostic/Troubleshoot ing Entry Level Machinist
- Mechanical Assembler
- Material Handler
- Shipping & Receiving
- Quality Control/Inspector
- Assembler/Electro-mechanical
- Set Up Laborer
- Welders Helper
- Operator
- Packaging Operator
- Machine Setters, Operators (MT1) job titles per Dream It Do It Virginia)

- Additional Major Skills Taught
- Career Awareness
- Engineering Familiarity
- Inspection/Tool Reading
- Material Qualities (temps, feeds, speeds)
- Injection Molding Stamping/Piercing
- **Fabrication Basics**
- Communication Skills
- Workplace Expectations
- **Technical Writing**
- **Basic Statistics**

- Math
- Blueprint Reading
- Quality Control
- Communications
- **Basic Measurement** Material Handling
- (Practical) Problem Solving
- **Human Relations**
- OSHA
- (Analytical) Problem Solving

General Assembler (COA)

General Technician (COA)

Senior Technician (COA+)

Maintenance Technician 1

Manufacturing Lead (COA)

Machine Operator (COA)

Manufacturing Technician

Tech Assembly I & II (COA)

Line Technician (COA)

(COA)

1-3 (COA)

Assembler (COA)

Set-up laborer (COA)

Process Specialist (COA)

- Technical Drawings
- Reading Shop Drawings

- Electrical Fluid
- Automated Material Handling
- Programming

Assembler (COA)

CNC Tender (SC)

CNC Operator (SC)

CNC Technician (SC)

(P3 M2)

M1/2)

Set-up laborer (COA)

SNC Senior Operator (SC)

Panasonic Material Handler (P3

Panasonic Production Operator

Hamilton Comp. Entry level (P3

- Metallurgy
- LEAN

- Math Blueprint reading
- **Quality Control**
- Communications
- **Basic Measurement**
- Material Handling
- (Practical) Problem Solving
- **Human Relations**
- Electrical Fluid
- Automated material handling
- **OSHA** Programming
- Metallurgy
- LEAN

- Read and interpret blueprints, technical drawings, schematics, or computergenerated reports
- Research, design, evaluate, install, operate, or maintain mechanical products, equipment, systems or processes
- Confer with engineers to implement operating procedures, resolve system malfunctions
- Develop, coordinate, or monitor all aspects of production, including selection of manufacturing methods
- Investigate equipment failures or difficulties to diagnose faulty operation and recommend remedial actions
- Provide feedback to design engineers on customer problems or needs
- Research and analyze customer design proposals, specifications, manuals
- Apply engineering principles or practices to emerging fields: robotics, biomedical Supervision of production workers, technicians, technologists, or other engineers
- Solicit new business
- Provide technical customer service
- Study industrial processes to maximize the efficiency of equipment applications
- Establish or coordinate the maintenance or safety procedures

- Machine Technician
- Facilities/ Maintenance Technician
- Coordinator/ Lead
- Supervisor
- **Process Lead**
- Production Worker/ Planner / Lead
- Manufacturing Technician
- Quality Inspector
- Automation Technician
- CNC Machine Operator / Machine Operator
- Maintenance Technician / Electrician
- Welder

- Mechanical Engineer Manufacturing Engineer
- **Production, Operations Manager**
- **Process. Maintenance Engineer**
- **Engineering Manager**
- Mechanical Design Engineer
- Plant Engineer
- Product Engineer

Nevada Governor's Office of

**ECONOMIC DEVELOPMENT** 

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