



**Training Proposal for:
Tooling University -
Society of Manufacturing Engineers
Agreement Number: ET15-0450**

Panel Meeting of: May 21, 2015

ETP Regional Office: North Hollywood

Analyst: M. Paccarelli

PROJECT PROFILE

Contract Attributes:	Priority Rate Retrainee	Industry Sector(s):	Manufacturing Aerospace and Defense Priority Industry: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Counties Served:	Los Angeles, San Diego, Orange	Repeat Contractor:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Union(s):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Turnover Rate:	≤20%		
Managers/Supervisors: (% of total trainees)	≤20%		

FUNDING DETAIL

Program Costs	+	Support Costs	=	Total ETP Funding
\$180,000		\$12,500 8%		\$192,500

In-Kind Contribution:	50% of Total ETP Funding Required	\$225,830
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TRAINING PLAN TABLE

Job No.	Job Description	Type of Training	Estimated No. of Trainees	Range of Hours		Average Cost per Trainee	Post-Retention Wage
				Class / Lab	CBT		
1	Retrainee Priority Rate	Business Skills; Mfg. Skills; Cont. Improvement; Computer Skills	250	8-200	0-100	\$770	\$15.93
				Weighted Avg: 40			

Minimum Wage by County: \$15.97 per hour in Los Angeles County; \$15.93 per hour in San Diego County; and \$16.02 per hour in Orange County.

Health Benefits: Yes No This is employer share of cost for healthcare premiums – medical, dental, vision.

Used to meet the Post-Retention Wage?: Yes No Maybe

Participating employers may use health benefits to meet the Post-Retention Wage.

Wage Range by Occupation

Occupation Titles	Wage Range	Estimated # of Trainees
Manufacturing/Production Staff		80
Warehouse/Distribution Staff		30
Engineering Staff		60
Technician/Information Technology Staff		30
Quality Assurance Staff		20
Sales Staff		10
Supervisors/Managers		20

INTRODUCTION

Tooling University – Society of Manufacturing Engineers (ToolingU) (www.toolingu.com) is a provider of manufacturing-specific training products and services. ToolingU works with manufacturers to build training programs and support workforce learning initiatives.

ToolingU started out in 1942 as a manufacturer of tooling components and workholding devices (used to position and hold a workpiece). Initially, ToolingU was a division of Jergens, Inc. located in Cleveland, Ohio. In 2001, ToolingU launched classes focusing on Computerized Numerical Control, metal cutting, shop math, print reading, and workholding components.

In 2002, ToolingU was formed as an LLC and brought on key investors within the industry, most importantly the Society of Manufacturing Engineers (SME). In 2010, SME acquired ToolingU as part of a comprehensive portfolio of manufacturing-specific, professional development training products and services. More than 210,000 individuals from 5,000 companies use ToolingU to strengthen their knowledge and skills.

California remains a top manufacturing center in the U.S, according to a report published in July 2014 by the Los Angeles County Economic Development Corporation. Tooling U has developed an extensive and diverse catalog of manufacturing-specific learning tools to help employers retain institutional knowledge in the face of a retiring workforce, and bolster their expertise as needed to successfully compete in today's economy.

PROJECT DETAILS

ToolingU is seeking ETP funds to train workers of manufacturing companies. The “core” group of participating employers represents over 80% of requested funding.

Curriculum Development

In the experience of ToolingU, although manufacturers have expressed the need for workforce development, less than 20% actually have a training plan in place. ToolingU addresses the skills gap by working directly with the employers to analyze, design, implement and evaluate a training solution.

The training outlined in this proposal will be customized based on employer needs assessment and training objectives. Tooling U offers more than 50 customized assessments by job role and competency for employees including pre-employment screening. ToolingU also conducts on-site analysis of job requirements and identifies specific training needs. Training needs and objectives provide valuable insight into industry trends, new technologies, and present and future training needs, all of which serve as the basis for ToolingU's development of its curriculum. The result is an individually tailored training curriculum.

Training Plan

Training will be delivered using traditional Class/Lab, instructor-led E-Learning, and Computer-Based Training.

Business Skills (10%) – Training will be delivered to all occupations which will cover topics in conflict resolution, communication skills, supply chain management and sales skills.

Manufacturing Skills (65%) – Training will provide upgraded job skills to Manufacturing/Production Staff focusing on course topics such as machining and manufacturing process skills, cycle time management, quality testing and cycle time management.

Continuous Improvement Skills (15%) – Training will be delivered to all occupations with the skills necessary to improve productivity and reduce operating costs. Course topics will include 5S/Lean Manufacturing, Total Quality Management, Statistical Process Control and Project Management.

Computer Skills (10%) – Training will be provided to all occupations with the skills to become more proficient in the most current technology such as Computerized Maintenance Management System; Database Management Skills; and Intermediate/Advanced Microsoft Word, Excel and PowerPoint skills.

Marketing and Support Costs

ToolingU would like to increase its outreach activities through a dedicated marketing function that will expand its ability to reach employers and design solutions that meet their workforce development needs. ToolingU's marketing and recruitment efforts include outreach for new

employers, networking with its marketing clients and promotion through its Manufacturer's Development Initiative. The Company communicates with manufacturing plants through mass email campaigns, social media; and the Company's website.

The Company also sponsors WESTEC, the premier West Coast manufacturing exposition which brings in a large audience of representatives from various industries including aerospace, defense, industrial machinery, and medical.

There are currently three staff members dedicated to the marketing, employer recruitment, scheduling, training and ETP administration. ToolingU is requesting 8% support costs for this proposal to cover the cost of recruiting additional employers and assessing employer-specific job training requirements.

Commitment to Training

ToolingU represents that ETP funds will not displace the existing financial commitment to training of participating employers. ToolingU confirmed that participating employers provide training in job orientation, basic job skills, harassment prevention, employee diversity, basic computer skills, basic job skills, interviewing skills, supervisory law, hiring and recruitment practices, basic OSHA required safety training, and refresher training. This training will continue to be provided and paid for by the participating employers throughout the term of the proposed ETP Agreement.

Tuition Reimbursement

ToolingU represents that students enrolled in the ETP-funded program will not be charged tuition, fees or any other costs associated with training. The representation will be made a condition of the Agreement.

RECOMMENDATION

Staff recommends approval of this proposal.

DEVELOPMENT SERVICES

ToolingU retained Training Funding Partners in Fountain Valley to assist with development of this proposal for a flat fee of \$13,500.

ADMINISTRATIVE SERVICES

ToolingU also retained Training Funding Partners to perform administrative services in connection with this proposal for a fee not to exceed 13% of earned funds.

TRAINING VENDORS

To Be Determined

Exhibit B: Menu Curriculum**Class/Lab Hours**

8-200

Trainees may receive any of the following:

BUSINESS SKILLS

- Business Writing
- Conflict Management
- Effective Communication Skills
- Effective Meeting Skills
- Estimating/Quoting
- Finance/Accounting Skills
- Goal Setting
- Negotiation Skills
- Presentation Skills
- Providing Quality Customer Service
- Sales Skills
- Supply Chain Management
- Time Management Skills

COMPUTER SKILLS

- Computerized Maintenance Management System
- Database Management Skills
- Intermediate/Advanced Microsoft Word, Excel, PowerPoint Skills

CONTINUOUS IMPROVEMENT

- 5S/Lean Manufacturing/Process Improvement Skills
- Decision Making
- Effective Leadership Skills/Situational Leadership
- Interpreting & Analyzing Data
- Managing Change
- Problem Solving
- Project Management
- Risk Management
- Statistical Process Control
- Strategic Planning
- Team Work/Building Teams
- Total Quality Management Skills
- Value Stream Mapping

MANUFACTURING SKILLS

- Additive Manufacturing
- Cycle Time Management
- Electrical and Motor Drives/Electrical Power/Power Transmission
- Engineering Design
- Geometric Dimensioning and Tolerancing
- Industrial Combustion
- Industrial Hydraulics
- Laser Cutting
- Machining Skills
- Manufacturing Process Skills

- Materials Processing
- Mechanical and Fluid Systems
- Metal Stamping Press/Metalworking
- Pneumatics
- Programmable Logic Control (PLC)/Computer Numerical Control (CNC)
- Prototyping
- Quality/Testing
- Variable Frequency Drives

CBT Hours

0-100

BUSINESS SKILLS

- Basics of Manufacturing Costs 140 (1.5 hours)
- Conflict Resolution for Different Groups 155 (1.5 hours)
- Conflict Resolution Principles 150 (1.5 hours)
- Essentials of Communication 120 (1.5 hours)
- Intro to Managerial Accounting 145 (1.5 hours)

CONTINUOUS IMPROVEMENT

- Essentials of Leadership 110 (1.5 hours)
- Managing Performance: Best Practices 130 (1.5 hours)
- Managing Performance: Corrective Actions 135 (1.5 hours)
- Team Leadership 160 (1.5 hours)

MANUFACTURING SKILLS**Adhesives**

- Basics of the Bonding Process 120 (1.5 hours)
- Intro to Adhesive Bonding 110 (1.5 hours)
- Intro to Adhesive Properties 130 (1.5 hours)
- Steps for Adhesive Application 220 (1.5 hours)
- Surface Preparation 210 (1.5 hours)
- Types of Adhesives 140 (1.5 hours)

Coatings

- Coating Defects 150 (1.5 hours)
- Intro to Coating Composition 110 (1.5 hours)
- Processes for Applying Coatings 140 (1.5 hours)
- Surface Preparation for Coatings 120 (1.5 hours)
- Troubleshooting Coating Defects 170 (1.5 hours)

Composites

- Advanced Materials for Composites 135 (1.5 hours)
- Advanced Thermoset Resins for (1.5 hours)
- Bagging 230 (1.5 hours)
- Composite Inspection and Defect (1.5 hours)
- Composites 130 (1.5 hours)
- Intro to Composites 110 (1.5 hours)
- Intro to Compression Molding 170 (1.5 hours)
- Intro to Lay-up and Spray-up Molding 140 (1.5 hours)
- Overview of Composite Processes 120 (1.5 hours)
- Prevention 240 (1.5 hours)

- Repair Methods for Composites 250 (1.5 hours)
- Safety for Composite Processing 115 (1.5 hours)
- Surface Finishing Composites 190 (1.5 hours)
- Traditional Composites 125 (1.5 hours)
- Vacuum Bagging Technique: Single-sided (1.5 hours)

Computer Numerical Control

- Basics of the CNC Machining Center 130 (1.5 hours)
- Basics of the CNC Swiss-Type Lathe 135 (1.5 hours)
- Basics of the CNC Turning Center 120 (1.5 hours)
- CAD/CAM Overview 160 (1.5 hours)
- Canned Cycles 310 (1.5 hours)
- CNC Coordinates 140 (1.5 hours)
- CNC Manual Operations 200 (1.5 hours)
- CNC Offsets 210 (1.5 hours)
- CNC Specs for the Lathe 225 (1.5 hours)
- CNC Specs for the Mill 220 (1.5 hours)
- Creating a Mazatrol Program for the Lathe 289 (1.5 hours)
- Creating a Mazatrol Program for the Mill 288 (1.5 hours)
- Creating a Milling Program 290 (1.5 hours)
- Creating a Turning Program 280 (1.5 hours)
- Creating an EIA/ISO Program for the Mazak (1.5 hours)
- Creating an EIA/ISO Program for the Mazak (1.5 hours)
- GE Fanuc Lathe: Control Panel Overview 255 (1.5 hours)
- GE Fanuc Lathe: Entering Offsets 265 (1.5 hours)
- GE Fanuc Lathe: First Part Runs 325 (1.5 hours)
- GE Fanuc Lathe: Locating Program Zero 275 (1.5 hours)
- GE Fanuc Lathe: Program Execution 285 (1.5 hours)
- GE Fanuc Lathe: Program Storage 315 (1.5 hours)
- GE Fanuc Mill: Control Panel Overview 250 (1.5 hours)
- GE Fanuc Mill: Entering Offsets 260 (1.5 hours)
- GE Fanuc Mill: First Part Runs 320 (1.5 hours)
- GE Fanuc Mill: Locating Program Zero 270 (1.5 hours)
- GE Fanuc Mill: Program Execution 280 (1.5 hours)
- GE Fanuc Mill: Program Storage 310 (1.5 hours)
- Haas Lathe: Control Panel Overview 255 (1.5 hours)
- Haas Lathe: Entering Offsets 265 (1.5 hours)
- Haas Lathe: First Part Runs 325 (1.5 hours)
- Haas Lathe: Locating Program Zero 275 (1.5 hours)
- Haas Lathe: Program Execution 285 (1.5 hours)
- Haas Lathe: Program Storage 315 (1.5 hours)
- Haas Mill: Control Panel Overview 250 (1.5 hours)
- Haas Mill: Entering Offsets 260 (1.5 hours)
- Haas Mill: First Part Runs 320 (1.5 hours)
- Haas Mill: Locating Program Zero 270 (1.5 hours)
- Haas Mill: Program Execution 280 (1.5 hours)
- Haas Mill: Program Storage 310 (1.5 hours)
- History and Definition of CNC 100 (1.5 hours)
- Lathe 287 (1.5 hours)
- Mazak Lathe: Control Panel Overview 255 (1.5 hours)
- Mazak Lathe: Entering Offsets 285 (1.5 hours)

- Mazak Lathe: First Part Runs 325 (1.5 hours)
- Mazak Lathe: Locating Program Zero 275 (1.5 hours)
- Mazak Lathe: Program Execution 295 (1.5 hours)
- Mazak Lathe: Program Storage 315 (1.5 hours)
- Mazak Lathe: Safety for the Lathe 265 (1.5 hours)
- Mazak Mill: Control Panel Overview 250 (1.5 hours)
- Mazak Mill: Entering Offsets 280 (1.5 hours)
- Mazak Mill: First Part Runs 320 (1.5 hours)
- Mazak Mill: Locating Program Zero 270 (1.5 hours)
- Mazak Mill: Program Execution 290 (1.5 hours)
- Mazak Mill: Program Storage 310 (1.5 hours)
- Mazak Mill: Safety for the Mill 260 (1.5 hours)
- Mechanics of CNC 110 (1.5 hours)
- Mill 286 (1.5 hours)
- Milling Calculations 295 (1.5 hours)
- Part Program 150 (1.5 hours)
- Turning Calculations 285 (1.5 hours)

Electrical Power

- AC Fundamentals 210 (1.5 hours)
- AC Power Sources 235 (1.5 hours)
- Battery Selection 250 (1.5 hours)
- Conductor Selection 240 (1.5 hours)
- DC Circuit Components 140 (1.5 hours)
- DC Power Sources 230 (1.5 hours)
- Electrical Instruments 220 (1.5 hours)
- Electrical Print Reading 225 (1.5 hours)
- Electrical Units 110 (1.5 hours)
- Intro to Circuits 120 (1.5 hours)
- Intro to Magnetism 130 (1.5 hours)
- NEC Overview 150 (1.5 hours)
- Parallel Circuit Calculations 205 (1.5 hours)
- Safety for Electric Work 115 (1.5 hours)
- Series Circuit Calculations 200 (1.5 hours)

Fasteners

- Intro to Assembly 100 (1.5 hours)
- Intro to Fastener Ergonomics 130 (1.5 hours)
- Intro to Fastener Threads 110 (1.5 hours)
- Overview of Non-Threaded Fasteners 125 (1.5 hours)
- Overview of Threaded Fasteners 117 (1.5 hours)
- Properties for Fasteners 200 (1.5 hours)
- Safety for Assembly 105 (1.5 hours)
- Threaded Fastener Selection 215 (1.5 hours)
- Tools for Threaded Fasteners 120 (1.5 hours)
- Understanding Torque 210 (1.5 hours)

Hydraulics and Pneumatics

- Actuator Applications 240 (1.5 hours)
- Basic Hydraulic Circuit Design 310 (1.5 hours)
- Basic Pneumatic Circuit Design 315 (1.5 hours)
- Contamination and Filter Selection 330 (1.5 hours)
- Fittings for Fluid Systems 135 (1.5 hours)

- Fluid System Print Reading 220 (1.5 hours)
- Hydraulic Control Valves 230 (1.5 hours)
- Hydraulic Fluid Selection 320 (1.5 hours)
- Hydraulic Power Sources 210 (1.5 hours)
- Hydraulic Power Variables 200 (1.5 hours)
- Hydraulic Principles and System Design 340 (1.5 hours)
- Intro to Fluid Conductors 130 (1.5 hours)
- Intro to Fluid Systems 100 (1.5 hours)
- Intro to Hydraulic Components 120 (1.5 hours)
- Intro to Pneumatic Components 125 (1.5 hours)
- Pneumatic Control Valves 235 (1.5 hours)
- Pneumatic Power Sources 215 (1.5 hours)
- Pneumatic Power Variables 205 (1.5 hours)
- Preventive Maintenance for Fluid Systems 140 (1.5 hours)
- Safety for Hydraulics and Pneumatics 105 (1.5 hours)
- The Forces of Fluid Power 110 (1.5 hours)

Inspection Skills

- Basic Measurement 110 (1.5 hours)
- Basics of the CMM 120 (1.5 hours)
- Basics of the Optical Comparator 130 (1.5 hours)
- Calibration Fundamentals 210 (1.5 hours)
- Hardness Testing 260 (1.5 hours)
- Hole Inspection 240 (1.5 hours)
- Inspecting with CMMs 220 (1.5 hours)
- Inspecting with Optical Comparators 230 (1.5 hours)
- Interpreting GD&T 310 (1.5 hours)
- Intro to GD&T 200 (1.5 hours)
- Linear Instrument Characteristics 115 (1.5 hours)
- Measuring System Analysis 300 (1.5 hours)
- Overview of Threads 150 (1.5 hours)
- Surface Measurement 140 (1.5 hours)
- Thread Inspection 250 (1.5 hours)

Manufacturing Process Skills

- Basics of the Engine Lathe 115 (1.5 hours)
- Basics of the Manual Mill 110 (1.5 hours)
- Basics of Tolerance 120 (1.5 hours)
- Benchwork and Layout Operations 210 (1.5 hours)
- Blueprint Reading 130 (1.5 hours)
- Centerless Grinder Operation 260 (1.5 hours)
- Concepts of Calculus 310 (1.5 hours)
- Cylindrical Grinder Operation 250 (1.5 hours)
- Dressing and Truing 230 (1.5 hours)
- Engine Lathe Operation 225 (1.5 hours)
- Geometry: Circles and Polygons 185 (1.5 hours)
- Geometry: Lines and Angles 155 (1.5 hours)
- Geometry: Triangles 165 (1.5 hours)
- Grinding Processes 120 (1.5 hours)
- Grinding Variables 200 (1.5 hours)
- Grinding Wheel Geometry 220 (1.5 hours)
- Grinding Wheel Materials 210 (1.5 hours)

- Holmaking on the Mill 230 (1.5 hours)
 - Interpreting Blueprints 230 (1.5 hours)
 - Intro to Abrasives 100 (1.5 hours)
 - Manual Mill Operation 220 (1.5 hours)
 - Math: Fractions and Decimals 105 (1.5 hours)
 - Math: Fundamentals 100 (1.5 hours)
 - Math: Units of Measurement 115 (1.5 hours)
 - Overview of Engine Lathe Setup 205 (1.5 hours)
 - Overview of Manual Mill Setup 200 (1.5 hours)
 - Setup for Centerless Grinders 320 (1.5 hours)
 - Shop Algebra Overview 200 (1.5 hours)
 - Shop Geometry Overview 170 (1.5 hours)
 - Shop Trig Overview 210 (1.5 hours)
 - Statistics 220 (1.5 hours)
 - Surface Grinder Operation 240 (1.5 hours)
 - Taper Turning on the Engine Lathe 240 (1.5 hours)
 - Threading on the Engine Lathe 235 (1.5 hours)
 - Trig: Pythagorean Theorem 205 (1.5 hours)
 - Trig: Sine Bar Applications 225 (1.5 hours)
 - Trig: Sine, Cosine, and Tangent 215 (1.5 hours)
 - What Is Grinding? 110 (1.5 hours)
- Materials Processing
- Ceramics 250 (1.5 hours)
 - Ferrous Metals and Alloys 210 (1.5 hours)
 - Heat Treatment of Steel 230 (1.5 hours)
 - Intro to Materials 100 (1.5 hours)
 - Mechanical Properties of Metals 120 (1.5 hours)
 - Metal Classification 150 (1.5 hours)
 - Metal Manufacturing 140 (1.5 hours)
 - Nonferrous Metals and Alloys 220 (1.5 hours)
 - Overview of Plastic Materials 115 (1.5 hours)
 - Overview of Plastic Processes 145 (1.5 hours)
 - Overview of Properties for Plastics 135 (1.5 hours)
 - Physical Properties of Metals 130 (1.5 hours)
 - Plastics 240 (1.5 hours)
 - Principles of Injection Molding 255 (1.5 hours)
 - Principles of Thermoforming 265 (1.5 hours)
 - Structure of Metals 110 (1.5 hours)
- Mechanical Systems
- Bearing Applications 210 (1.5 hours)
 - Belt Drive Applications 230 (1.5 hours)
 - Clutch and Brake Applications 250 (1.5 hours)
 - Forces of Machines 110 (1.5 hours)
 - Gear Applications 245 (1.5 hours)
 - Gear Geometry 240 (1.5 hours)
 - Intro to Mechanical Systems 100 (1.5 hours)
 - Lubricant Fundamentals 130 (1.5 hours)
 - Mechanical Power Variables 200 (1.5 hours)
 - Power Transmission Components 120 (1.5 hours)
 - Safety for Mechanical Work 105 (1.5 hours)

- Spring Applications 220 (1.5 hours)
- Metal Stamping Press/Metalworking
- ANSI Insert Selection 250 (1.5 hours)
 - Band Saw Blade Selection 215 (1.5 hours)
 - Carbide Grade Selection 230 (1.5 hours)
 - Chucks, Collets, and Vises 110 (1.5 hours)
 - Clamping Basics 108 (1.5 hours)
 - Cutting Fluids 210 (1.5 hours)
 - Cutting Processes 140 (1.5 hours)
 - Cutting Tool Materials 220 (1.5 hours)
 - Cutting Variables 200 (1.5 hours)
 - Drill Bushing Selection 230 (1.5 hours)
 - Drill Geometry 247 (1.5 hours)
 - Fixture Body Construction 200 (1.5 hours)
 - Fixture Design Basics 210 (1.5 hours)
 - Hard Turning 315 (1.5 hours)
 - High-Speed Machining 310 (1.5 hours)
 - Intro to Screw Machining 160 (1.5 hours)
 - Intro to Workholding 104 (1.5 hours)
 - Locating Devices 107 (1.5 hours)
 - Machines for Metal Cutting 130 (1.5 hours)
 - Machining Titanium Alloys 325 (1.5 hours)
 - Metal Removal Processes 110 (1.5 hours)
 - Milling Geometry 245 (1.5 hours)
 - Optimizing Insert Life 305 (1.5 hours)
 - Safety for Metal Cutting 115 (1.5 hours)
 - Sawing Fundamentals 155 (1.5 hours)
 - Speed and Feed Selection 300 (1.5 hours)
 - Supporting and Locating Principles 106 (1.5 hours)
 - Tool Geometry 240 (1.5 hours)
 - Toolholders for Turning 260 (1.5 hours)
 - What Is Cutting? 120 (1.5 hours)
- Motor Controls
- AC Motor Applications 240 (1.5 hours)
 - Acceleration Methods 385 (1.5 hours)
 - Contactors and Motor Starters 250 (1.5 hours)
 - Control Devices 260 (1.5 hours)
 - DC Motor Applications 230 (1.5 hours)
 - Deceleration Methods 380 (1.5 hours)
 - Distribution Systems 320 (1.5 hours)
 - Electronic Semiconductor Devices 350 (1.5 hours)
 - Intro to Electric Motors 200 (1.5 hours)
 - Limit Switches and Proximity Sensors 360 (1.5 hours)
 - Logic and Line Diagrams 220 (1.5 hours)
 - Photoelectric and Ultrasonic Devices 365 (1.5 hours)
 - Photonic Semiconductor Devices 355 (1.5 hours)
 - Reduced Voltage Starting 370 (1.5 hours)
 - Reversing Motor Circuits 310 (1.5 hours)
 - Solenoids 235 (1.5 hours)
 - Solid-State Relays and Starters 375 (1.5 hours)

- Specs for Servomotors 330 (1.5 hours)
- Symbols and Diagrams for Motors 210 (1.5 hours)
- Timers and Counters 340 (1.5 hours)

Press Brakes

- Bending Fundamentals 120 (1.5 hours)
- Die Bending Operations 130 (1.5 hours)
- Operating the Press Brake 200 (1.5 hours)
- Press Brake Components 110 (1.5 hours)
- Press Brake Safety 100 (1.5 hours)
- Press Brake Specifications 220 (1.5 hours)

Programmable Logic Controllers

- Basic Programming 250 (1.5 hours)
- Basics of Ladder Logic 220 (1.5 hours)
- Data Manipulation 360 (1.5 hours)
- Hand-Held Programmers of PLCs 280 (1.5 hours)
- Hardware for PLCs 210 (1.5 hours)
- Intro to PLCs 200 (1.5 hours)
- Math for PLCs 320 (1.5 hours)
- Networking for PLCs 270 (1.5 hours)
- Numbering Systems and Codes 230 (1.5 hours)
- Overview of PLC Registers 305 (1.5 hours)
- PID for PLCs 350 (1.5 hours)
- PLC Diagrams and Programs 300 (1.5 hours)
- PLC Inputs and Outputs 240 (1.5 hours)
- PLC Installation Practices 340 (1.5 hours)
- PLC Program Control Instructions 310 (1.5 hours)
- PLC Timers and Counters 260 (1.5 hours)
- Sequencer Instructions for PLCs 330 (1.5 hours)
- Shift Registers 370 (1.5 hours)

Quality and Testing

- 5S Overview 155 (1.5 hours)
- Approaches to Maintenance 120 (1.5 hours)
- Approaches to Quality Management 255 (1.5 hours)
- Cell Design and Pull Systems 160 (1.5 hours)
- Conducting an Internal Audit 200 (1.5 hours)
- Conducting Kaizen Events 260 (1.5 hours)
- Effects 182 (1.5 hours)
- Intro to Machine Rigging 110 (1.5 hours)
- Intro to Six Sigma 170 (1.5 hours)
- Intro to Supply Chain Management 140 (1.5 hours)
- ISO 9000 Overview 110 (1.5 hours)
- Lean Manufacturing Overview 130 (1.5 hours)
- Lifting and Moving Equipment 130 (1.5 hours)
- Managing Practices for Total Quality 320 (1.5 hours)
- Metrics for Lean 230 (1.5 hours)
- Process Flow Charting 240 (1.5 hours)
- Quality Overview 100 (1.5 hours)
- Rigging Equipment 120 (1.5 hours)
- Rigging Inspection and Safety 210 (1.5 hours)
- Rigging Mechanics 220 (1.5 hours)

- Six Sigma Goals and Tools 310 (1.5 hours)
- SPC Overview 210 (1.5 hours)
- Strategies for Setup Reduction 250 (1.5 hours)
- Total Productive Maintenance Overview 150 (1.5 hours)
- Troubleshooting: Identifying Problems 180 (1.5 hours)
- Troubleshooting: Taking Corrective Actions 184 (1.5 hours)
- Troubleshooting: Understanding Causes and (1.5 hours)
- TS 16949:2002 Overview 220 (1.5 hours)
- Value Stream Mapping: The Future State 305 (1.5 hours)
- Value Stream Mapping: The Present State 300 (1.5 hours)

Robotics

- Applications for Robots 130 (1.5 hours)
- Concepts of Robot Programming 210 (1.5 hours)
- End Effectors 125 (1.5 hours)
- Industrial Network Integration 260 (1.5 hours)
- Intro to Robotics 110 (1.5 hours)
- Robot Axes 140 (1.5 hours)
- Robot Components 120 (1.5 hours)
- Robot Installations 230 (1.5 hours)
- Robot Maintenance 170 (1.5 hours)
- Robot Safety 115 (1.5 hours)
- Robot Sensors 150 (1.5 hours)
- Robot Troubleshooting 160 (1.5 hours)
- Robotic Control Systems 240 (1.5 hours)
- Robotic Drives, Hardware, and Components 220 (1.5 hours)
- Vision Systems 250 (1.5 hours)

Soldering/Welding

- Arc Welding Aluminum Alloys 310 (1.5 hours)
- Arc Welding Power Sources 260 (1.5 hours)
- Arc Welding Processes 120 (1.5 hours)
- Arc Welding Safety 115 (1.5 hours)
- Arc Welding Symbols and Codes 250 (1.5 hours)
- Coil Handling Equipment 140 (1.5 hours)
- Coil Loading Procedures 250 (1.5 hours)
- Die Components 130 (1.5 hours)
- Die Cutting Variables 200 (1.5 hours)
- Die Setting Procedures 300 (1.5 hours)
- Electrical Power for Arc Welding 140 (1.5 hours)
- Electrode Selection 270 (1.5 hours)
- FCAW Applications 230 (1.5 hours)
- Ferrous Metals for Welding 200 (1.5 hours)
- GMAW Applications 220 (1.5 hours)
- GTAW Applications 240 (1.5 hours)
- Guiding System Components 230 (1.5 hours)
- Intro to Submerged Arc Welding 160 (1.5 hours)
- Lead-Free Soldering 230 (1.5 hours)
- Monitoring Press Operations 220 (1.5 hours)
- Nonferrous Metals for Welding 205 (1.5 hours)
- Overview of Weld Types 130 (1.5 hours)
- Oxyfuel Welding Applications 207 (1.5 hours)

- Oxyfuel Welding Safety 105 (1.5 hours)
- Plasma Cutting 265 (1.5 hours)
- Press Basics 110 (1.5 hours)
- Punch and Die Operations 120 (1.5 hours)
- Safety for Soldering 115 (1.5 hours)
- SAW Applications 255 (1.5 hours)
- SMAW Applications 210 (1.5 hours)
- Solder and Flux Selection 210 (1.5 hours)
- Soldering Applications 200 (1.5 hours)
- Soldering Equipment 130 (1.5 hours)
- Soldering PCBs 220 (1.5 hours)
- Stamping Safety 115 (1.5 hours)
- Stripper System Components 235 (1.5 hours)
- Visual Inspection of Welds 280 (1.5 hours)
- What Is Arc Welding? 110 (1.5 hours)
- What Is Oxyfuel Welding? 100 (1.5 hours)
- What Is Soldering? 110 (1.5 hours)

Safety Training cannot exceed 10% of total training hours per-trainee

Note: Reimbursement for retraining is capped at 200 total training hours per trainee, regardless of the method of delivery. CBT is capped at 50% of total training hours, per trainee.

**Participating Employers in Retrainee
Multiple Employer Contracts**

Contractor's Name: Tooling U-SME

CCG No.: ET15-0450

Reference No: 14-0549

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PRINT OR TYPE IN ALPHABETICAL ORDER

Company: Econolite Group, Inc.

Address: 3360 E. LaPalma

City, State, Zip: Anaheim, CA 92806

Collective Bargaining Agreement(s): N/A

Estimated # of employees to be retrained under this Agreement: 100

Total # of full-time company employees worldwide: 710

Total # of full-time company employees in California: 280

Company: Multi-Contact USA, Inc.

Address: 100 Market St.

City, State, Zip: Windsor, CA 95492

Collective Bargaining Agreement(s): N/A

Estimated # of employees to be retrained under this Agreement: 40

Total # of full-time company employees worldwide: 4,000

Total # of full-time company employees in California: 46

Company: Senior Aerospace Ketema

Address: 790 Greenfield Dr.

City, State, Zip: El Cajon, CA 92021

Collective Bargaining Agreement(s): N/A

Estimated # of employees to be retrained under this Agreement: 125

Total # of full-time company employees worldwide: 6,300

Total # of full-time company employees in California: 276