

METALFORM

TRAINING ANYTIME, ANYWHERE



**COURSE LIST
WITH HOURS**

PMA PRECISION
METALFORMING
ASSOCIATION

Eliminate the Skills Gap with METALFORM EDU

METALFORM
TRAINING ANYTIME, ANYWHERE  **EDU**

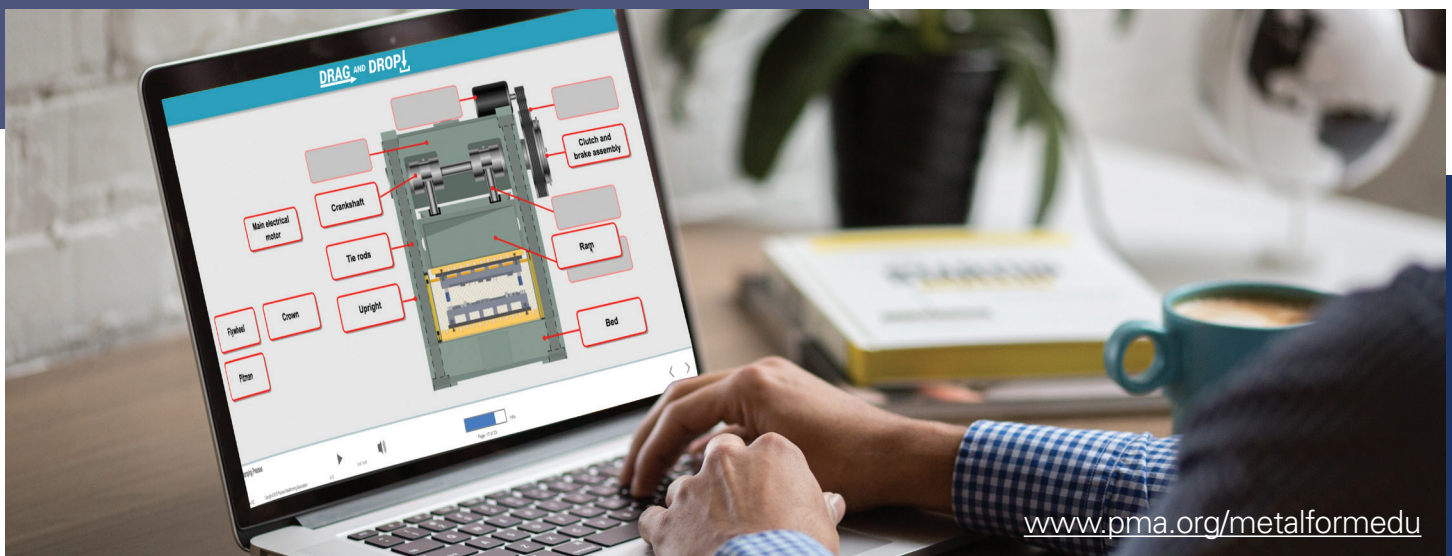
The future of the metalforming industry will rely on your ability to be adaptable, flexible and innovative in today's rapidly changing market. You've told us that the largest challenge in our industry is attracting and retaining skilled, technical roles. PMA can help. Taking a proactive approach to training with **METALFORM EDU** equips your current and incoming employees with the ability to skill, reskill or upskill fast! For new employees, they can move from the "door to floor" with the knowledge in record time.

Designed to help you competently train your employees in a one-stop shop, **METALFORM EDU** provides access to more than 845 unique, industry-specific courses and foundational skill lessons specifically for the metalforming industry at your fingertips. Metalforming, precision measurement, blueprint reading, SPC, CNC, Six Sigma, lean manufacturing, safety, foundational skills and more are all readily available to help your employees thrive.

PMA made a significant investment in developing modern online courses, in partnership with adult learning and development experts, and instructional designers. All courses include a study guide, interactive content with narration, simulations and activities, and a final graded assessment. PMA also ensured that our technical courses are aligned with the appropriate NIMS Skills Standards.

METALFORM EDU includes access to PMA-exclusive content on die protection, die setting, metal spinning, press brake operations, press shop operations, lockout tagout and lubrication technology. PMA's subject matter experts created these more than 60 courses specifically for the metalforming industry.

Train, reskill or upskill with METALFORM EDU!



METALFORM EDU COURSE LIST

Training Hours

PRESS SHOP OPERATIONS

Press Operator

PMA-1001 / PMA-1001-ES Introduction to Metal Stamping	0.9
PMA-1001 / PMA-1001-ES Introduction to Metal Stamping	0.9
PMA-1002 / PMA-1002-ES Stamping Presses	0.9
PMA-1003 / PMA-1003-ES Press Specifications	0.9
PMA-1004 / PMA-1004-ES Press Controls	0.9
PMA-1005 / PMA-1005-ES Modes of Operation	0.8
PMA-1006 / PMA-1006-ES Safeguarding	0.9
PMA-1007 / PMA-1007-ES Die Assembly Components	1.3
PMA-1008 / PMA-1008-ES Basic Die Operations	1.1
PMA-1009 / PMA-1009-ES Indicators of Improper Die Operations	0.9
PMA-1010 / PMA-1010-ES Operating the Stamping Press	1.1
PMA-1011 / PMA-1011-ES Operating Coil-Fed Automatic Press Lines	1.1
PMA-1012 / PMA-1012-ES Safe Coil Handling	1.2
PMA-1013 / PMA-1013-ES Loading Coils	1.1
PMA-1014 / PMA-1014-ES Straightening the Coil	1.3
PMA-1015 / PMA-1015-ES Feeding the Coils	1.6
PMA-1016 / PMA-1016-ES Dimensional Measuring	1.0
PMA-1017 / PMA-1017-ES Attribute Gaging and Checking Fixtures	0.8
PMA-1018 / PMA-1018-ES Standardized Inspection Methods and SPC	0.5

DIE SETTER TRAINING

Die Setter

PMA-2001 / PMA-2001-ES Die Fastening and Clamping Systems	0.8
PMA-2002 / PMA-2002-ES Removing the Die Assembly	0.8
PMA-2003 / PMA-2003-ES Press Shut Height	0.8
PMA-2004 / PMA-2004-ES Die Assembly Installation	0.7

PMA-2005 / PMA-2005-ES Setting Up Uncoiling and Straightening Equipment	0.8
PMA-2006 / PMA-2006-ES Air-Operated Slide Feeds	0.8
PMA-2007 / PMA-2007-ES Grip Feeds	0.7
PMA-2008 / PMA-2008-ES Servo Roll Feeds	0.8
PMA-2009 / PMA-2009-ES Mechanical Roll Feeds	0.9
PMA-2010 / PMA-2010-ES Threading the Die	0.7
PMA-2011 / PMA-2011-ES Preparing the Press for Production	0.8
PMA-2012 / PMA-2012-ES Trial Stamping-First Piece Approval	0.8

PRESS BRAKE OPERATIONS

Press Brake Operations

PMA-3001 Press Brakes	0.6
PMA-3002 Press Brake Tooling	0.6
PMA-3003 Press Brake Axes	0.6
PMA-3004 Press Brake Gaging	0.6
PMA-3005 Press Brake Safety	0.6
PMA-3006 Press Brake Safeguarding	0.6
PMA-3007 Press Brake Controls and Proper Handling	0.6
PMA-3008 Press Brake Startup and Shutdown	0.6
PMA-3009 Press Brake Indicators of Improper Operation	0.6
PMA-3010 Press Brake Measuring Devices	0.6
PMA-3011 Press Brake Teardown	0.6
PMA-3012 Press Brake Setup	0.6

LOCKOUT TAGOUT

Press Shop Safety

PMA-LOT01 /PMA -LOT01-ES Introduction to Lockout Tagout	0.8
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METAL SPINNING

METAL SPINNING

PMA-4001 Introduction to Metal Spinning	1.0
PMA-4002 Operating the Spinning Machine	1.4

DIE PROTECTION

DIE PROTECTION

PMA-5001 Die Protection	0.6
PMA-5002 Die Sensors	0.6
PMA-5003 Sensor Applications	0.6
PMA-5004 Sensor Settings	0.6
PMA-5005 Troubleshooting	0.6

ECONOMICS

ECONOMICS

PMA-ECON1 Economics at Home and at Work	1.2
PMA-ECON2 Business and Profitability	1.1
PMA-ECON3 Competition	0.9

LUBRICATION TECHNOLOGY

LUBRICATION TECHNOLOGY

PMA-LUB01 Introduction to Metalforming Lubrication	0.4
PMA-LUB02 Lubricant Components and Additives	0.4
PMA-LUB03 Straight Oil Lubricants	0.4
PMA-LUB04 Water-Miscible Lubricants	0.4
PMA-LUB05 Synthetic Lubricants	0.4
PMA-LUB06 Lubricant Ratios	0.4
PMA-LUB07 Lubricant Selection	0.4

PMA-LUB08 Lubricant Application	0.4
PMA-LUB09 Lubricant Safety	0.4
PMA-LUB10 Troubleshooting Lubrication Issues	0.4

GENERAL COURSES

ADDITIVE MANUFACTURING

Additive Manufacturing

ADM-1002 Introduction to 3D Metal Printing	0.9
ADM-1003 Introduction to Power Bed Fusion	1.0
ADM-1004 Introduction to Binder Jetting	1.0
ADM-1005 Introduction to Directed Energy Deposition	1.0
ADM-1006 Introduction to Bound Metal Deposition	0.9

AEROSPACE MANUFACTURING

Aircraft Familiarization

AER-1001 The History of Aviation	1.3
AER-1002 Primary Assemblies of an Aircraft	1.2
AER-1003 Principles of Flight	1.7
AER-1004 Airplane Control	1.5
AER-1005 Aircraft Configuration	2.0
AER-1006 Aircraft Materials	1.8
AER-1007 Aircraft Construction	2.5
AER-1008 Aircraft Corrosion	1.7
AER-1009 Aircraft Regulations	0.9

Aerospace Sealing and Safety

AER-2001 Introduction to Sealing	0.8
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AER-2002 Chemical Safety	1.0
AER-2003 Preparing the Surface	1.0
AER-2004 Selecting the Right Sealant	0.9
AER-2005 Applying the Sealant	0.9
Aerospace Electrical Bond and Ground	
AER-2006 Electricity and the Airplane	1.4
Aerospace Wire Bundle Basics	
AER-2007 Wiring in Airplanes	0.8
AER-2008 Wire and Cable Basics	1.5
AER-2009 Wire, Cable, and Wire Bundle Markings	1.0
AER-2010 Circular Connectors and Contacts	1.5
AER-2011 Installing a Connector	1.7
AER-2012 MTC Connectors	0.9
AER-2013 Tying Wire Bundles	1.5
Aircraft Systems	
AER-3001 Flight Control Systems	1.2
AER-3002 Mechanical Systems	1.1
AER-3003 Landing Gear Systems	1.7
AER-3004 Aerospace Hydraulic Systems	1.4
AER-3005 Aerospace Pneumatic Systems	1.2
AER-3006 Electrical Systems	1.2
AER-3007 Propulsion Systems	1.7
AER-3008 Fuel Systems	1.0
ER-3009 Avionics Systems	1.5
AER-3010 Anti-Icing and De-Icing Systems	1.3

AER-3011 Environmental Systems	1.5
AER-3012 Window and Door Systems	1.2
AER-3013 Commercial Aircraft Structures	1.0
Basic Drilling and Riveting	
AER-4001 Marking Fastener Locations for Drilling Project	0.9
AER-4002 Setting Up the Drill Motor	0.7
AER-4003 Drilling Pilot Holes and Enlarging Holes	1.1
AER-4004 Deburring	0.9
AER-4005 Driving Protruding Head Rivets	1.1
Installing Advanced Fasteners Project	
AER-4006 Assembly Preparation for Advanced Fasteners Project	1.1
AER-4007 Installing Nut Plates	1.0
AER-4008 Compression Riveting	0.8
AER-4009 Installing Bolts	0.7
AER-4010 Securing Bolts with Lockwire	0.8
Countersinking and Flush Riveting Project	
AER-4011 Marking Fastener Locations for Countersinking and Flush Riveting Project	1.0
AER-4012 Setting Up the Assembly and Drill	0.7
AER-4013 Drilling, Enlarging, and Deburring Holes	1.4
AER-4014 Setting the Countersink Tool (project)	1.4
AER-4015 Countersinking (project)	0.8
AER-4016 Flush Riveting	1.3
90 Degree Drilling Project	
AER-4017 Assembly Preparation for 90 Degree Drilling Project	1.6
AER-4018 Installing 5/16 Inch Hi-Loks	0.9

AER-4019 Installing 3/16 Inch Hi-Loks	0.9
AER-4020 Installing Protruding Head Rivets	0.8
AER-4021 Removing Rivets in the 90 Degree Drilling Project	0.8
AER-4022 Removing 5/16 Inch Hi-Loks	0.7
Drilling Titanium	
AER-4023 Drilling Titanium	2.1
AER-4024 Marking Hole Locations for Drilling Titanium	1.0
AER-4025 Drilling Pilot Holes in Titanium	0.9
AER-4026 Drilling and Enlarging Holes in Row JD2	1.1
AER-4027 Enlarging Row JD7	0.8
AER-4028 Enlarging Rows JD4, JD5, and JD6	0.8
AER-4029 Enlarging Rows JD1 and JD3	1.0
AER-4030 Enlarging Row JD8	0.8
AER-4031 Chamfering	1.0
AER-4032 Edge Breaking and Deburring	1.4
Wing Structure Project	
AER-4033 Tools for Wing Structure Project	1.2
AER-4034 Preparing the Assembly for the Wing Structure Project	1.4
AER-4035 Countersinking and Fillet Relief	1.2
AER-4036 Installing Fasteners	1.4
Fuselage Skin Assembly	
AER-4037 Preparing the Assembly for the Fuselage Skin Assembly	1.1
AER-4038 Drilling the Skin Panels	1.1
AER-4039 Preparing the Doubler	1.0
AER-4040 Countersinking	0.8

AER-4041 Assembly Finish and Fastener Installation	1.1
AER-4042 Removing Rivets in the Fuselage Skin Assembly	0.8
Sealant Application Processes Mechanical Project	
AER-4043 Sealing Basics	1.6
AER-4044 Fay and Prepack Sealing	1.6
AER-4045 Fillet and Injection Sealing	1.4
AER-4046 Cap Sealing	1.1
Aerospace Electrical Bond and Ground Project	
AER-4047 Electrical Bond and Ground Introduction	1.1
AER-4048 Pre-Installed Ground Studs	1.4
AER-4049 Electrical Fay Surface Bonds	1.5
AER-4050 Direct Ground Stud	1.4
AER-4051 Fillet Sealing a Ground Stud	0.7
AER-4052 Fay Sealing a Direct Ground Stud	0.9
Aerospace Wire Bundle Installation Project	
AER-4053 Clearance and Separation	0.9
AER-4054 Minimum Bend Radius	1.5
AER-4055 Clamping Wire Bundles - Part One	1.8
AER-4056 Tying Wire Bundles for the Wire Bundle Installation Project	0.9
AER-4057 Project Installation Plan	0.8
AER-4058 Project and Drawing Review	0.8
AER-4059 Pre-routing Wire Bundles	2.2
AER-4060 Clamping Wire Bundles - Part Two	2.7
AER-4061 Torque and Inspection	1.1

AUTOMATION

Introduction to Industrial Automation

AUT-1001 Introduction to Automation	0.8
AUT-1002 Automated Process	1.1
AUT-1003 Automated System	1.7

Process Control

AUT-2001 Introduction to Process Controls	1.1
AUT-2002 Process Control Systems	1.7
AUT-2003 Set Point/Comparator	1.0
AUT-2004 Controller (PID Control)	1.5
AUT-2005 Multivariate Processes	1.2

CAREER BUILDING

Landing a Job

CAR-1001 Kicking Off Your Job Search	1.0
CAR-1002 Finding Jobs to Apply For	0.9
CAR-1003 Networking	1.0
CAR-1004 Completing an Employment Application	0.8
CAR-1005 Creating Your Resume	1.2
CAR-1006 Crafting a Cover Letter	0.7
CAR-1007 Understanding the Interview Process	0.8
CAR-1008 Making a Positive Impression	1.3
CAR-1009 Responding to Interview Questions	0.7
CAR-1010 Addressing Special Interview Concerns	0.8
CAR-1011 After the Interview	0.9

CAR-1012 Surviving Your First Day on the Job 0.7

CAR-1013 Turning a Job into a Career 1.1

Personal Branding

CAR-1014 What is Personal Branding? 0.9

CAR-1015 Define Your Brand 1.0

CAR-1016 Develop Your Brand Messages 1.0

CAR-1017 Implement Your Brand Strategy 1.2

Manufacturing as a Career

CAR-2001 A Future Worth Exploring 1.0

CAR-2002 Components of Production 0.8

CAR-2003 Credentials and Competencies 1.2

CAR-2004 Career Planning and Resources 1.2

CNC MACHINING

Introduction To Machining

CNC-1001 Introduction to Machining 1.5

CNC-1002 Machine Tools 0.8

CNC-1003 CNC Controllers 1.0

CNC-1004 Machining Personnel 0.9

CNC-1005 Facility Layout 1.5

CNC Horizontal Lathe

CNC-2001 Components of a CNC Lathe 1.2

CNC-2002 Movements of a CNC Lathe 0.9

CNC-2003 Workholding Devices and Tooling for a CNC Lathe 1.0

CNC-2004 The CNC Controller for a CNC Lathe 1.1

CNC-2005 Auxiliary Systems for a CNC Lathe 0.8

CNC Vertical Machining Center

CNC-2006 Components of a CNC Machining Center	1.2
CNC-2007 CNC Machining Center Movements	0.9
CNC-2008 Workpiece and Tool Holding Devices for a CNC Machining Center	0.9
CNC-2009 The CNC Controller for a CNC Machining Center	1.1
CNC-2010 Auxiliary Systems for a CNC Machining Center	0.8

CNC Machine Lubricants

CNC-2011 CNC Machine Lubricants	1.1
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CNC Horizontal Lathe Applications

CNC-4001 Maintenance Tasks for a CNC Lathe	0.8
CNC-4002 Power on the CNC Lathe	0.9
CNC-4003 Move the Axes by Rotating the Jog Handle on a CNC Lathe	0.8
CNC-4004 Home the Axes on a CNC Lathe	0.7
CNC-4005 Select a Part Program from Memory on a CNC Lathe	0.7
CNC-4006 Start the Part Program Safely on a CNC Lathe	0.8
CNC-4007 Interrupt Automatic Operation on a CNC Lathe	0.7
CNC-4008 Adjust a Tool Wear Offset on a CNC Lathe	0.7
CNC-4009 Power Off the CNC Lathe	0.7

CNC Lathe Programs

CNC-4010 CNC Programming Procedure for a CNC Lathe	1.2
CNC-4011 CNC Program Structure for a CNC Lathe	1.0
CNC-4012 CNC Addresses for a CNC Lathe	2.1
CNC-4013 CNC Lathe Commands	1.0
CNC-4014 Organizing a CNC Program for a CNC Lathe	0.8

CNC Vertical Machining Center Applications

CNC-4015 Maintenance Tasks for a CNC Machining Center	0.7
CNC-4016 Power on the CNC Machining Center	0.9
CNC-4017 Move the Axes by Rotating the Jog Handle on a CNC Machining Center	0.8
CNC-4018 Home the Axes on a CNC Machining Center	0.7
CNC-4019 Select a Part Program from Memory on a CNC Machining Center	0.7
CNC-4020 Start the Part Program Safely on a CNC Machining Center	0.8
CNC-4021 Interrupt Automatic Operation on a CNC Machining Center	0.7
CNC-4022 Adjust a Tool Wear Offset on a CNC Machining Center	0.7
CNC-4023 Power Off the CNC Machining Center	0.7

CNC Machining Center Programs

CNC-4024 CNC Programming Procedure for a CNC Machining Center	1.2
CNC-4025 CNC Program Structure for a CNC Machining Center	1.0
CNC-4026 CNC Addresses for a CNC Machining Center	2.2
CNC-4027 CNC Machining Center Commands	1.7
CNC-4028 Organizing a CNC Program for a CNC Machining Center	0.8

COMMUNICATION

Interpersonal Communication

COM-1001 Introduction to Communication	0.9
COM-1002 Effective Communication	0.9
COM-1003 Verbal Communication	1.0
COM-1004 Written Communication	0.9
COM-1005 Nonverbal Communication	0.7
COM-1006 Listening Skills	1.0
COM-1007 Workplace Communication	0.8

Conflict Resolution

COM-2001 Understanding Conflict	2.0
COM-2002 Communication Skills	1.8
COM-2003 Managing Conflict	2.3

Technical Writing

COM-2004 Introduction to Technical Writing	1.1
COM-2005 Successful Documentation	1.1

COMPOSITES

Introduction To Composites

CMP-1001 Background and History of Composites	0.7
CMP-1002 Composite Industries and Products	0.8
CMP-1003 Advantages and Disadvantages of Composites	1.1
CMP-1004 Safety and Hazards of Composites	0.8

Composite Manufacturing Facilities

CMP-1005 Facility Layout	1.1
CMP-1006 Non-controlled Contamination Areas	0.7
CMP-1007 Lay-up Area	0.8
CMP-1008 Curing Area	0.7

Materials Used In Composites Manufacturing

CMP-2001 Fiber Based Composites	0.9
CMP-2002 Fibers, Tapes and Fabrics	1.1
CMP-2003 Glass and Carbon Fibers	1.2
CMP-2004 Matrix Types and Properties	1.3
CMP-2005 Curing Process	1.1
CMP-2006 Honeycomb Core Materials	0.9

CMP-2007 Material Compatibility	0.7
CMP-2008 Galvanic Reactivity	0.7
CMP-2009 Core Potting Compounds	0.7
Composite Material Storage	
CMP-2010 Fiber Material Storage	0.9
CMP-2011 Controlled Contamination Areas	0.9
Tools Used In Composite Manufacturing	
CMP-2012 Local Exhaust Ventilation	1.1
CMP-2013 Forming Tools	1.0
CMP-2014 Coefficient of Thermal Expansion	0.7
CMP-2015 Forming Tool Inspection	0.8
CMP-2016 Forming Tool Cleaning	0.9
CMP-2017 Forming Tool Storage	0.7
CMP-2018 Rollers and Sweeps	0.6
CMP-2019 Overhead Laser System	1.0
Composite Material Kitting	
CMP-3001 Kitting with a Sheeter	0.9
CMP-3002 Kitting by Hand	0.8
CMP-3003 Kitting with Automated Machines	0.9
Composite Part Layup And Bagging	
CMP-3004 Ply Balancing	0.9
CMP-3005 Material Splicing	0.8
CMP-3006 Wrinkles and Gaps	0.7
CMP-3007 Pockets and Voids	0.7
CMP-3008 Radius Filler Fabrication by Hand	0.7

CMP-3009 Advanced Bagging	0.7
CMP-3010 Bagging and Lay-up Equipment	1.4
CMP-3011 Preparation for the Lay-up Process	1.1
CMP-3012 Cure Cycle Controllers - Temperature Controls	1.0
CMP-3013 Thermocouple Science	0.7
Inspecting Composite Parts	
CMP-3014 Introduction to Inspection of Composites	1.5
CMP-3015 Visual Inspection for Composites	1.0
CMP-3016 Ultrasonic Inspection for Composites	0.9
CMP-3017 Tap Inspection for Composites	1.2
Inspecting Part Damage And Repair	
CMP-3018 Composite Repairs	1.0
CMP-3019 Aircraft Damage	1.1
CMP-3020 Damage Assessment	2.8
CMP-3021 Repair Tools and Materials	1.6
Composite Layup Projects	
CMP-4001 Unidirectional 4 Ply Lay-up	1.5
CMP-4002 Carbon 8 Ply Lay-up with Core	1.6
CMP-4003 Fiberglass 6 Ply Wet Lay-up	1.7
Drilling Composites Project	
CMP-4004 Drilling Composite Material	1.6
CMP-4005 Marking Hole Locations	1.0
CMP-4006 Drilling Pilot Holes in Titanium	0.8
CMP-4007 Drilling Row JD3	0.9
CMP-4008 Drilling Row JD7	0.9

CMP-4009 Enlarging Holes in Rows JD1 and JD5	0.8
CMP-4010 Enlarging Holes in Rows JD2 and JD6	1.0
CMP-4011 Enlarging Holes in Row JD4	0.8
 Composite Part Damage And Repair Project	
CMP-4012 Surface Damage Assessment	1.1
CMP-4013 Surface Damage Repair	2.1
CMP-4014 Disbonding Damage Assessment	1.2
CMP-4015 Disbonding Damage Repair	2.8
 CRITICAL THINKING	
CRI-1001 What is Critical Thinking?	1.2
CRI-1002 The Critical Thinking Process	1.5
CRI-1003 Developing and Evaluating Arguments	1.4
 CUSTOMER SERVICE	
Customer Service	
CUS-1001 Focusing on Your Customers	0.8
CUS-1002 Providing Friendly, Courteous and Efficient Service	0.9
CUS-1003 Communicating Effectively with Customers	2.0
CUS-1004 Identifying and Meeting Customer Needs	1.0
CUS-1005 Building Customer Relationships	0.8
CUS-1006 Respecting Diversity in Your Customers	0.8
CUS-1007 Better Serving Customers with Disabilities	1.0
CUS-1008 Dealing with Difficult Customers	1.0
CUS-1009 Responding to Customer Complaints	1.4
CUS-1010 Managing Conflict with Internal Customers	1.5
WRK-1001 Handling Dangerous Workplace Situations	0.9

CUTTING TOOLS SKILLS COURSES

Drill Bits

CUT-2001 Drill Bits 0.8

Drill Guides And Drill Stops

CUT-2002 Drill Guides and Drill Stops 0.9

Countersinking Tools

CUT-2003 Countersinking Tools 1.3

Threads, Taps And Dies

CUT-2004 Threads 1.3

CUT-2005 Taps 1.5

CUT-2006 Hand Tapping 1.4

CUT-2007 Threading Dies 1.4

Lubricants And Cutting Fluids

CUT-2008 Cutting Fluids 1.5

Cutting Tools For Machining

CUT-2009 Cutting Tool Materials 1.2

CUT-2010 Indexable Tool Holders 2.1

CUT-2011 Inserts 1.2

CUT-2012 Solid Cutting Tools 1.9

DISCRIMINATION

Introduction To Workplace Discrimination

DIS-1001 Workplace Discrimination and the EEOC 1.1

DIVERSITY

Dc Electricity

ELE-1012 Direct Current 0.7

ELE-1013 Batteries 0.7

ELE-1014 Circuit Analysis 1.6

Ac Electricity

ELE-1015 Electromagnetism 1.1

ELE-1016 Ac Waveform Generation 0.7

ELE-1017 Electromagnetic Devices 1.0

ELE-1018 Transformers 0.9

ELE-1019 Capacitors 0.8

Solid State Electricity

ELE-1020 Semiconductors 0.9

ELE-1021 Solid State Devices 1.4

Introduction To Wiring

ELE-2001 Wires, Connectors, And Circuit Protection 1.5

ELE-2002 Connecting Transformers 1.2

Introduction To Electric Motors

ELE-2003 Dc Motors 1.4

ELE-2004 Ac Single-phase Motors 0.7

ELE-2005 Three-phase Ac Motors 0.9

Electrical Connectors

ELE-2006 Electrical Connectors And Fasteners 1.3

Fiber Optics

ELE-2007 Fiber Optics And Light	1.9
ELE-2008 Manufacturing Optical Fiber	1.1
ELE-2009 Fiber Optic Cable	0.9
ELE-2010 Handling Fiber Optic Cable	0.8
ELE-2011 Quality And Safety	0.7

Sensor Technology

ELE-2012 Introduction To Sensors Technology	1.4
ELE-2013 Sensor Technology	1.2
ELE-2014 Proximity Sensors	1.4
ELE-2015 Position, Speed And Acceleration Sensors	1.7
ELE-2016 Industrial Process Sensors	1.6
ELE-2017 Advanced Sensors	1.6

Electrical Hand Tools

ELE-2018 Hand Tools For Electrical Wiring	1.5
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Electrical Measurement Conversion

ELE-2019 Electrical Measurement And Unit Conversion	0.9
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Electrical Resistance Test Equipment

ELE-2020 Resistance Test Equipment	0.7
ELE-2021 The Fluke® Multimeter	0.9
ELE-2022 The Biddle® Ohmmeter	0.8
ELE-2023 The Avtron® Ohmmeter	0.7
ELE-2024 The Hewlett Packard® Milliohmmeter	0.8
ELE-2025 The Bcd M1® Ohmmeter	0.9

Crimping Terminals And Splices

ELE-4001 Terminals And Splices	1.0
ELE-4002 Crimping	1.5
ELE-4003 Crimping A Terminal	1.3
ELE-4004 Crimping A Pre-insulated Splice	1.6

Assembly Of Coaxial Connectors

ELE-4005 Coaxial Cable	0.8
ELE-4006 Coaxial Connectors	1.0
ELE-4007 Coaxial Connector Tools	1.3
ELE-4008 Coaxial Connector Assembly	1.7

ENGINEERING DRAWINGS

Blueprint Reading Fundamentals

DWG-1001 Introduction To Blueprints	1.7
DWG-1002 Engineering Drawing Terminology	1.5
DWG-1003 Engineering Drawing Views	1.6
DWG-1004 Engineering Drawing Lines	1.3
DWG-1005 Dimensions And Tolerances	2.1

Blueprints And Picture Sheets

DWG-1006 Aerospace Introduction To Blueprints	1.4
DWG-1007 Blueprint Terminology	1.4
DWG-1008 Blueprint Views	2.0
DWG-1009 Blueprint Lines	1.3
DWG-1010 Blueprint Dimensions And Tolerances	1.6
DWG-1011 Blueprint Symbols	1.6

Advanced Blueprint Reading

DWG-2001 Geometric Dimensions And Tolerances	1.4
DWG-2002 Assemblies And Fits	1.0
DWG-2003 Threads And Fasteners	1.3

Composites Engineering Drawings And Instructions

DWG-2007 Engineering Communication	1.5
DWG-2008 Composite Engineering Drawings	1.1
DWG-2009 Work Instructions	1.1

Geometric Dimensioning And Tolerancing

DWG-3001 Introduction To Gd&t	0.9
DWG-3002 Gd&t Terms And Symbols	1.5
DWG-3003 Rules Of Gd&t	2.0
DWG-3004 Geometric Tolerances	1.6
DWG-3005 Datums	1.4
DWG-3006 Form Tolerances	1.0
DWG-3007 Profile Tolerances	0.9
DWG-3008 Orientation Tolerances	1.2
DWG-3009 Runout Tolerances	0.8
DWG-3010 Location Tolerances	1.2

FASTENERS

Fasteners

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Prior to joining PMA, Connie served as the director of professional development for Baldwin Wallace University, where she created and delivered original, competency-based learning programs for external organizations and the university. Connie also previously worked for the University of Akron as a manager of business solutions, where she developed and implemented internal and external organizational development programs, and created community, industry-based consortiums for assessing and satisfying skills demands.



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Scott joined PMA as technical training manager in June 2023. In this position, he performs onsite and in-house training sessions, webinars and workshops.

A tool and die maker by trade, Scott has more than 40 years of experience in the tooling, stamping and steel industries. Throughout his career, he has held numerous roles, including tool and die apprentice, tool and die maker, tool and die engineer, die estimator, senior sales and tooling engineer, sales account manager, director of strategic initiatives, director of manufacturing, and vice president of engineering.



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Dean Phillips joined PMA in May 2024. Prior to that, he was an innovation strategist/sales engineer with Link Systems in Nashville, TN.

For the past 32 years, Dean has been an active member of the forming and fabricating community. He held various roles with Niagara (later Clearing Niagara Bliss, CNB), Piranha/Allsteel, Tennsmith and SEYI Presses. Dean was an advisor to SMART manufacturing and international director with SME. He also has been an advisor to the PMA safety committee and a contributor to *MetalForming* magazine.