ADDITIVE MANUFACTURING FUNDAMENTALS

- Additive Manufacturing as a Secondary Process
- Additive Manufacturing Methods and Materials
- Additive Manufacturing Safety
- Design for Additive Manufacturing
- Integrating Additive Manufacturing with Traditional
- Manufacturing
- Introduction to Additive Manufacturing
- The Basic Additive Manufacturing Process
- Basic Measurement Blueprint Reading
- Calibration Fundamentals
- Hole Standards and Inspection
- Inspecting with CMMs
- Introduction to GD&T
- Surface Texture and Inspection
- The Basics of Tolerance
- Thread Standards and Inspection
- Continuous Process Improvement: Identifying and

Eliminating Waste

- Lean Manufacturing Overview
- Total Productive Maintenance
- Classification of Steel
- Essentials of Heat Treatment of Steel
- Exotic Alloys
- Ferrous Metals
- Hardness Testing
- Introduction to Mechanical Properties
- Introduction to Metals
- Introduction to Physical Properties
- Nonferrous Metals
- Approaches to Maintenance
- Applied and Engineering Sciences
- Manufacturing Process Applications: Part I
- Manufacturing Process Applications: Part II
- Math: Fractions and Decimals
- Math Fundamentals
- Units of Measurement
- Approaches to Maintenance

ASSEMBLY

- Types of Adhesives
- Coating Defects
- Intro to Coating
- Composition Processes for Applying Coatings
- Surface Preparation for Coatings
- Introduction to Assembly
- Introduction to Fastener Threads
- Overview of Non-Threaded Fasteners
- Overview of Threaded Fasteners
- Safety for Assembly
- Tools for Threaded Fasteners
- Basic Measurement
- Basics of Tolerance
- Blueprint Reading
- Calibration Fundamentals
- Hole Standards and Inspection
- Thread Standards and Inspection
- 5S Overview
- Lean Manufacturing Overview
- Ferrous Metals
- Introduction to Mechanical Properties
- ISO 9001 Review
- Intro to Machine Rigging
- Rigging Equipment
- Bloodborne Pathogens
- Fire Safety and Prevention
- Hand and Power Tool Safety
- Intro to OSHA
- Lockout/Tagout Procedures
- Noise Reduction and Hearing Conservation
- Personal Protective Equipment
- Powered Industrial Truck Safety
- Safety for Lifting Devices
- SDS and Hazard Communication
- Walking and Working Surfaces
- Math Fundamentals
- Math: Fractions and Decimals Units of Measurement
- Basics of the Bonding Process
- Steps for Adhesive Application
- DC Circuit Components
- Electrical Units
- Introduction to Circuits
- Safety for Electrical Work
- Properties for Fasteners
- Fittings for Fluid Systems
- Introduction to Fluid Conductors
- Introduction to Hydraulic Components
- Introduction to Pneumatic Components
- Safety for Hydraulics and Pneumatics
- Introduction to GD&T
- Major Rules of GD&T
- Metrics for Lean
- Troubleshooting
- Introduction to Mechanical Systems
- Lubricant Fundamentals
- Safety for Mechanical Work
- Lifting and Moving Equipment
- Rigging Inspection and Safety
- Geometry: Circles and Polygons Geometry: Lines and Angles
- Geometry: Triangles Trigonometry: Sine, Cosine, Tangent Overview of Soldering

COMPOSITES PROCESSING FUNDAMENTALS

- Advanced Materials for Composites
- Advanced Thermoset
- Resins for Composites
- Composite Inspection and Defect Prevention
- Intro to Compression Molding
- Intro to Lay-up and Spray-up
- Molding Overview of Composite Processes
- Repair Methods for Composites
- Safety for Composite
- Processing Surface
- Finishing Composites
- Traditional Composites

- Vacuum Bagging Technique: Single-sided Bagging
- Basic Measurement
- Basics of Tolerance
- Blueprint Reading
- Calibration Fundamentals
- Hole Standards and Inspection
- Thread Standards and Inspection
- 5S Overview
- Lean Manufacturing Overview
- Introduction to Composites
- Introduction to Mechanical Properties
- Band Saw Operation
- Cutting Processes
- ISO 9001 Review
- Bloodborne Pathogens
- Fire Safety and Prevention
- Hand and Power Tool Safety
- Intro to OSHA
- Lockout/Tagout Procedures
- Noise Reduction and Hearing
- Conservation
- Personal Protective Equipment
- Powered Industrial Truck Safety
- Safety for Lifting Devices
- SDS and Hazard Communication
- Walking and Working Surfaces
- Geometry: Circles and Polygons
- Geometry: Lines and Angles
- Geometry: Triangles
- Math Fundamentals
- Math: Fractions and Decimals
- Trigonometry: Sine, Cosine, Tangent
- Units of Measurement

ENGINEERING

- Additive Manufacturing
- Methods and Materials
- Additive Manufacturing
- Safety
- Introduction to Additive Manufacturing
- Introduction to CAD and CAM for Machining
- AC Fundamentals
- DC Circuit Components
- Electrical Units
- Introduction to Circuits
- Introduction to Assembly
- Basics of Tolerance
- Blueprint Reading
- Lean Manufacturing Overview
- Essentials of Heat Treatment of Steel
- Introduction to Ceramics
- Introduction to Composites
- Introduction to Mechanical Properties
- Introduction to Metals
- Introduction to Physical Properties
- Introduction to Plastics
- Cutting Processes
- Algebra Fundamentals
- Geometry: Circles and Polygons
- Geometry: Lines and Angles
- Geometry: Triangles Statistics
- Trigonometry: Sine, Cosine, Tangent
- Trigonometry: The Pythagorean Theorem
- Units of Measurement
- Basics of G Code Programming
- Parallel Circuit Calculations
- Series Circuit Calculations
- Introduction to Hydraulic Components
- Introduction to Pneumatic Components
- The Forces of Fluid Power
- Introduction to GD&T
- SPC Overview
- Troubleshooting
- Classification of Steel
- Ferrous Metals
- Hardness Testing
- Nonferrous Metals
- Thermoplastics
- Thermosets
- Forces of Machines
- Power Transmission Components
- Drill Tool Geometry
- Lathe Tool Geometry
- Mill Tool Geometry
- Basics of Ladder Logic
- Introduction to PLCs
- PLC Timers and Counters
- Basic Ladder Diagram Programming for Siemens PLCs
- Basics of Siemens PLCs
- Siemens PLC Communication
- Equipment/Tool Design and Development
- ISO 9001 Review
- Process Design and Development
- Product Design and Development
- Production System Design and Development
-
- Quality and Customer Service
- Automated Systems and Control
- Hand and Power Tool Safety
- Applied and Engineering Sciences
- Manufacturing Process Applications: Part I
- Manufacturing Process Applications: Part II
- Punch and Die Operations
- Manufacturing Management
- Personal Effectiveness
- Introduction to Welding Processes
- Fixture Design Basics
- Supporting and Locating Principles

FORMING, FABRICATING, STAMPING

- Basic Measurement
- Basics of Tolerance
- Blueprint Reading
- Calibration Fundamentals
- Hole Standards and Inspection
- Thread Standards and Inspection

- 5S Overview
- Lean Manufacturing Overview
- Ferrous Metals
- Introduction to Mechanical Properties
- Introduction to Physical Properties
- Band Saw Operation
- ISO 9001 Review
- Bloodborne Pathogens
- Fire Safety and Prevention
- Hand and Power Tool Safety
- Intro to OSHA
- Lockout/Tagout Procedures
- Noise Reduction and Hearing Conservation
- Personal Protective Equipment
- Powered Industrial Truck Safety
- Safety for Lifting Devices
- SDS and Hazard Communication
- Walking and Working Surfaces
- Geometry: Circles and Polygons
- Geometry: Lines and Angles
- Geometry: Triangles
- Manufacturing Process Applications: Part I
- Math Fundamentals
- Math: Fractions and Decimals
- Trigonometry: Sine, Cosine, Tangent
- Units of Measurement
- Electrical Units
- Introduction to Circuits
- Introduction to Hydraulic Components
- Introduction to GD&T
- Major Rules of GD&T
- Total Productive Maintenance
- Troubleshooting
- Introduction to Mechanical Systems
- Bending Fundamentals
- Die Bending Operations
- Operating the Press Brake
- Press Brake Components
- Press Brake Safety
- Press Brake Specifications
- Approaches to Maintenance
- Coil Handling Equipment
- Coil Loading Procedures
- Die Components
- Die Cutting Variables
- Die Setting Procedures
- Monitoring Press Operations
- Press Basics Punch and Die Operations
- Stamping Safety
- Essentials of Communication
- Essentials of Leadership
- Introduction to Workholding
- Supporting and Locating Principles
- Basic Grinding Theory
- Basics of the Cylindrical Grinder
- Basics of the Surface Grinder
- Cylindrical Grinder Operation
- Dressing and Truing
- Grinding Ferrous Metals
- Grinding Nonferrous Materials
- Grinding Processes
- Grinding Safety
- Grinding Variables
- Grinding Wheel Geometry
- Grinding Wheel Materials
- Introduction to Grinding Fluids
- Setup for the Cylindrical Grinder
- Setup for the Surface Grinder
- Surface Grinder Operation
- Calculations for Programming the mill
- Canned Cycles for the Mill
- Creating a CNC Milling Program
- Holemaking on the Manual Mill
- Basic Cutting Theory
- Carbide Grade Selection
- Cutting Tool Materials
- Speed and Feed for the Lathe
- Speed and Feed for the Mill
- Material Tests for Welding

Industrial Safety Training

- Intro to OSHA
- Ergonomics
- Personal Protective Equipment
- Noise Reduction and Hearing Conservation
- Respiratory Safety
- Lockout/Tagout Procedures
- SDS and Hazard Communication
- Bloodborne Pathogens
- Walking and Working Surfaces
- Fire Safety and Prevention
- Flammable/Combustible Liquids
- Hand and Power Tool Safety
- Safety for Lifting Devices
- Powered Industrial Truck Safety
- Confined Spaces
- Environmental Safety Hazards
- Arc Flash Safety
- Fall Protection
- Machine Guarding
- Low Voltage Safety
- CDC Workplace Infection Safety and Prevention

LEADERSHIP SKILLS

- Essentials of Leadership
- Essentials of Communication
- Managing Performance: Best Practices
- Managing Performance: Corrective Actions
- Managing the Diverse Workplace
- Intro to Managerial Accounting
- Conflict Resolution Principles
- Conflict Resolution for Different Groups
- Team Leadership
- Manufacturing Management

LEAN TRAINING

- Lean Manufacturing Overview
- Continuous Process Improvement: Managing Flow
- Continuous Process Improvement: Identifying and Eliminating Waste
- Developing a Lean Culture
- Total Productive Maintenance
- 5S Overview
- Cell Design and Pull Systems
- Intro to Six Sigma
- Troubleshooting
- Conducting Kaizen Events
- SPC Overview
- Metrics for Lean
- Process Flow Charting
- Strategies for Setup Reduction
- Total Quality Management Overview
- Management Tools: Problem Solving
- Management Tools: Product and Process Design
- Value Stream Mapping: The Current State
- Six Sigma Goals and Tools
- Value Stream Mapping: The Future State
- Maintaining a Consistent Lean Culture
- Transforming Lean into Business Results
- Measuring Lean Systems
- Lean Fundamentals: Firm Grasp on Waste and Getting 5S Right
- Kaizen Workshop
- Value Stream Mapping: Diagram the Information and Material Flows in Your Business

Machining

- Basic Measurement
- Basics of Tolerance
- Blueprint Reading
- Calibration Fundamentals
- Hole Standards and Inspection
- Thread Standards and Inspection
- 5S Overview
- Lean Manufacturing Overview
- Essentials of Heat Treatment of Steel Ferrous Metals
- Introduction to Mechanical Properties
- Band Saw Operation
- Basic Cutting Theory
- Cutting Processes
- Introduction to Metal Cutting
- Fluids Metal Cutting
- Fluid Safety
- Overview of Machine Tools
- ISO 9001 Review
- Bloodborne Pathogens
- Fire Safety and Prevention
- Hand and Power Tool Safety
- Intro to OSHA
- Lockout/Tagout Procedures
- Noise Reduction and Hearing Conservation
- Personal Protective Equipment
- Powered Industrial Truck Safety
- Safety for Lifting Devices
- SDS and Hazard Communication
- Walking and Working Surfaces
- Geometry: Circles and Polygons
- Geometry: Lines and Angles
- Geometry: Triangles
- Math Fundamentals
- Math: Fractions and Decimals
- Trigonometry: Sine, Cosine, Tangent
- Units of Measurement
- Basic Grinding Theory
- Basics of the Centerless Grinder
- Basics of the Cylindrical Grinder
- Basics of the Surface Grinder
- Centerless Grinder Operation
- Cylindrical Grinder Operation
- Dressing and Truing
- Grinding Ferrous Metals
- Grinding Nonferrous Metals
- Grinding Processes
- Grinding Safety
- Grinding Variables
- Grinding Wheel Geometry
- Grinding Wheel Materials
- Introduction to Grinding Fluids
- Setup for the Centerless Grinder
- Setup for the Cylindrical Grinder
- Setup for the Surface Grinder
- Surface Grinder Operation
- Basics of G Code Programming
- Introduction to CNC Machines
- Introduction to Fastener Threads
- Introduction to GD&T
- Major Rules of GD&T
- Surface Texture and Inspection
- Metrics for Lean
- Process Flow Charting
- SPC Overview
- Strategies for Setup Reduction
- Troubleshooting
- Essentials of Communication
- Essentials of Leadership
- Chucks, Collets, and Vises
- Clamping Basics
- Locating Devices
- Supporting and Locating Principles
- Basics of G Code Programming
- Basics of the CNC Lathe
- Basics of the CNC Mill
- Control Panel Functions for the CNC Lathe
- Control Panel Functions for the CNC Mill
- Coordinates for the CNC Lathe
- Coordinates for the CNC Mill
- Introduction to CNC Machines
- Offsets on the CNC Lathe
- Offsets on the CNC Mill
- Introduction to Fastener Threads
- Surface Texture and Inspection
- SPC Overview
- Benchwork and Layout Operations
- Engine Lathe Basics
- Engine Lathe Operation

- Engine Lathe Setup
- Holemaking on the Manual Mill
- Manual Mill Basics
- Manual Mill Operation
- Manual Mill Setup
- Classification of Steel
- Intro to EDM Safety for Metal Cutting
- Machine Guarding Chucks, Collets, and Vises
- Clamping Basics
- Locating Devices
- Supporting and Locating Principles
- Calculations for Programming the Lathe
- Calculations for Programming the Mill
- Canned Cycles for the Lathe
- Canned Cycles for the Mill
- Creating a CNC Milling Program
- Creating a CNC Turning Program
- Introduction to CAD and CAM for Machining
- In-Line Inspection Applications
- Introduction to GD&T
- Major Rules of GD&T
- Intro to Six Sigma
- Metrics for Lean
- Introduction to Metals
- Speed and Feed for the Lathe
- Speed and Feed for the Mill
- Quality and Customer Service
- Automated Systems and Control Robot Axes
- Calculations for Programming the Lathe
- Calculations for Programming the Mill
- Canned Cycles for the Lathe
- Canned Cycles for the Mill
- Creating a CNC Milling Program
- Creating a CNC Turning Program
- Introduction to GD&T
- Major Rules of GD&T
- Metrics for Lean Process Flow
- Charting Strategies for Setup Reduction
- Troubleshooting
- Taper Turning on the Engine
- Lathe Threading on the Engine Lathe
- ANSI Insert Selection
- Basic Cutting Theory
- Carbide Grade Selection
- Cutting Tool Materials
- Drill Tool Geometry
- Impact of Workpiece Materials
- Lathe Tool Geometry
- Mill Tool Geometry
- Optimizing Tool Life and Process
- Speed and Feed for the Lathe
- Speed and Feed for the Mill
- Essentials of Communication
- Essentials of Leadership
- Basic Grinding Theory
- Basics of the Cylindrical Grinder
- Basics of the Surface Grinder
- Cylindrical Grinder Operation
- Dressing and Truing
- Grinding Ferrous Metals
- Grinding Nonferrous Materials
- Grinding Processes
- Grinding Safety
- Grinding Variables
- Grinding Wheel Geometry
- Grinding Wheel Materials
- Introduction to Grinding Fluids
- Setup for the Cylindrical Grinder
- Setup for the Surface Grinder
- Surface Grinder Operation
- Die Cutting Variables
- Material Tests for Welding

MAINTENANCE

- Math Fundamentals
- Math: Fractions and Decimals
- Units of Measurement
- Basics of Tolerance
- Blueprint Reading
- Basic Measurement
- Calibration Fundamentals
- Hole Standards and Inspection
- Thread Standards and Inspection
- Intro to OSHA
- Personal Protective Equipment
- Noise Reduction and Hearing Conservation
- Prespiratory Safety
- Lockout/Tagout Procedures
- SDS and Hazard Communication
- Bloodborne Pathogens
- Walking and Working Surfaces
- Fire Safety and Prevention
- Flammable/Combustible Liquids
- Hand and Power Tool Safety
- Safety for Lifting Devices
- Powered Industrial Truck Safety
- Confined Spaces
- Introduction to Physical Properties
- Introduction to Mechanical Properties
- Introduction to Metals
- Ferrous Metals
- Lean Manufacturing Overview
- ISO 9001:2015 Review
- Approaches to Maintenance
- Total Productive Maintenance
- 5S Overview
- Electrical Units
- Safety for Electrical Work
- Introduction to Mechanical Systems
- Safety for Mechanical Work
- Forces of Machines
- Algebra Fundamentals
- Geometry: Lines and Angles
- Geometry: Triangles
- Geometry: Circles and Polygons
- Trigonometry: The Pythagorean Theorem
- Trigonometry: Sine, Cosine, Tangent
- Essentials of Heat
- Treatment of Steel
- Troubleshooting
- Introduction to CNC Machines
- Control Panel Functions for the CNC Lathe

- Control Panel Functions for the CNC Mill
- Shift Registers
- Introduction to Circuits
- Introduction to Magnetism
- DC Circuit Components
- NEC Overview
- AC Fundamentals
- Electrical Instruments
- Electrical Print Reading
- Conductor Selection
- Series Circuit Calculations
- Parallel Circuit Calculations
- Limit Switches and Proximity Sensors
- Lubricant Fundamentals
- Overview of Soldering
- Relays, Contractors, and Motor Starters
- Control Devices
- Distribution Systems
- Introduction to Electric Motors
- Logic and Line Diagrams
- Essentials of Leadership
- Essentials of Communication
- Algebra Fundamentals
- Geometry: Lines and Angles
- Geometry: Triangles
- Geometry: Circles and Polygons
- Trigonometry: The Pythagorean Theorem
- Trigonometry: Sine, Cosine, Tangent
- Essentials of Heat
- Treatment of Steel
- Nonferrous Metals
- Troubleshooting
- Series Circuit Calculations
- Parallel Circuit Calculations
- Battery Selection
- Bearing Applications
- Spring Applications
- Belt Drive Applications
- Gear Applications
- Reversing Motor Circuits
- Specs for Servomotors
- Reduced Voltage Starting
- The Forces of Fluid Power
- Safety for Hydraulics and Pneumatics
- Introduction to Hyudraulic Components
- Introduction to Pneumatic Components
- Introduction to Fluid Conductors
- Fittings for Fluid Systems
- Preventative Maintenance for Fluid Systems
- Lubricant Fundamentals
- Mechanical Power Variables
- Clutch and Brake Applications
- Intro to Machine Rigging
- Rigging Equipment
- Rigging Inspection and Safety
- Rigging Mechanics
- Intro to Fastener Threads
- Overview of Threaded Fasteners
- Tools for Threaded Fasteners
- Overview of Non-Threaded Fasteners
- Understanding Torque
- Threaded Fastener Selection
- Distribution Systems
- Introduction to Electric Motors
- Symbols and Diagrams for Motors
- Logic and Line Diagrams
- DC Motor Applications
- Solenoids
- AC Motor Applications
- Essentials of Leadership
- Essentials of Communication
- Bearing Applications
- Spring Applications
- Belt Drive Applications
- Gear Applications
- Introduction to PLCs
- Hardware for PLCs
- Basics of Ladder Logic
- Numbering Systems and Codes
- PLC Inputs and Outputs
- Basic Programming
- PLC Timers and Counters
- Networking for PLCs
- Hand-Held Programmers for PLCs
- Overview of PLC Registers
- PLC Program Control Instructions
- Sequencer Instructions for PLCs
- PLC Installation Practices
- PID for PLCs
- Data Manipulation
- Robot Components
- End Effectors
- Robot Axes
- Robot Sensors
- Robot Maintenance
- Robot Installations
- Vision Systems
- Industrial Network Integration
- The Forces of Fluid Power
- Safety for Hydraulics and Pneumatics
- Introduction to Hydraulic Components
- Introduction to Pneumatic Components
- Introduction to Fluid Conductors
- Fittings for Fluid Systems
- Mechanical Power Variables
- Clutch and Brake Applications
- Intro to Machine Rigging
- Rigging Equipment
- Rigging Inspection and Safety
- Rigging Mechanics
- Robot Safety
- Robot Troubleshooting
- Concepts of Robot Programming
- Intro to Fastener Threads
- Overview of Threaded Fasteners
- Tools for Threaded Fasteners
- Overview of Non-Threaded Fasteners
- Understanding Torque
- Threaded Fastener Selection
- Nonferrous Metals
- Battery Selection
- Bearing Applications
- Spring Applications
- Belt Drive Applications

- Gear Applications
- Reversing Motor Circuits
- Specs for Servomotors
- Reduced Voltage Starting
- The Forces of Fluid Power
- Safety for Hydraulics and Pneumatics
- Introduction to Hydraulic Components
- Introduction to Pneumatic Components
- Introduction to Fluid Conductors
- Fittings for Fluid Systems
- Mechanical Power Variables
- Clutch and Brake Applications
- Intro to Machine Rigging
- Rigging Equipment
- Rigging Inspection and Safety
- Rigging Mechanics
- Intro to Fastener Threads
- Overview of Threaded Fasteners
- Tools for Threaded Fasteners
- Overview of Non-Threaded Fasteners
- Understanding Torque
- Threaded Fastener Selection
- Distribution Systems
- Symbols and Diagrams for Motors
- DC Motor Applications
- Solenoids AC Motor Applications
- Benchwork and Layout Operations
- Introduction to CNC Machines
- Control Panel Functions for the CNC Lathe
- Control Panel Functions for the CNC Mill
- Introduction to Circuits
- Introduction to Magnetism
- DC Circuit Components
- NEC Overview
- AC Fundamentals
- Electrical Instruments
- Electrical Print Reading
- DC Power Sources
- AC Power Sources
- Conductor Selection
- Limit Switches and Proximity Sensors
- Hydraulic Power Variables
- Hydraulic Power Sources
- Pneumatic Power Variables
- Pneumatic Power Sources
- Hydraulic Control Valves
- Hydraulic Schematics and Basic Circuit Design
- Pneumatic Control Valves
- Pneumatic Schematics and Circuit Design
- Actuator Applications
- Hydraulic Fluid Selection
- Contamination and Filter Selection
- Hydraulic Principles and System Design
- Welding Safety
- Essentials PPE for Welding
- Welding Fumes and Gases Safety
- Electrical Safety for Welding
- Introduction to Welding
- Introduction to Welding Processes
- Overview of Soldering
- Plasma Cutting
- SMAW Applications
- GMAW Applications
- What Is Oxyfuel Welding?
- Oxyfuel Welding Applications
- Relays, Contactors, and Motor Starters
- Control Devices
- Distribution Systems

PLASTICS PROCESSING

- Basic Measurement
- Basics of Tolerance
- Blueprint Reading
- Calibration Fundamentals
- Hole Standards and Inspection
- Thread Standards and Inspection
- 5S Overview
- Lean Manufacturing Overview
- Introduction to Mechanical Properties
- Introduction to Plastics
- ISO 9001 Review
- Bloodborne Pathogens
- Fire Safety and Prevention
- Hand and Power Tool Safety
- Intro to OSHA
- Lockout/Tagout Procedures
- Noise Reduction and Hearing Conservation
- Personal Protective Equipment
- Powered Industrial Truck Safety
- Safety for Lifting Devices
- SDS and Hazard Communication
- Walking and Working Surfaces
- Geometry: Circles and Polygons
- Geometry: Lines and Angles
- Geometry: Triangles
- Math Fundamentals
- Math: Fractions and Decimals
- Trigonometry: Sine, Cosine, Tangent
- Units of Measurement
- Advanced Thermoset Resins for Composites
- Composite Inspection and Defect Prevention
- Intro to Compression Molding
- Electrical Units
- Safety for Electrical Work
- Fittings for Fluid Systems
- Introduction to Fluid Conductors
- Introduction to Hydraulic Components
- Introduction to Pneumatic Components
- Preventive Maintenance for Fluid Systems
- Safety for Hydraulics and Pneumatics
- The Forces of Fluid Power
- Thermoplastics Thermosets Forces of Machines
- Introduction to Mechanical Systems
- Safety for Mechanical Work
- Intro to Machine Rigging
- Rigging Equipment
- Rigging Inspection and Safety
- Rigging Mechanics
- Basics of the Cylindrical Grinder
- Basics of the Surface Grinder
- Cylindrical Grinder Operation
- Dressing and Truing

- Grinding Processes
- Grinding Safety
- Grinding Variables Grinding Wheel Geometry
- Grinding Wheel Materials
- Grinding Wheel Selection
- Introduction to Grinding Fluids
- Setup for the Cylindrical Grinder
- Setup for the Surface Grinder
- Surface Grinder Operation
- Calculations for Programming the Mill
- Canned Cycles for the Mill
- Creating a CNC Milling Program
- Introduction to GD&T
- Major Rules of GD&T
- Troubleshooting
- Basic Cutting Theory
- Carbide Grade Selection
- Cutting Tool Materials
- Speed and Feed for the Lathe
- Speed and Feed for the Mill

QUALITY

- Advanced Hole Inspection
- Basic Measurement
- Basics of Tolerance
- Blueprint Reading
- Calibration and Documentation
- Calibration Fundamentals
- Hole Standards and Inspection
- In-Line Inspection Applications
- Inspecting a Cylindrical Part
- Inspecting a Prismatic Part
- Inspecting with CMMs
- Inspecting with Optical Comparators
- Introduction to GD&T
- Major Rules of GD&T
- Surface Texture and Inspection
- Thread Standards and Inspection
- 5S Overview
- Lean Manufacturing Overview
- SPC Overview
- Essentials of Heat Treatment of Steel
- Ferrous Metals
- Hardness Testing
- Introduction to Mechanical Properties
- Band Saw Operation
- Basic Cutting Theory
- Cutting Processes
- Introduction to Metal Cutting Fluids
- Metal Cutting Fluid Safety
- Overview of Machine Tools
- ISO 9001 Review
- Bloodborne Pathogens
- Fire Safety and Prevention
- Hand and Power Tool Safety
- Intro to OSHA
- Lockout/Tagout Procedures
- Noise Reduction and Hearing Conservation
- Personal Protective Equipment
- Powered Industrial Truck Safety Safety for Lifting Devices
- SDS and Hazard Communication
- Walking and Working Surfaces
- Geometry: Circles and Polygons
- Geometry: Lines and Angles
- Geometry: Triangles
- Math Fundamentals
- Math: Fractions and Decimals
- Trigonometry: Sine, Cosine, Tangent
- Units of Measurement

WELDING

- Introduction to CAD and CAM for Machining
- Blueprint Reading
- Safety for Metal Cutting
- Bloodborne Pathogens
- Confined Spaces
- Environmental Safety Hazards
- Ergonomics Fire Safety and Prevention
- Flammable/Combustible Liquids
- Hand and Power Tool Safety
- Intro to OSHA
- Lockout/Tagout Procedures
- Machine Guarding
- Noise Reduction and Hearing Conservation
- Personal Protective Equipment
- Powered Industrial Truck Safety
- Respiratory Safety
- Safety for Lifting Devices
- SDS and Hazard Communication
- Walking and Working Surfaces
- Units of Measurement
- Electrical Safety for Welding
- Geometry Fundamentals for Welding
- Math Fundamentals for Welding
- Overview of Weld
- Defects Oxyfuel
- Cutting Applications
- Plasma Cutting
- PPE for Welding
- Thermal Cutting Overview
- Welding Fumes and Gases Safety
- Welding Safety Essentials
- Welding Symbols and Codes
- AC Fundamentals
- AC Power Sources
- Battery Selection
- Conductor Selection
- DC Circuit Components
- DC Power Sources
- Electrical Instruments
- Electrical Print Reading
- Electrical Units
- Introduction to Circuits
- Introduction to Magnetism
- NEC(R) Overview

- Parallel Circuit Calculations
- Safety for Electrical Work
- Series Circuit Calculations
- Total Productive Maintenance
- Troubleshooting
- Ferrous Metals
- Introduction to Metals
- Nonferrous Metals
- Safety for Mechanical Work
- Approaches to Maintenance
- Essentials of Communication
- Personal Effectiveness
- Advanced GMAW Applications
- Electrical Power for Arc Welding
- FCAW Applications
- GMAW Applications
- Introduction to FCAW
- Introduction to GMAW
- Introduction to Welding
- Introduction to Welding Processes
- Material Tests for Welding
- Overview of Weld Types
- Welding Ferrous Metals
- Welding Nonferrous Metals
- AC Fundamentals
- AC Power Sources
- Battery Selection
- Conductor Selection
- DC Circuit Components
- DC Power Sources
- Electrical Instruments
- Electrical Print Reading
- Electrical Units
- Introduction to Circuits
- Introduction to Magnetism
- NEC(R) Overview
- Parallel Circuit Calculations
- Safety for Electrical Work
- Series Circuit Calculations
- Total Productive Maintenance
- Troubleshooting
- Classification of Steel Exotic Alloys
- Ferrous Metals
- Introduction to Mechanical Properties
- Introduction to Metals
- Introduction to Physical Properties
- Nonferrous Metals
- Safety for Mechanical Work
- Approaches to Maintenance
- Essentials of Communication
- Personal Effectiveness
- GTAW Applications
- Introduction to GTAW
- Introduction to Welding
- Introduction to Welding Processes
- Material Tests for Welding
- Overview of Weld Types
- Welding Ferrous Metals
- Welding Nonferrous Metals
- AC Fundamentals
- AC Power Sources
- Battery Selection
- Conductor Selection
- DC Circuit Components
- DC Power Sources
- Electrical Instruments
- Electrical Print Reading
- Electrical Units
- Introduction to Circuits
- Introduction to Magnetism
- NEC(R) Overview
- Parallel Circuit Calculations
- Safety for Electrical Work
- Series Circuit Calculations
- Total Productive Maintenance
- Troubleshooting
- Ferrous Metals
- Introduction to Mechanical Properties
- Introduction to Metals
- Introduction to Physical Properties
- Nonferrous Metals
- Safety for Mechanical Work
- Approaches to Maintenance
- Essentials of Communication
- Personal Effectiveness
- Electrical Power for Arc Welding
- Introduction to SMAW
- Introduction to Welding
- Introduction to Welding Processes
- Material Tests for Welding
- Overview of Weld Types
- SMAW Applications
- Welding Ferrous Metals
- Welding Nonferrous Metals
- Introduction to Assembly
- Safety for Assembly
- Classification of Steel
- Essentials of Heat
- Treatment of Steel
- Band Saw Operation
- Algebra Fundamentals
- Applied and Engineering Sciences
- Geometry: Circles and Polygons
- Geometry: Lines and Angles
- Geometry: Triangles
- Math Fundamentals
- Math: Fractions and Decimals Statistics
- Trigonometry: Sine Bar Applications
- Trigonometry: Sine, Cosine, Tangent
- Trigonometry: The Pythagorean Theorem
- Conflict Resolution for Different Groups
- Conflict Resolution Principles
- Essentials of Leadership
- Team Leadership
- Fabrication Process
- Fixture Body Construction
- Fixture Design Basics
- Introduction to Workholding
- Locating Devices
- Supporting and Locating Principles