



# CLASS CATALOG

ONLINE CLASSES  
INSTRUCTOR-LED TRAINING  
CUSTOMIZATION  
CERTIFICATIONS  
ASSESSMENTS  
VIRTUAL LABS

# 97%

of customers who have used  
our online classes say the  
classes helped them increase  
productivity, cut costs or meet  
other business goals.

# 98%

of customers who have used  
our online classes say the  
classes improved their skills  
and knowledge.



## WHY TOOLING U-SME?

### MORE THAN HALF OF FORTUNE 500® MANUFACTURING COMPANIES CHOOSE TOOLING U-SME.

We offer competency-based learning solutions focused on your performance outcomes. This catalog provides a detailed list of all our online course offerings, including over 600 classes in multiple functional areas — plus information on instructor-led training, certification programs, assessments, custom content, Virtual Labs, and learning services, such as on-site train-the-trainer programs. But we do so much more. We'll analyze needs, assess your current knowledge, and develop a program that fills the gaps. Then, we'll help you launch, track, and measure the results. From beginner to advanced, our classes will help you train your new and existing employees and build your next-generation workforce.

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## WE ARE YOUR TRAINING PARTNER WITH CREDENTIALS

Over the last 90+ years, we've worked with hundreds of thousands of individuals, companies, and educational institutions. Our courses are aligned to national credentials, including Lean Certification, Additive Certification, Certified Manufacturing Associate, Certified Manufacturing Technologist, and Certified Manufacturing Engineer.

Our courses also may be mapped to individual or state curriculum requirements, quickly creating a learning road map to help position your company for the future.

### WE'RE HERE TO HELP

**Find out how we can partner with you to develop a competency-based solution to fit your training needs and your budget.**

Contact us at [info@toolingu.com](mailto:info@toolingu.com) or call 866.706.8665.

# TOOLING U-SME'S CUSTOMIZED TRAINING MAKES IT POSSIBLE TO:

- Develop mission-critical skills
- Minimize the skills gap
- Expedite onboarding and define skills development
- Capture and standardize organizational knowledge
- Ensure operational excellence/world-class manufacturing
- Boost operational effectiveness and productivity
- Drive continuous improvement
- Improve quality and reduce scrap
- Leverage new technologies and drive innovation
- Cross-train and increase workforce flexibility
- Reduce learning curve for new technologies
- Decrease risk and exposure
- Improve safety
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\*Blueprint Reading Classes Are Throughout All Departments

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With over 600 unique online classes, plus instructor-led training titles and custom classes, we provide an incredibly broad catalog of manufacturing training topics. Plus, every online class has been reviewed and validated by industry experts, and every instructor-led class is delivered by experts who have been carefully vetted to ensure training is delivered by the best in industry.

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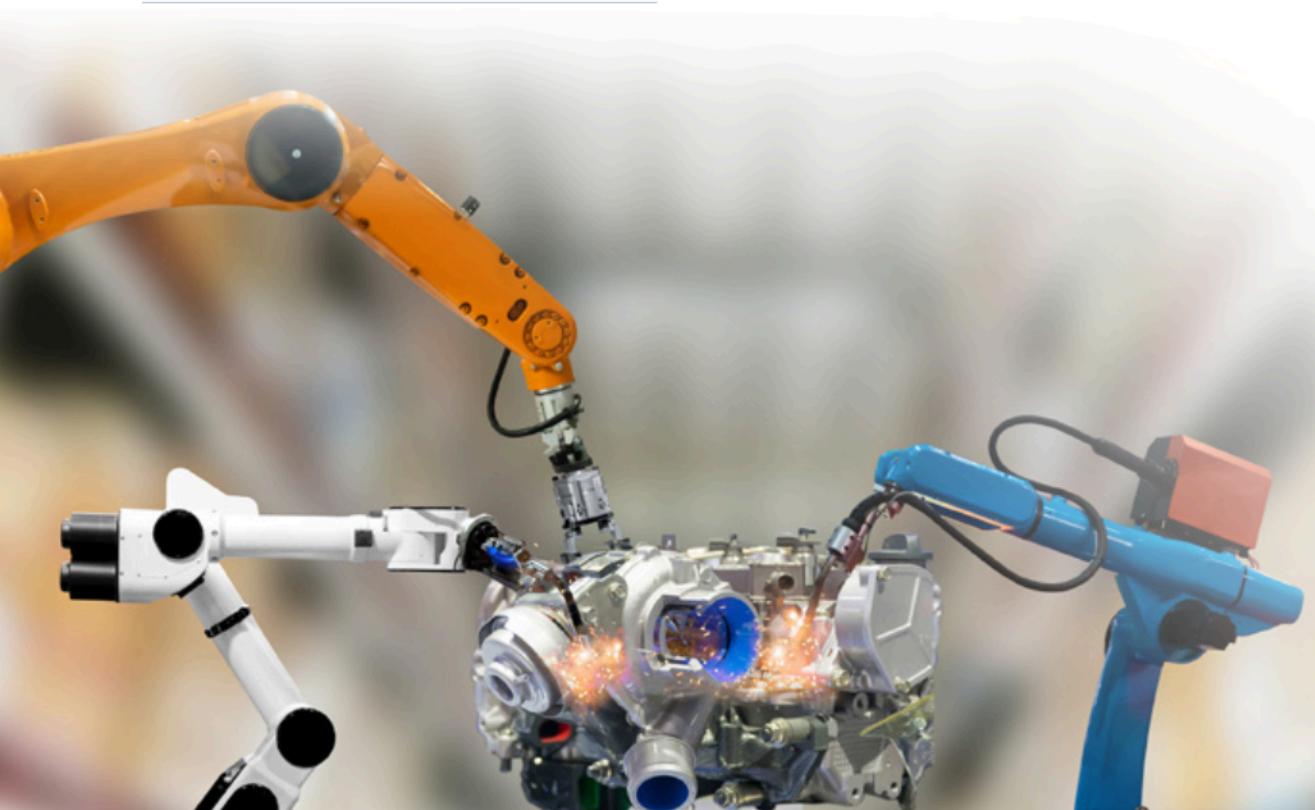
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**U/LINC™**  
INSTRUCTION ENGINEERED by LINCOLN ELECTRIC

Tooling U-SME has joined forces with Lincoln Electric to strengthen the U/LINC® Welding Curriculum Platform. Tooling U-SME now offers the U/LINC curriculum as part of its broad range of learning and development product offerings.

U/LINC® is a complete curriculum of lesson plans, videos, student handouts, tests, presentations, eLearning and more, all designed to supercharge your teaching experience and free you from curriculum development.



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98%

of customers who have taken  
our online classes say they have  
used what they learned from the  
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Introduction to Assembly	101
Introduction to Fastener Ergonomics	130
Properties for Fasteners	200
Safety for Assembly	211
Introduction to Fastener Threads	221
Overview of Threaded Fasteners	231
Tools for Threaded Fasteners	235
Overview of Non-Threaded Fasteners	241
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Threaded Fastener Selection	255

<b>Soldering</b>	►
Introduction to Soldering	100
Soldering Safety	116
Soldering Equipment	130
Soldering Standards	140
Soldering Applications	200
Solder and Flux Selection	210
Soldering PCBs	220
Lead-Free Soldering	230

## ONLINE CLASSES FOR EFFECTIVE LEARNING

**Developed with the best subject-matter experts in the world, featuring engaging and interactive multimedia components. Manufacturing training topics cover beginner, intermediate, and advanced levels.**

## VIEW CLASSES BY FUNCTIONAL AREA ONLINE

What's your specialty or area of expertise? Find exactly the classes you're seeking under our functional areas. We've categorized our 600 unique online classes and more than 200 instructor-led training classes by purpose to make it easier to find those that pertain to your specific domain. Tooling U-SME provides a broad yet deep catalog of manufacturing training topics. Plus, every class has been reviewed and validated by subject-matter experts, ensuring that our content is accurate, pertinent, and field-tested.

## DESIGN & ENGINEERING

Design for Manufacturing	►	Supply Chain & Logistics	►
Design for Manufacturing	201	Bill of Materials Overview	110
Design for Cost	210	Introduction to Supply Chain Management	115
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## LEADERSHIP

Supervisor Essentials	►
Essentials of Leadership	100
Managing Performance: Best Practices	130
Managing Performance: Corrective Actions	135
Basics of Manufacturing Costs	140
Introduction to Managerial Accounting	145
Conflict Resolution Principles	150
Conflict Resolution for Different Groups	155
Team Leadership	160
Manufacturing Management	180
Managing the Diverse Workplace	210
Harassment and Discrimination	215
Performance Management and the Law	230

# TRAINING PACKAGES

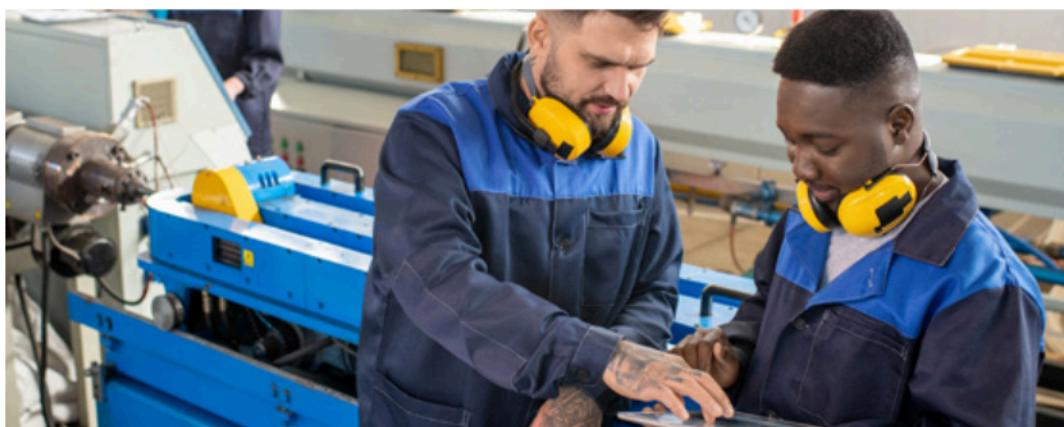
## A quick-start learning plan solution for manufacturing job roles

Training Packages are a series of predefined online curricula for core manufacturing job roles. The packages can be used independently or in combination to create learning roadmaps for everyone from new hires to tenured employees. Most job role packages can be completed in one year, with less than four hours a month spent online.

With our years of experience and input from manufacturing experts, we developed the most effective combination of classes for core manufacturing jobs. Our Training Packages, combined with your on-the-job training, will help you quickly create a learning road map and career paths to help position your workforce and your organization for success.

### Flexible and Convenient

Online classes are self-paced, typically taking 60 minutes to complete. They are easily and conveniently accessible on desktops and laptops, and on tablets and phones with the Tooling U-SME app.



### Training Packages Include:

- Predefined curriculum for each job role
- Engaging, interactive, and self-paced online classes
- Supplemental videos and a reinforcement task for each class
- Pre- or post-training knowledge assessments
- Access to Tooling U-SME's Learning Management System
- All-access Tooling U-SME license
- Designated staff to help with setup, support, and success of your program for the life of your account

### TRAINING PACKAGES AVAILABLE:

- Additive
- Assembly
- Engineering
- Forming, Fabrication, Stamping
- Machining
- Maintenance
- Manufacturing Awareness
- Plastics Processing
- Quality
- Smart Manufacturing
- Welding

# APPLIED LEARNING THROUGH VIRTUAL REALITY

Just as the manufacturing industry is embracing technology to move better and faster into the future, we can optimize training by leveraging technology. Our Virtual Labs provide a structured way to set up and integrate virtual reality into your training program and support the blended learning approach of Learn-Practice-Perform.

## LEARN

Learn new information through standard instruction

## PRACTICE

Practice skills in a safe, virtual environment

## PERFORM

Perform tasks and apply knowledge on the job or in the classroom

## Virtual Labs Benefits:

-  Personalize Learning
-  Boost Retention
-  Accelerate Time to Competency
-  Improve Safety
-  Enhance Engagement
-  Increase Standardization
-  Facilitate Scalability
-  Reduce Costs
-  Raise Productivity



## **Virtual Labs List:**

Fire Safety	Power Tool Safety
Safety Awareness in Manufacturing	Rigging Equipment Safety and Inspection
5S and Hand Tool Identification	Assembly with Mechanical Fasteners
Inspecting Groove Width	Gas Metal Arc Welding (GMAW)
Inspecting Outer Diameters I	Shielded Metal Arc Welding (SMAW)
Inspecting Outer Diameters II	Additive Manufacturing: Vat Photopolymerization Setup
Lockout Tagout Procedures	Additive Manufacturing: Vat Photopolymerization Post Processing
Inspecting Threads Sizes	Additive Manufacturing: Fused Deposition Modeling Setup
Inspecting Inside Diameters	Additive Manufacturing: Fused Deposition Modeling Post Processing
Inspecting Depth	Testing an AC Induction Motor with Multimeter
Safety for Lifting and Moving Devices	Hand Tool Safety
Establishing Datums	Voltage Checks for a Variable Frequency Drive Panel

## **LEARN MORE**

**To learn more about virtual reality manufacturing training benefits, implementation costs, and how to get started, visit [learn.toolingu.com/vrlabs](http://learn.toolingu.com/vrlabs).**



## INSTRUCTOR-LED TRAINING

Instructor-led Training offers personalized and convenient in-person training from instructors with vast experience in manufacturing. Many of our classes incorporate hands-on learning with industrial-level training equipment for a real-world experience. Instructor-led classes effectively complement eLearning to enhance comprehension and retention.

Our instructors bring deep industry knowledge and experience as well as a passion for what they teach. Tooling U-SME instructors provide a dynamic, engaging classroom experience that can be extended into the work environment. Training is highly interactive, hands-on, and personalized to your business needs.

Tooling U-SME offers more than 200 instructor-led classes, and most can be customized for your unique challenges, goals, and processes.

### In-demand classes include:

Train the Trainer: Accelerating Worker Performance

GD&T – Geometric Dimensioning & Tolerancing

Design for Manufacturing and Assembly (DFM/DFA)

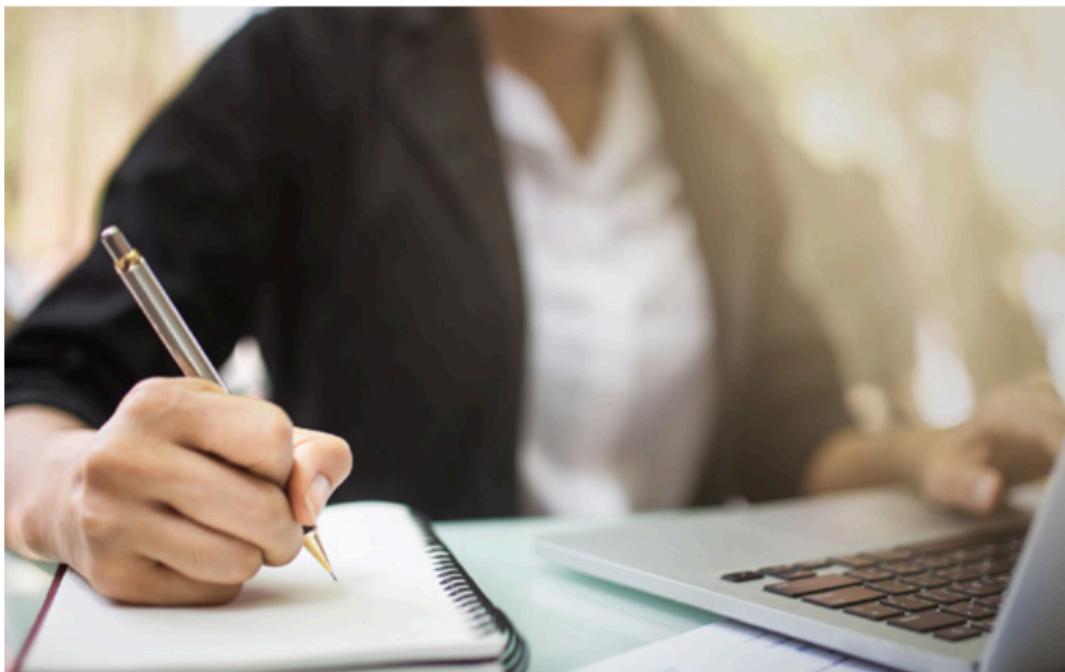
Electrical Safety / Arc Flash

Lean Fundamentals & Certification

Metallurgy Workshop

Heat Treat Workshop

Additive Manufacturing Technologies & Certification



## LEARNING SERVICES

**Tap into the highest level of expertise in workforce development for your training needs.**

Tooling U-SME works on-site with your human resources, management, and front-line team members to develop a business case for a training and development program, produces ways to close the manufacturing talent gap, and builds a training strategy that delivers measurable return on investment (ROI).

### Full-Service Consulting

Whether you're looking for a strong onboarding program, unbiased qualifications, standardized on-the-job training, or an ongoing assessment of workforce capabilities, we help you build an agile, high-performing, and sustainable workforce by applying best practices in developing and qualifying workers through a fair system of measurement and validation.

#### Our capabilities:

Tailored Learning & Development Plans

Job Definitions

Standardized On-the-Job Training

Assessments

Workforce Analysis and Advisory Support



## CUSTOMIZATION

**Build a precise and effective training program tailored to your organization's unique needs.**

Maximize your training investment with content developed just for your organization to meet your business objectives. Our custom classes are designed to focus on your proprietary knowledge and unique equipment, processes, challenges, and needs. Based on your existing materials, or developed from scratch, all custom classes can be offered in addition to the full Tooling U-SME catalog of classes for a robust training experience.



# CERTIFICATIONS

## Knowledge earned and validated

Tooling U-SME offers outcome assessments, certifications, and certificate programs that allow you to benchmark your employees' knowledge against an industry-recognized standard. Programs are developed with experienced industry professionals to test effectiveness and provide the validation you need.

### Lean Certification

This industry-leading program provides educators with a comprehensive and effective roadmap for professional and workforce development that aligns with industry-recognized standards. The program is the result of a partnership among three leading nonprofit organizations — the Association for Manufacturing Excellence (AME), the Shingo Institute, and SME — that work together as the Lean Certification Alliance to set the standard for operational excellence and workforce improvement. Lean Certification not only helps individuals attain the knowledge; it validates it.

- Lean Bronze Certification focuses on the fundamentals of lean from a tactical perspective.
- Lean Silver Certification integrates lean knowledge with leadership experience.
- Lean Gold Certification focuses on the strategic transformation of an entire enterprise.

[Learn more at \*\*sme.org/LEANCert\*\* ►](https://sme.org/LEANCert)

# CERTIFICATIONS (CONTINUED)

## Technical Certification

### Certified Manufacturing Associate (CMfgA)

The CMfgA is focused on basic manufacturing concepts, demonstrating an individual's potential for high-demand, entry-level manufacturing roles. It was designed for individuals new to manufacturing who may not currently possess enough knowledge or experience for more advanced technical certifications.

[Learn more at \*\*sme.org/CMfgA\*\* ►](https://sme.org/CMfgA)

### Certified Manufacturing Technologist (CMfgT)

The CMfgT is an entry-level certification that benefits new manufacturing engineers and experienced manufacturers without other credentials. Pursuing a CMfgT Certification requires a minimum of four years of combined manufacturing-related education and/or work experience.

[Learn more at \*\*sme.org/CMfgT\*\* ►](https://sme.org/CMfgT)

### Certified Manufacturing Engineer (CMfgE)

Professionals seeking CMfgE Certification must have advanced manufacturing engineering experience — a minimum of eight years of combined manufacturing-related education and/or work experience, including a minimum of four years of work experience. A professional who already holds the CMfgT can qualify with a minimum of seven years of combined manufacturing-related work experience or education.

[Details are available at \*\*sme.org/CMfgE\*\* ►](https://sme.org/CMfgE)



## Additive Manufacturing Certifications

Certification in additive manufacturing is offered through a collaborative program between Tooling U-SME and UL. Combining UL's multilayered training program and Tooling U-SME's professional certification provides a single resource from two industry leaders.

[Learn more at \*\*sme.org/AMCert\*\* ►](https://sme.org/AMCert)

### **Certified Additive Manufacturing – Fundamentals (CAMF)**

The CAMF is ideal for individuals who work in or seek to work in additive manufacturing roles in the automotive, aerospace, or medical equipment industries. It is also ideal for high schools and colleges as a capstone or stand-alone achievement to increase workforce readiness in additive manufacturing. The certification demonstrates knowledge of the fundamentals of additive manufacturing, including terms and definitions, software and hardware, and applications.

### **Certified Additive Manufacturing – Technician (CAMT)**

The CAMT is ideal for individuals who hold a two-year associate degree in additive manufacturing or are currently enrolled in a college program, and/or have one or more years of working experience in a manufacturing-related field. The certification demonstrates knowledge of key roles and responsibilities for an additive manufacturing technician, including the additive manufacturing process chain, design for additive manufacturing, materials and process selection, secondary processes, and key safety considerations.

## Robotics Certification

### **Robotics in Manufacturing Fundamentals (RMF)**

The RMF credential is focused on the fundamentals of manufacturing robotics and provides a starting point for career pathways in the field of robotics. The credential can help individuals begin a lifelong career in an industry where there is opportunity for advancement and good-paying jobs. The industry-recognized RMF credential was developed by SME with two leading organizations in the robotics education area: Robotics Education & Competition (REC) Foundation and FIRST®. This credential is ideal for high school and college students, dislocated workers, underemployed individuals, veterans, at-risk youth and others who are seeking new employment in high-demand manufacturing jobs.

[Learn more at \*\*sme.org/RMF\*\* ►](https://sme.org/RMF)

# CERTIFICATIONS (CONTINUED)

## Electric Vehicle Certification

### Electric Vehicle Fundamentals (EVF)

The EVF is designed to validate competency specific to Electric Vehicle production and assembly, as well as in relevant fundamental areas, such as safety, quality, measurement, blueprint reading, and robotics. This knowledge base will prepare new learners for a number of EV positions, including assembly and technician job roles, and will allow those with experience to validate their knowledge for new responsibilities along their EV career path.

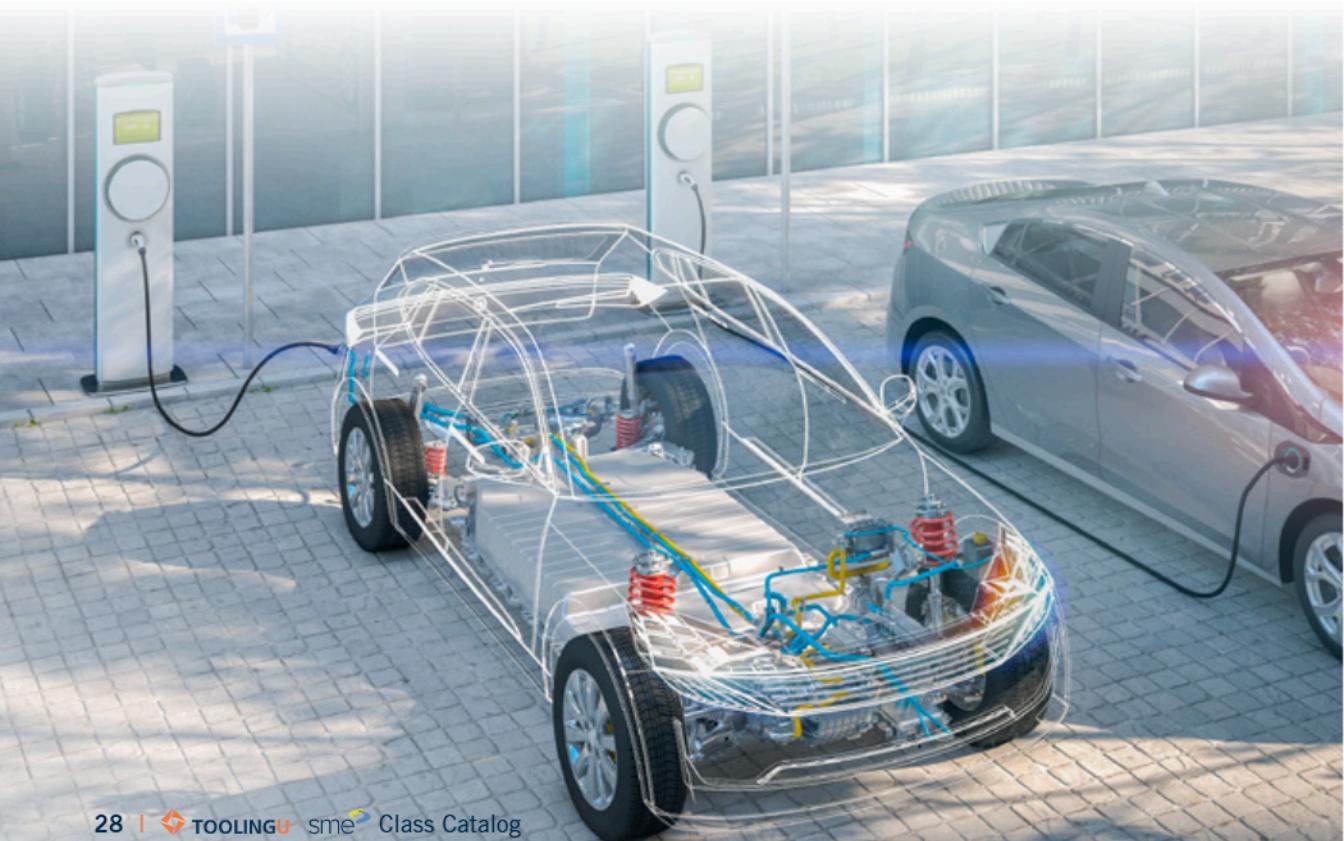
Learn more at [sme.org/EVF](https://sme.org/EVF) ►

## Technical Sales Certification

### Certified Manufacturing Technology Sales Engineer (CMTSE)

The Certified Manufacturing Technology Sales Engineer (CMTSE) program provides national validation and recognition of exceptional business acumen and technical knowledge among sales professionals, as well as the OEMs and distributors who seek to distinguish products and services in a crowded, globally competitive market. CMTSEs meet or exceed the national, industry-recognized standard for consultative selling in the manufacturing technology arena and as such, they are respected as trusted business advisors.

Learn more at [sme.org/cmtse](https://sme.org/cmtse) ►



# SMART MANUFACTURING

Smart Manufacturing is the information-driven, event-driven, efficient, and collaborative orchestration of business with physical and digital processes within plants, factories, and across the entire value chain. The key to successful Smart Manufacturing is creating a systematic plan enabling organizations, people, and technology to work in synergy — via processes and technology-based solutions — to reach this ideal.

The future has arrived, but many manufacturers are still struggling with adoption. This includes preparing workforces for the challenges of data-driven processes.

## Tooling U-SME can help.

Through our partnerships and collaboration with organizations like CESMII – the Smart Manufacturing Institute, the Cybersecurity Manufacturing Innovation Institute (CyManII), and the ARM (Advanced Robotics for Manufacturing) Institute, we are working to help transform the manufacturing ecosystem via:

- Online and in-person Smart Manufacturing training
- Professional certifications and career pathways
- Publications and thought leadership
- Industry events and webinars
- Full-service consultations

Learn more at [toolingu.com](http://toolingu.com) ►

# ASSESSMENTS

## Close the skills gap to stay competitive.

Effective assessment of knowledge is a critical first step in your overall training plan.

At Tooling U-SME, we know exactly what you need. Our assessments allow you to align competencies, curriculum, and the needs of individual workers so they can study their specific courses in a self-paced learning environment. Assessment questions are derived from our extensive course libraries, which are fully mapped to our industry-proven curriculum.

Effective training establishes a baseline of knowledge for each person, compares that baseline to the knowledge and skill requirements of a role, and then applies the exact amount of training to close the gap — ensuring that the knowledge and skills have been retained and applied on the job. The bottom line is that effective assessment of knowledge is a critical step in your overall training plan.

Evaluate manufacturing technology, engineering, lean processes and practices, machining, welding, fabrication, maintenance, assembly, foundational skills, and much more using Tooling U-SME's 50+ pre-developed assessments. Or we'll work with you to develop assessments based on your specific needs.



96%

**of customers who have used  
our online classes find the  
classes to be motivating and  
enjoyable.**

# SUPPORT

## Results-driven support for training success

From day one, your experienced Client Success Manager will support you every step of the way to ensure your training program's effectiveness. Our knowledgeable and experienced team has worked with hundreds of manufacturers, educators, and workforce development organizations. They can provide guidance and best practices for implementation, onboarding, and day-to-day activities to help you deliver best-in-industry instruction.

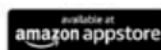


## TOOLING U-SME MOBILE APP

**Take classes on the mobile app for anytime, anywhere training.**

Tooling U-SME classes are available on a free mobile app for Android and Apple mobile devices, including tablets and phones. Access all the features of Tooling U-SME classes, including audio, videos, and interactive elements, plus real-time updates for reporting. It's the same great content available online, in a user-friendly, mobile format that delivers convenient, easily accessible training.

The Tooling U-SME app is available on iTunes, Google Play and Amazon.



# APPRENTICESHIP AND PRE-APPRENTICESHIP PROGRAMS

**Apprenticeship Frameworks pair on-the-job training with RTI, providing guided learning paths for educators and industry.**

A series of predefined curricula for common apprenticeship job functions, our Apprenticeship Frameworks provide related training instruction (RTI) using Tooling U-SME online classes. These frameworks examine the necessary knowledge and skills that support common apprenticeship job functions, and provide a flexible model allowing organizations and educators to offer easily accessible solutions in alignment with business needs.

By pairing Tooling U-SME online classes as RTI with on-the-job training, trainees can complete their apprenticeships at their own pace from anywhere. Our online classes also provide trainees with the education and theory that will help them increase their success.

Our frameworks are aligned with nationally recognized Department of Labor apprenticeship programs. They are easily incorporated and mapped into your existing programs or used as a foundation for a new apprenticeship program.



**98%**

of customers who have used  
our online classes rate the  
classes favorably.

# WHY TOOLING U-SME?

- The leader in manufacturing training solutions
- Proven solutions for all sizes of manufacturers, educational institutions, workforce agencies, and government organizations
- A single partner that can assemble the resources necessary to support your initiatives
- More than 90 years of experience in providing learning services, assessment programs, and credential certifications
- Hundreds of thousands of individuals plus more than 6,000 companies and nearly 1,000 educational institutions throughout the global manufacturing community rely upon Tooling U-SME



## UP-TO-DATE CONTENT

We release new and updated content every month. Plus, we have hundreds of classes available in Spanish and dozens translated into simplified Chinese. To view our most current class listings, visit [toolingu.com/catalog](http://toolingu.com/catalog)



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