



CLASS CATALOG

ONLINE CLASSES
INSTRUCTOR-LED TRAINING
CUSTOMIZATION
CERTIFICATIONS
ASSESSMENTS
VIRTUAL LABS

A large white number '97%' is centered within a circular graphic. The circle is composed of two concentric rings, with the space between them filled with a light blue, glowing effect. The background of the entire page is a dark blue gradient with horizontal light blue streaks at the top.

97%

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

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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 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
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Setup for the Centerless Grinder	Coordinates for the CNC Lathe
Surface Grinder Operation	Coordinates for the CNC Mill
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Grinding Nonferrous Materials	Offsets on the CNC Mill
Grinding Wheel Materials	Creating a CNC Turning Program
Dressing and Truing	Creating a CNC Milling Program
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Grinding Wheel Geometry	Calculations for Programming the Mill
	Canned Cycles for the Lathe
	Canned Cycles for the Mill

COMPREHENSIVE, QUALITY CONTENT

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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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 classes in their jobs.

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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.

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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

Safety Awareness in Manufacturing

5S and Hand Tool Identification

Inspecting Groove Width

Inspecting Outer Diameters I

Inspecting Outer Diameters II

Lockout Tagout Procedures

Inspecting Threads Sizes

Inspecting Inside Diameters

Inspecting Depth

Safety for Lifting and Moving Devices

Establishing Datums

Power Tool Safety

Rigging Equipment Safety and Inspection

Assembly with Mechanical Fasteners

Gas Metal Arc Welding (GMAW)

Shielded Metal Arc Welding (SMAW)

Additive Manufacturing: Vat Photopolymerization Setup

Additive Manufacturing: Vat Photopolymerization Post Processing

Additive Manufacturing: Fused Deposition Modeling Setup

Additive Manufacturing: Fused Deposition Modeling Post Processing

Testing an AC Induction Motor with Multimeter

Hand Tool Safety

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.



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://www.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 multitiered training program and Tooling U-SME's professional certification provides a single resource from two industry leaders.

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



CERTIFICATIONS (CONTINUED)

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.

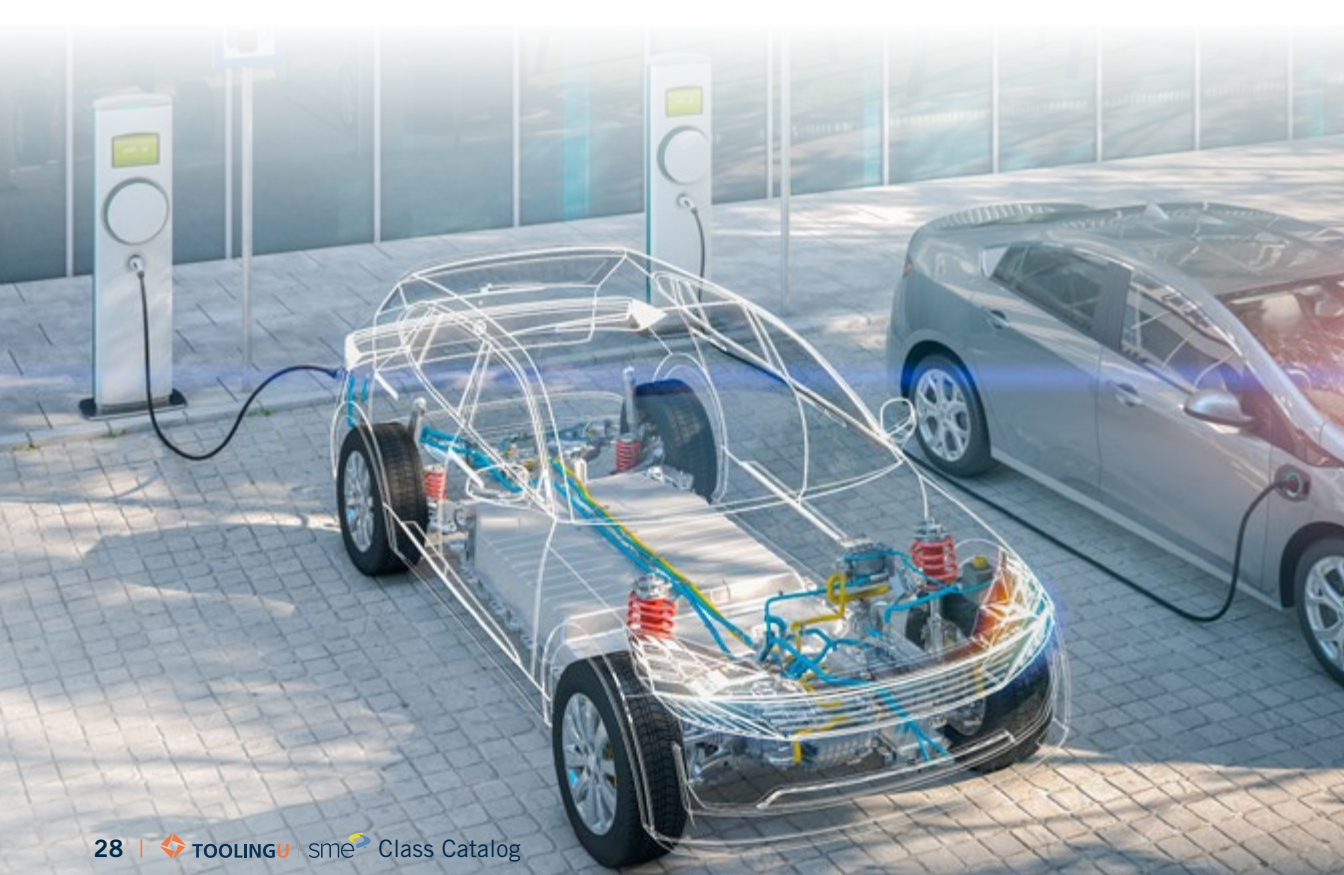
[Learn more at sme.org/RMF](https://sme.org/RMF) ▶

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) ▶



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 ▶

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](https://www.toolingu.com/catalog)



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