Why Tooling U-SME?

More than 50% of Fortune 500® manufacturing companies choose Tooling U-SME. Why? 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 500 classes in multiple functional areas—plus information on instructor-led training, certification programs, assessments, custom content, and books and videos. 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.
## ONLINE & INSTRUCTOR-LED CLASSES

8 Foundational  
Includes: Safety, Applied Mathematics, Materials, Inspection, Lean, Quality

11 Machining  
Includes: Abrasives; CNC: Fanuc, Haas, Mazak, Manual Machining; Metal Cutting; Workholding

13 Maintenance  
Includes: Electrical, Mechanical, Hydraulics & Pneumatics, Rigging, Motor Controls, PLCs, Robotics

15 Welding  
Includes: Welding Basics, Arc Welding, GMAW, SMAW, GTAW

16 Additive Manufacturing  
Includes: Additive Basics, Materials, Design

16 Stamping/Forming/Fabricating  
Includes: Press and Stamping Basics, Operations, Coiling, Guides, Dies

17 Composites Processing  
Includes: Composites Basics, Molding, Inspection

17 Assembly/Final Stage Processes  
Includes: Adhesives, Coatings, Fasteners, Soldering

18 Design & Engineering  
Includes: Blueprint Reading, FMEA, GD&T, Root Cause Analysis

18 Leadership  
Includes: Supervisor Essentials, Communication, Accounting

## TRAINING PRODUCTS & SERVICES

19 Instructor-Led Training

19 Knowledge Edge®

20 Learning Services

21 Customization

22 Certifications

23 Assessments
We are your training partner. With credentials.

Over the last 85 years, we’ve worked with hundreds of thousands of individuals, companies, and educational institutions. Our courses are aligned to national credentials including Lean Certification, Certified Manufacturing Engineer, Certified Manufacturing Technologist, and Certified Additive Manufacturing, plus National Institute for Metalworking Skills (NIMS), Manufacturing Skills Standards Council (MSSC), American Welding Society (AWS), and Siemens Mechatronics certifications. Our courses also may be mapped to individual or state curriculum requirements.

How can we help you?

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 “tribal 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
- Drive compliance
COMPETENCIES

Nine out of 10 manufacturers are struggling to find the skilled workers they need

To address this pressing challenge, Tooling U-SME brought together a cross-section of manufacturing experts to create a new industry resource: a Competency Framework for achieving manufacturing excellence.

The Competency Framework features a comprehensive series of competency models in nine manufacturing functional areas. It is made up of more than 60 job role competency models, which outline knowledge and skill objectives for production, technician, lead technician/technologist, and engineer-level job roles.

The Competency Framework offers advantages that tie directly to business goals:

• Ensures enterprise-wide consistency, making a workforce more flexible and dynamic, and ultimately reducing labor costs
• Streamlines the training process and cuts costs by eliminating unnecessary and redundant training, allowing more training where needed
• Helps managers easily evaluate worker performance levels defined using specific behavioral indicators, reducing subjective assessment and increasing assessment accuracy
• Enhances employee satisfaction based on the rationality of the system
• Explains career pathways and defines what an average performer needs to become a superior performer

Created by a cross-section of manufacturing experts, Tooling U-SME’s Competency Framework is a comprehensive series of competency models in nine manufacturing functional areas.
Designed to complement other competency models in the industry, the Competency Framework can be used “as is” or customized to individual work practices at your facility. Another benefit is that the knowledge objectives within the framework are mapped directly to Tooling U-SME’s extensive training resources. All this helps ensure your employees have the knowledge, skills, and abilities they need to be high performers.
FOUNDATIONAL

Foundational: Instructor-Led Training
Basic Electronics
Blueprint Reading
GD&T
Industrial Safety / Low Voltage Safety
Intro to Composites
Train-the-Trainer: Accelerating Worker Performance
Lean Fundamentals
Lean Kaizen Workshop
Lean Value Stream Mapping
Quality Failure Modes and Effects Analysis (FMEA)
Quality / Statistical Process Control (SPC)
Quality Root Cause Analysis

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Lean: Instructor-Led Training
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Root Cause Analysis

Sample of Knowledge Edge® Content
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Mapping Your Value Stream (video)
Strategic Project Management (eBook)
Managing Teams in Manufacturing (video)
MACHINING

Machining: Instructor-Led Training
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MAINTENANCE

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Programmable Logic Controllers (PLCs)
Robotics

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Successful Composites Technology Transfer: Applying NASA Innovations to Industry (eBook)
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DESIGN & ENGINEERING

Design & Engineering: Instructor-Led Training
- Blueprint Reading
- Design for Manufacturing/Design for Assembly (DFM/DFA)
- Failure Modes and Effects Analysis (FMEA)
- Geometric Dimensioning & Tolerance (GD&T)
- Precision Machine Design
- Root Cause Analysis
- Value Stream Mapping

Sample of Knowledge Edge® Content
- Lean Product Development (video)
- Measurement and Gaging (video)
- Gaging and Inspection Tool Design (video)
- Design for Manufacture and Assembly (DFMA) (video)
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- Strategic Project Management (eBook)
- Walking the Talk: Moving into Leadership (eBook)
- Managing Teams in Manufacturing (eBook)
- From Concept to Customer: Portfolio, Pipeline, and Strategic Project Management (eBook)

Supervisor Essentials: Instructor-Led Training
- Coaching and Mentoring for Front Line Supervisor (FLS)
- Front Line Supervisor (FLS) Leadership Skills
- Train-the-Trainer: Accelerating Worker Performance
INSTRUCTOR-LED TRAINING

Real-World Expertise

Successful manufacturers recognize the value in long-time employees using their expertise to mentor less-experienced team members. From startups that lack institutional knowledge, to thriving businesses that have lost veteran workers to retirement, most companies can benefit from the value-added experience of learning from experts.

Bring the real world to your staff with Tooling U-SME Instructor-Led Training. Work with instructors who are knowledgeable, experienced, and have a passion for teaching others about manufacturing. Our instructors offer a depth of industry knowledge that is matched only by their professional experience and their passion for the subject matter.

Your employees benefit from:

- Engaging with industry experts and practicing professionals
- Learning complex ideas through dynamic exchange
- Experiencing comprehensive coverage combined with hands-on applications
- Combining instructor interaction with other forms of training, such as online
- Enhancing their understanding through peer-to-peer discussions

We have dozens of topics to choose from, including Blueprint Reading, Leadership Skills, Additive Manufacturing, Lean Fundamentals, and many, many more.

KNOWLEDGE EDGE®

The exact information you need, exactly when you need it

Knowledge Edge® is an online service that provides comprehensive, validated manufacturing content in multimedia formats and includes more than:

- 1,200 eBooks and chapters
- 700 training videos and clips
- 16,000 technical papers

With Knowledge Edge®, the best manufacturing content is at your fingertips 24/7. Playlists allow you to compile and build unique reference and learning resources for individuals and groups of learners when and where you need it to maximize the power of your training. Content that is typically used for informal learning is now in your hands as part of your formal learning program.
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, determine gaps in performance, and build a training strategy that delivers measurable Return on Investment (ROI). As your partner, we can design a custom, competency-based training curriculum with blended learning, build career progression models aligned to pay scales, validate competencies with knowledge tests and skills assessments, and ensure performance standards are measurable and trackable. All of this is aligned to your business goals.

No matter where your organization is in its learning and development path, there’s an opportunity to evaluate whether your training is meeting your needs effectively. Whether you need to develop a training program from the bottom up, you need training for a particular piece of equipment or process, or you want to benchmark your existing program, our Learning Services team can analyze your needs and build a custom solution.
CUSTOMIZATION

Forward-thinking organizations invest in custom programs

Precisely and effectively address your company's proprietary needs and reflect your corporate culture with customized content.

Tooling U-SME offers a range of content customization services that can seamlessly integrate your content into a strategic training plan to make sure your people learn what they need for your organization.

Upload Services for Pre-Developed Content

Use our format guide and templates to convert and upload your pre-existing content for web-based delivery. Your online content fits seamlessly into our system.

Complete Content Services from our Design Staff

Gain access to our own content development resources to transform your expertise into web-based training of the highest quality. Deliver your training to your people, anywhere in the world.
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.

Review Programs

Our online review programs provide a comprehensive review of key concepts for the Certified Manufacturing Technologist (CMfgT) and the Lean Bronze Certifications. Each one provides vocabulary and definitions, interactive exercises, pre- and post-course tests, and a downloadable PDF of each course.

Certifications

Lean Certification

This industry-leading program provides individuals, companies, and 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 leading non-profit 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. Find out more at sme.org/leancert.

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 combined manufacturing-related education and/or work experience. Learn more at sme.org/CMfgT.

Certified Manufacturing Engineer (CMfgE)

Professionals seeking a CMfgE Certification have advanced manufacturing engineering experience, with 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 seeking a CMfgE can qualify with a minimum of eight years of combined manufacturing-related work experience or education. Details available at sme.org/CMfgE.

Certified Additive Manufacturing

The Certified Additive Manufacturing Fundamentals is the first and only certification validating an individual’s knowledge of industry-standard concepts in additive manufacturing, aligning to the updated Body of Knowledge. The additive manufacturing industry is expected to increase exponentially and the certification prepares individuals for success in this rapidly growing field. Learn more at sme.org/additivemfg.

Certified Additive Manufacturing

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 combined manufacturing-related education and/or work experience. Learn more at sme.org/CMfgT.

Lean Certification is pursued at the level most appropriate to your participant’s career, knowledge, and experience.

- 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.
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.

Assess 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.

For more information, visit:
toolingu.com/training/assessments
WHY TOOLING U-SME?

- The leader in manufacturing training solutions
- Proven solutions for corporate, education, and government organizations
- A single partner who can assemble the resources necessary to support your initiatives
- More than 85 years of experience in providing learning services, assessment programs, and credential certifications
- Hundreds of thousands of individuals, and over 5,000 companies and 550 educational institutions throughout the global manufacturing community rely upon Tooling U-SME

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