



CLASS CATALOG

ONLINE CLASSES | INSTRUCTOR-LED TRAINING
LEARNING SERVICES | CERTIFICATIONS



WHY DO MORE THAN 50% OF FORTUNE 500® MANUFACTURING COMPANIES CHOOSE TOOLING U-SME?

Here's why: We provide competency-based learning solutions focused on your performance outcomes. This catalog provides you with a detailed list of all our course offerings – online, instructor-led training, certification programs, books, and videos. But we do so much more. We'll analyze your needs, assess your current knowledge, and develop a program that fills the gaps. Then, we'll help you launch, track, and measure the results.

We are your training partner. With credentials.

Over the last 80 years, we've worked with hundreds of thousands of individuals, over 5,000 companies, and over 550 educational institutions. Our courses are aligned to national credentials including Lean Certification, Certified Manufacturing Engineer, and Certified Manufacturing Technologist, National Institute for Metalworking Skills (NIMS), Manufacturing Skills Standards Council (MSSC), American Welding Society (AWS), and Siemens Mechatronics certifications. Our courses can also be mapped to individual or state curriculum requirements.

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
- ◆ Reduce risk and exposure
- ◆ Improve safety
- ◆ Drive compliance

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 866.706.8665.

COMPETENCIES

NINE OUT OF TEN 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. For example, our Competency Framework:

- ◆ 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, which reduces subjective assessment and increases 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.

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.



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.

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■ CLASS 2.0

■ AVAILABLE IN SIMPLIFIED CHINESE

■ INSTRUCTOR-LED TRAINING

All classes available in Spanish except CLASS 2.0 courses

All classes ONLINE except where noted

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Sample of Knowledge Edge® content

- What Lean Means (video)
- Kaizen Event Fieldbook (eBook)
- Mapping Your Value Stream (video)
- Strategic Project Management (eBook)
- Managing Teams in Manufacturing (video)

Assessments

- Manufacturing Survey

■ CLASS 2.0

■ AVAILABLE IN SIMPLIFIED CHINESE

■ INSTRUCTOR-LED TRAINING

All classes available in Spanish except CLASS 2.0 courses

All classes ONLINE except where noted

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Sample of Knowledge Edge® content

High-Speed Machining (eBook)
Cutting Tool Geometries (video)
Milling and Machining Centers (video)
Parametric Programming for Computer Numerical
Control Machine Tools and Touch Probes (eBook)
Precision Machine Design (eBook)

Assessments

CNC Operator: Lathe
CNC Operator: Mill
CNC Programmer
Machinist/Machine Setter
Machinist: Tool Room
Production Grinder

 AVAILABLE IN SIMPLIFIED CHINESE

 INSTRUCTOR-LED TRAINING

All classes available in Spanish except CLASS 2.0 courses

All classes ONLINE except where noted

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Sample of Knowledge Edge® content

Die Maintenance Handbook (eBook)
TPM: Total Productive Maintenance
Industrial Robotics (video)
Autonomous Activities (video)
Die Maintenance Handbook (eBook)

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Sample of Knowledge Edge® content

- Chapter 13: Welding Process (eChapter)
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- Chapter 26: Welding/Joining (eChapter)
- Chapter 10: Estimating Welding Costs (eChapter)
- Welding Introduction

Assessments

- Arc Welder

AVAILABLE IN SIMPLIFIED CHINESE

All classes available in Spanish except CLASS 2.0 courses
All classes ONLINE except where noted



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Sample of Knowledge Edge® content

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Sample of Knowledge Edge® content

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Punch Presses (video)
Quick Die Change (eBook)
Laser Cutting Guide for Manufacturing (eBook)
New Technologies in Forming and Fabricating
(tech paper)

Assessments

Press Brake Operator
Press Operator

■ INSTRUCTOR-LED TRAINING

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Introduction to Composites ▾
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Sample of Knowledge Edge® content

Introduction to Composites Technology (eBook)
Automated Composite Layup and Spray Up (video)
Filament Winding (video)
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Sample of Knowledge Edge® content

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Design & Engineering

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Design for Manufacturability and Assembly (DFM/DFA) ▾
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Measurement Inspection and Gaging Level 2 ▾
Precision Machine Design ▾
Practical Applications of Machine Tool Metrology ▾
Lean Product Development ▾
Tolerance Stack-Up Analysis ▾

Sample of Knowledge Edge® content

Lean Product Development (video)
Measurement and Gaging (video)
Gaging and Inspection Tool Design (video)
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Industrial Engineering Fundamentals ▾
Manufacturing Technology Fundamentals ▾
Strategic Project Management ▾
Project Risk Management ▾
Rapid and Accurate Cost Estimating and Quoting ▾
Walking the Talk Certificate Series ▾

Sample of Knowledge Edge® content

Strategic Project Management (eBook)
Realistic Cost Estimating for Manufacturing, Third Edition (eBook)
Walking the Talk: Moving into Leadership (eBook)
Managing Teams in Manufacturing (eBook)
From Concept to Customer: Portfolio, Pipeline, and Strategic Project Management (eBook)

Assessments

Industrial Sales
Quality/Lean Manager

▾ INSTRUCTOR-LED TRAINING

All classes available in Spanish except CLASS 2.0 courses
All classes ONLINE except where noted

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 multi-media formats and includes over:

- ◆ 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

WORK WITH EXPERT ADVISORS

Many organizations seeking an advanced-level partnership engage with us for learning and development programs or projects.

Tooling U-SME has expertise in organizational development, instructional design, and manufacturing training program management. We work on-site with a company's human resources, management, and front-line team members in a variety of capacities.

WORKFORCE PERFORMANCE ASSESSMENT

Gauge the organization's status and ability to meet the challenges of maintaining a skilled workforce.

DESIGN AND BUILD COMPETENCIES

Systematically define training development competencies, knowledge, and skills to precisely align programs for performance results.

CUSTOM CONTENT DESIGN

Develop and create proprietary content for your organization, including online classes, OJT, instructor-led training, and work instructions.

STANDARDIZING OJT PROGRAMS

Boost training effectiveness by enhancing the internal training team's skills and knowledge.

JOB QUALIFICATION STANDARDS

Establish requirements necessary to assure work is performed accurately and safely.

CONSULTING

Seasoned experts are ready to take on the most challenging issues and/or single projects.



CUSTOMIZATION

FORWARD-THINKING ORGANIZATIONS INVEST IN CUSTOM PROGRAMS

This enables a company to precisely and effectively address their proprietary needs, as well as reflect their corporate culture.

Tooling U-SME Learning Services brings a seasoned team of manufacturing, organizational development, and educational design experts to custom program challenges. An immersive, comprehensive approach assures training programs that directly link goals to results. Learning Services will:

- ◆ Perform job analysis
- ◆ Work with the company's subject matter experts
- ◆ Establish performance goals
- ◆ Codify competencies
- ◆ Align learning plans
- ◆ Measure impact

Drawing on decades of experience in manufacturing, we can help create every element of a training program – from online courses to videos, and white papers to instructor-led classes. Tooling U-SME has:

- ◆ A team of educational specialists to develop curriculum
- ◆ A library of 20,000 training modules, videos, online lessons, and other resources, ready to be used or customized
- ◆ Connections with community colleges for training partnerships

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 the 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 four leading non-profit organizations — the American Society for Quality (ASQ), 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.

Lean Certification is pursued at the level most appropriate to your participants' 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.

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 CMfgT can qualify with a minimum of seven 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.

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.

Assess manufacturing technology, engineering, lean processes and practices, machining, welding, fabrication, maintenance, assembly, foundational skills, and much more using Tooling U-SME's 30+ pre-developed assessments, or we'll work with you to develop assessments based on your specific needs.



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 80 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

