NC STATE UNIVERSITY
Industry Extension Services

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Core Quality Tools

Our Core Quality Tools training courses provide comprehensive instruction on essential quality management methodologies, including FMEA, Problem-Solving and Root Cause Analysis, MSA, SPC, APQP, PPAP and Control Plans. Participants gain practical skills to prevent defects, improve processes, ensure product quality and support compliance with industry standards.

Visit **ncstateies.com/qms** to learn more.

Failure Mode and Effect Analysis (FMEA)

Failure Mode and Effects Analysis (FMEA) is a systematic, step-by-step approach used to identify potential failures, faults and variations in a product, design, or process before they occur. This method is a critical preventive tool for enhancing design and process reliability in occupational health and safety, manufacturing and quality management.

Problem-Solving & Root Cause Analysis

Root Cause Analysis (RCA) is a systematic approach used to diagnose underlying causes of faults, variations and recurring problems within an organization. This course equips participants with practical problem-solving skills to identify, analyze and resolve issues at their source—ensuring long-lasting solutions and improved operational performance.

Measurement Systems Analysis (MSA)

Measurement System Analysis (MSA) is a critical first step before implementing Statistical Process Control (SPC), capability studies, or process improvement initiatives. A reliable measurement system is essential for ensuring accurate, data-driven decisions in manufacturing and quality control.

We Can Help.

- Advanced Manufacturing & Technology Deployment
- Business Growth, Innovation & Marketing
- Business & Operational Assessments
- Cybersecurity Strategies
- Defense Industry Initiatives
- Environment, Energy & Sustainability Services
- Evaluation Services & Resource Development
- Industrial & Systems Engineering
- Instructional Design
- Leadership & Organizational Development
- Management Systems & Quality
- Process Optimization & LEAN
- Project Management
- Southeastern OSHA Training Institute Education Center
- Supply Chain & Supplier Matching
- Workplace Health & Safety

Statistical Process Control (SPC)

This one-day hands-on workshop is designed to develop your understanding of key Statistical Process Control (SPC) methodologies within a Quality Management System (QMS). Through group activities and individual participation, you will gain practical experience in selecting, applying and interpreting SPC tools to drive data-driven decision-making and process improvements.

Advanced Product Quality Planning (APQP)

Advanced Product Quality Planning (APQP) course provides a structured approach to product and process quality planning to ensure customer satisfaction with new products, process changes and supplier collaboration. With increasingly complex products and supply chains, failures can occur at multiple stages—APQP helps mitigate these risks by providing a standardized framework for communication between customers and suppliers.

Product Part Approval Process (PPAP)

The Product Part Approval Process (PPAP) course is designed to help organizations establish confidence in their suppliers and production processes by effectively implementing the Production Part Approval Process (PPAP). PPAP defines the approval process for new or revised parts, ensuring that products meet customer expectations and industry requirements.

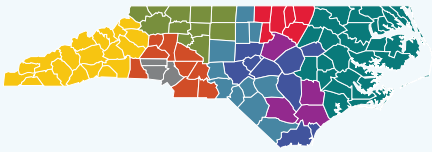
Control Plans

This one-day course is designed to provide participants with a structured approach to defining the measurements, inspections, quality checks and process monitoring required at each phase of a process to ensure that outputs consistently meet predetermined requirements.

Connect with your Regional Manager to begin the conversation. ncstateies.com/RM

Connect With Your Regional Manager

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We Can Help. **919.515.2358 | iesservices@ncsu.edu**

NC State University Industry Extension Services, established in 1955 as the outreach team for the NC State University College of Engineering, provides resources, tools and customized training programs to help businesses survive, thrive and grow.

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