



# QUALITY AND LEAN MANAGEMENT PROCESSES

at Macomb Community College

## THE QUALITY AND LEAN MANAGEMENT PROCESSES PROGRAM

is designed to provide skills in problem solving, quality improvement, waste reduction, and other areas that assist employers in implementing process improvements in their organization.

Students will obtain the skills needed to strengthen their technical knowledge base and gain a competitive edge to assist employers at every organizational level.

### BLUEPRINT READING AND GD&T

This course covers the basic terms of interpreting blueprint drawings and the fundamentals of Geometric Dimensioning and Tolerancing. Students will be able to understand the six primary views of an object, and understand all symbol notes, dimensions, and tolerances used with GD&T concepts.

### LEAN PRODUCT FLOW

This course explains just-in-time manufacturing methods and the basics of lean manufacturing. Using these methods allows for synchronized product flow with little waste to meet your customers' needs for quality, cost, and delivery objectives.

### SPC (STATISTICAL PROCESS CONTROL)

Learn the fundamentals of the planning, collection, and analysis of product and process data using variable control charts (Xbar & R) and process capability (Cpk.Ppk) calculations. Participants should be quality personnel or others responsible for the identification and implementation of product and process control.

### PPAP (PRODUCTION PART APPROVAL PROCESS)

Learn the PPAP process and how to apply the voice of the customer (needs/wants/expectations). This course will give the participant a general understanding of the Production Part Approval Process with emphasis on customer satisfaction. This course is designed to show the participant how to build a PPAP and submit it to the customer based on facts and data.

### CREATING A QUALITY CULTURE IN THE WORKPLACE

Stop the cycle of "un-quality" in your organization and create a culture of behavioral change to quality in all associates. This program explains to the team why there is a need to change, and how they can approach work in a different manner. Develop a common vocabulary for communication within your organization, develop a zero-defect mentality, acquire a systems thinking integration to your organization (all work is a process), and understand the validation of this achievement.

### LEAN FOR MANAGERS

A comprehensive study of the Standard Production System and the identification of non-value-added manufacturing practices and the techniques used to eliminate them. Emphasis will be on BOOT CAMP and LEAN Manufacturing Principles/Production System. This course will provide a roadmap to a successful, systematic, operational LEAN product system, leading to world-class manufacturing. Become "first, focused, and fast," identifying waste daily, and eliminating waste immediately.

### AS9100C:2009 MANAGEMENT OVERVIEW

This 4-hour course is intended for top and middle management personnel who will be making the initial decision and supporting the implementation of AS9100:2009. This course is also useful for anyone who wants to gain a general understanding of the standard and its basic requirements.

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### LEAN TOTAL PRODUCTIVE MAINTENANCE

This course explains how the physical factory must be maintained to support MEAN production product flow. Asset management yields big dividends in capital-intensive operations. Features include TPM losses, problem solving, 5-S, and preventive maintenance. It also includes how to apply LEAN methods to administrative processes.

### FMEA (FAILURE MODE AND EFFECTS ANALYSIS)

Focus on how FMEAs should be used during product and process development to identify function, potential failure of that function, effect of that failure, current controls to prevent failure, and prioritization of recommended actions. Participants should be product and process designers, engineers, and others who will support the process, such as quality and management personnel.

### ISO/TS 16949:2009 INTERNAL AUDITOR

For those personnel who have been identified as internal auditors for their company's ISO/TS 16949:2009 Quality Management System. Participants will learn how to understand and execute an effective internal audit process in accordance with the TS 16949. You will learn the process from quote, PPAP, prototype, production and shipping. Discover techniques and roles of the internal auditor and the auditee; how to assemble the audit team; schedule; and to prepare, conduct, manage and document the audit and findings of all nonconformities.

### PROBLEM SOLVING

This hands-on course describes the tools, methods, and practices needed to permanently eliminate chronic and/or difficult-to-resolve problems. Students will use the techniques provided to investigate and propose solutions for actual problems selected by the organization, or communicated through their customers. Team problem-solving concepts used will be emphasized.

### VALUE STREAM MAPPING

It is important that the resources in your organization develop the ability to "see the waste" in your key processes. This course allows the participants to evaluate which activities add value for the customers, identify waste and opportunities for improvement, engage key resources to mobilize for improvement activities, and measure accomplishments and standardize improved methods.

### COST OF QUALITY

Review the Quality Cost Model that includes prevention costs, appraisal costs, internal failure costs, and external failure costs. Recommended for anyone who will identify and assess cost of quality metrics, such as quality and management personnel.

### 5-S WORKSHOP

Understand the basics of the 5-S Methodology: Sorting, Simplifying, Systematic Cleaning, Standardizing, and Sustaining. Review examples of case study information for each of the 5-Ss.

### APQP (ADVANCED PRODUCT QUALITY PLANNING)

Focus on the implementation and execution of APQP processes. APQP or Advanced Product Quality Planning is a structured method of defining and establishing the steps necessary to ensure that a product satisfies the customer. Effective product quality planning is based on top management's commitment to the effort required in meeting customer specifications.



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# WORKFORCE & CONTINUING EDUCATION

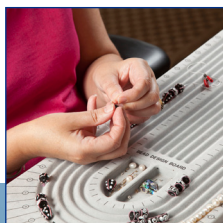
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## For More Information

For more information, contact the Program Coordinator at 586.498.4100 or [corbettv@macomb.edu](mailto:corbettv@macomb.edu).

Check out the current Continuing Education schedule of classes at: [www.macomb.edu/continuinged](http://www.macomb.edu/continuinged)

For general information about Macomb Community College, call 866.Macomb1 (866.622.6621) or [answer@macomb.edu](mailto:answer@macomb.edu).



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