



South Central

Course Catalog

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Lean Operations Solutions

Principles of Lean Manufacturing – 4 hr

Principles of Lean Manufacturing is an overview class that provides a solid foundation of lean concepts. Participants begin by manufacturing various assemblies in a traditional manufacturing setting. The results of the first simulation round provide the setting for continuous improvement by applying the lean manufacturing principles. Participants will have the knowledge of understanding the 8 wastes in manufacturing. A mixture of lecture and hands-on simulations will teach lessons in standardized work, workplace organization, visual controls, set-up reduction, batch size reduction, point of use storage, quality at the source, workforce practices, and pull systems. Each is designed to eliminate waste in the manufacturing processes.

Value-Stream Management & Mapping - 4 hr, 24 hr

Value Stream Management is a method of planning and managing the transformation process. It introduces the use of successful lean tools for selecting product families, mapping the value streams of selected families (both the current and future state), and creating a plan and management system to transform the value stream to achieve customer expectations. The final outcome of Value Stream Management is the creation of a complete, visual plan for lean transformations. This is available in training workshop or on-site implementation. During the 24 hour, hands-on lab, team members will be selected to create a current and future state value stream map of a real world process within a host organization

5S: Workplace Organization – 4 hr, 40 hr

The 5S methodology is the cornerstone of creating discipline in the workplace and forms the foundation for all workplace improvements. Specific step-by-step instructions on each of the five S's (Sort, Set in Order, Shine, Standardize, and Sustain) will be explained, along with many practical examples. This course is particularly valuable for operators in manufacturing environments, pilot teams and implementers of Lean Production, Lean Office, and Asset Management. During this 40 hour, hands-on lab, team members will apply the 5S methodology to a specific process or department within a host organization.

Total Productive Maintenance – 4 hr, 40 hr

TPM is a method to proactively maintain machines and equipment at their peak productivity to increase return on capital assets. Learn how the 8 Pillars of TPM increases overall equipment effectiveness and helps avoid interruptions to production to achieve reduced batch sizes and increased equipment performance. Attendees learn how to analyze the causes of machine downtime to significantly improve uptime and reliability. During this 40 hour, hands-on lab, team members will apply the TPM methodology to a specific process or department within a host organization.

Set-up Reduction/Quick Changeover – 4 hr, 40 hr

This course teaches the fundamental principles of set-up reduction. The instructor will clearly define set-up and discuss reasons and barriers to reducing set-up time. Participants learn the standard methodology in applying Single Minute Exchange of Dies (SMED) to any type of set-up or industry by participating in a hands-on simulation. During this 40 hour, hands-on lab, team members will apply the fundamental principles of set-up reduction to a specific process within a host organization.

Standard Work & Cellular/Flow Manufacturing –4 hr, 40 hr

This hands-on course teaches how to link and balance manufacturing operations to reduce lead times, minimize work in process, optimize floor space usage, and improve productivity. The instructor will lead the class through the 5-step process for designing and implementing work cells. This process applies to both assembly and fabrication applications. During this 40 hour, hands-on lab, team members will apply cellular manufacturing concepts to a specific process or department within a host organization.

Pull/Kanban Systems – 4 hr

Students will learn how to control shop floor inventory and production schedules by implementing pull systems. This course teaches how to design and implement a visually driven, employee-controlled material replenishment system. Participants also learn how to implement repetitive and non-repetitive pull systems, to set up point-of-use material storage, to interface with planning systems, and to balance lot sizes with capacity, not economic order quantity. Available as an implementation project or training workshop.

Lean Certification Series – 40 hr

This unique program provides companies the opportunity to provide their employees with a strong foundation in the Lean concepts and tools that are used to drive continuous improvement and achieve world-class business performance. The certification consists of nine "Lean Tools" that can be applied in any business environment: 1) Lean 101, 2) Value Stream Management, 3) Kaizen Events, 4) 5S: Workplace Organization, 5) Cellular Manufacturing, 6) Standard Work, 7) Pull/Kanban Systems, 8) Total Productive Maintenance and 9) Setup Reduction.

Manufacturing Supervisor Certification Series – 40 hr

The Supervisor Certification curriculum targets firstline supervisors at manufacturing facilities with a comprehensive overview of supervisory principles. With a strong emphasis on continuous improvement, job instruction, employee relations, problem solving, and effective communication, the course teaches students the interpersonal strategies to become a productive and respected supervisor.

TWI—Job Instruction for Standardized Work – 10 hr

The objective of Training Within Industry Job Instruction is to help supervisors develop a well-trained workforce resulting in less scrap and rework, fewer accidents, and less tool and equipment damage. Supervisors are taught how to effectively break down a job for instruction. The method emphasizes preparing the operator to learn, giving a proper demonstration, identifying the key points in the job, observing the operator perform trial runs, and tapering off coaching while continuing to follow-up. This course is taught 2 hours per day for 5 consecutive days.

TWI—Job Methods Improvement – 10 hr

The aim of the Training Within Industry Job Methods Training program is to help produce greater quantities of quality products in less time by making the best use of the people, machines, and materials now available. Supervisors are taught how to break down jobs into their constituent operations. They question details and develop new methods by eliminating, combining, and rearranging these details. This course is taught 2 hours per day for 5 consecutive days.

TWI—Job Relations – 10 hr

Training Within Industry Job Relations is specifically designed to help the first level supervisor with his/her responsibility for leading people by effectively and positively dealing with relationship problems between him/her and the employee, and preventing these problems from developing in the first place by maintaining positive employee relationships. This course is taught 2 hours per day for 5 consecutive days.

Lean Office – 6 hr

Lean Office is a highly interactive overview session that provides a foundation for more advanced or specialized classes in the disciplines of Lean. It is based on the Toyota Production System and is specifically tailored for the administrative office environment. Throughout this session, participants will be challenged to "think lean" and use tools applicable to the office and service side of the business. This mixture of lecture and hands-on work will teach the fundamentals of workplace organization through 5S, waste elimination, value stream mapping, point of use storage, quality at the source, and more.

Lean Six Sigma Green Belt - 80 hr & Black Belt - 160 hr

Time and quality are the two most important measures in improving any company's production and profit performance. Lean Six Sigma explains how to impact your company's performance in each, by combining the strength of today's two most important initiatives -- Lean Production and Six Sigma -- into one integrated program. You'll learn how to determine which projects will have the biggest and quickest impact on you strategic and financial priorities. You'll learn the secret to eliminating the time traps that add delays and hinder speed in both service and manufacturing processes. Lean Six Sigma can show you how to permanently eliminate sources of unnecessary cost while reaching Six Sigma levels of quality, and dramatically improving shareholder value. Green Belt training is a two-week course in which attendees learn basic problem-solving tools. Black Belt training is a more rigorous four-week course covering both basic and advanced tools. The courses use materials developed and offered in partnership with George Group.

Introduction to Basic Six Sigma Problem Solving Tools –8 hr

This class covers the basic concepts of Six Sigma, including data analysis, types of variation, common and special causes, the roles of Six Sigma team members, and the DMAIC method. Common tools, such as the fishbone diagram, the Pareto chart, and brainstorming, used to solve problems are explained. A hands-on catapult exercise is used throughout the course to teach the concepts of several basic Six Sigma tools.

Toyota Production System – 16 hr

This two-day hands-on workshop is designed for individuals and teams that want to gain a better understanding of the components and underlying philosophy of the Toyota Production System (TPS). The workshop is a mixture of lectures, videos, discussions, and simulations.

Managing by A3 – 4 hr

A3 is the management process at the heart of lean leadership. A3 Thinking helps managers and executives identify, frame and act on problems and challenges facing their organizations. The A3 report is known by many as “the key to Toyota’s entire system of developing talent and continually deepening its knowledge and capabilities.” The A3 Report is a Toyota-pioneered practice of grasping the problem, performing the analysis, identifying corrective action, and the creating and management of the action plan – all on a single sheet of large (A3) paper, often with the use of graphs and other visuals. This half day workshop introduces the 9 step process of A3 Management by using numerous examples, hands-on exercises, and real-world application.

Quality Systems Solutions

Internal Auditor Workshop – 16 hr

This course teaches the staff of your organization to serve as an objective and impartial internal audit team for your quality management system. This will support your quality management efforts, its ongoing commitment to continual improvements, and the maintenance of its certified registration. The training includes a thorough review of the specific standard to be audited (ISO9001:2015, ISO13485:2016, IATF16949:2016, AS9100D, ISO14001:2015) and training and coaching on internal auditing techniques and documentation. On site classes can be facilitated using your companies QMS documentation for training rather than sample case studies used in Open Enrollment classes.

Effective Corrective Action – 4 hr

Develop solutions that stick. It is an all too common practice to keep fixing the same things over and over. As a result, operators become experts at fixing rather than preventing the problems and identifying opportunities for continual improvement activities. This four-hour interactive course presents the tools and techniques used to assure identification of the root cause of problems and the implementation of effective and lasting solutions. This course outlines the Corrective Action Process and provides the background and tools necessary to complete an effective root cause analysis as well as defect prevention methods preparing participants to be effective members of problem solving and corrective action teams.

Failure Mode and Effects (FMEA) – 4 hr, 8 hr

Failure Mode and Effects (FMEA) is a powerful tool for analyzing products and process to identify and mitigate risk. This workshop uses a combination of lecture and practical application to build proficiency in the use of the FMEA tool. The 4-hour version provides a basic overview of FMEA and is appropriate for individuals that are expected to contribute as FMEA team members. The 8-hour version provides extended practice and is intended for those that are expected to lead FMEA teams.

ISO9001 Leadership Orientation and Risk Assessment – 4 hr

Understanding the context of the organization and ensuring your processes are aligned to mitigate risks and capture opportunities is a requirement in ISO 9001:2015 which underlies many of the latest versions of common standards. An organization must consider both the internal and external issues that can impact its strategic objectives and the planning of the QMS. This can include the company's culture, objectives and goals, complexity of products, flow of processes and information, size of the organization, markets, customers, etc. It also requires that parties with an interest in those risks and opportunities be identified and understood. With this, the extent of leaderships commitment and accountability to the QMS has also been expanded. TMAC can support the orientation of an organizations leadership to their accountabilities within the QMS and facilitate a risk assessment exercise to align with the QMS requirements.

Strategic Solutions

Strategic Planning – 8 hr

This day-long workshop will utilize a hands-on case study to enable participants to lead an organization in establishing a strategic plan. The strategic planning process can be applied to annual or multi-year plans. This includes: articulating competitive advantage, developing Mission, Vision and Values; assessing the environment, determining strategic issues; establishing objectives, aligning strategies; setting balanced goals and realistic measures; cascading the plan through the organization and establishing periodic reviews and accountability. Participants will receive templates, samples and tools for use after the workshop.