



South Central

Course Catalog

Contents

Lean Operations Solutions	1
Principles of Lean Manufacturing – 4 hr	1
Value-Stream Management & Mapping - 4 hr, 24 hr	1
5S (Workplace Organization) – 4 hr, 40 hr	1
Total Productive Maintenance – 4 hr, TPM Lab 40 hr	2
Set-up Reduction/Quick Changeover – 4 hr, 40 hr	2
Standard Work & Cellular/Flow Manufacturing –4 hr, 40 hr	2
Pull/Kanban Systems – 4 hr	2
Lean Certification Series – 40 hr	2
TWI—Job Instruction for Standardized Work – 10 hr	3
TWI—Job Methods Improvement – 10 hr	3
TWI—Job Relations – 10 hr	3
Lean Office – 8 hr	3
Lean Six Sigma Green Belt - 80 hr & Black Belt - 160 hr	4
Introduction to Basic Six Sigma Problem Solving Tools –8 hr	4
Toyota Production System – 16 hr	4
8D Problem Solving – 4 hr	4
Managing by A3 – 4 hr	4
Quality Systems Solutions	5
Internal Auditor Workshop – 16 hr	5
Effective Corrective Action – 4 hr	5
Failure Mode and Effects (FMEA) – 4, 8 or 12 hr	5
ISO 9001/AS9100 Management Overview – 4 hr	5
ISO 9001/AS9100 Quality Policy Manual, Procedures and Work Instructions – 30-60 hrs	5
ISO 9001/AS 9100 Internal Auditor – 24 hr	6
ISO 9001/AS 9100 Flow Charting/Process Identification and Interaction – 24 hr	6
ISO 9001/AS 9100 Documentation – 24 hr	6
ISO 9001/AS 9100 Corrective and Preventive Action – 24 hr	6
Strategic Solutions	7
Strategic Planning – 8 hr	7
Energy and Sustainable Business Solutions	7
E3: Energy, Economy and Environment – 24 hr	7

Lean Operations Solutions

Principles of Lean Manufacturing – 4 hr

Principles of Lean Manufacturing (with live simulation) 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. Available as a training workshop.

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. This lab will focus on the application of the Value Stream Mapping tool learned during the 4 hr training module. 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, 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.

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. Using a hands-on simulation, the attendees practice implementing the 5S principles and realize the benefits. 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. The 5S methodology is the cornerstone of creating discipline in the workplace and forms the foundation for all workplace improvements. It is particularly valuable for operators in manufacturing environments, pilot teams and implementers of Lean Production, Lean Office, and Asset Management.

Total Productive Maintenance – 4 hr, TPM Lab 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.

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. The team 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.

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. These concepts help to link and balance manufacturing operations to reduce lead times, minimize work in process, optimize floor space usage, and improve productivity.

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.

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 – 8 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. Available as training workshops.

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.

8D Problem Solving – 4 hr

Eight Disciplines Problem Solving (8D) is a method used to approach and to resolve problems, typically employed by quality engineers or other professionals. This method, pioneered by the Ford Motor Company and used throughout the supply chain of many larger enterprises, uses an 8 step process to identify problems and develop effective solutions and countermeasures. This half day workshop uses examples and exercises to illustrate the 8D problem solving method.

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 you how to audit effectively while trouble shooting your organization for QMS Standard compliance. ISO 10011 (audit practices) is covered in detail, including planning, execution, reporting and follow-up. Those interested in managing, conducting, or participating in internal audits should take this course. It will also assist individuals wishing to become ISO registered by identifying those areas an external auditor will assess.

Effective Corrective Action – 4 hr

Develop solutions that stick. 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. Tools practiced include problem statement definition, the five whys, cause-and-effect analysis, and others. This course will help prepare participants to be effective members of problem solving and corrective action teams.

Failure Mode and Effects (FMEA) – 4, 8 or 12 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 those that need to be familiar with the process, but not necessarily participate on FMEA teams. The 8-hour version is more detailed and intended for individuals that are expected to contribute as FMEA team members. The 12-hour version provides extended practice and is intended for those that are expected to lead FMEA teams.

ISO 9001/AS 9100 Management Overview – 4 hr

This course provides Top Management overview training of the ISO 9001/AS 9100 requirements and the processes required to achieve ISO 9001/AS 9100 certification. The course will include a presentation on ISO 9001/AS 9100 and conduct a facility tour explaining how the standard requirements apply to the processes that the company follows on key quality controls. The course also provides information on the registration process through an external registrar audit.

ISO 9001/AS 9100 Quality Policy Manual, Procedures and Work Instructions – 30-60 hrs

This course provides instruction on how to develop a Quality Management System that meets ISO 9001/AS 9100 standards and the documentation requirements. Participants are taught to review their company's processes and policies and to format them to the standard. This includes writing procedures, establishing or modifying a document control system, develop work instructions, analyze process Flow Charts, establishing corrective and preventive action reports and processes, and building audit guidelines and reporting mechanisms. Laboratory exercises are established for the participants to construct the required documentation for their company.

ISO 9001/AS 9100 Internal Auditor – 24 hr

This course provides instruction on ISO 9001/AS 9100 standards and the documentation requirements to meet the standard. Participants are instructed in auditing procedures, documenting the audit process, writing non-conformance reports, interviewing, and verification of process and procedure conformance. Participants learn to structure the audit, conduct audit kickoff meetings, writing up the audit report, and making a management presentation of the audit findings.

ISO 9001/AS 9100 Flow Charting/Process Identification and Interaction – 24 hr

This course provides training in methods of defining processes within the supply chain for companies. These processes include purchasing, vendor selection, control of received inventory, delivery of products, and customer interactions. Individual processes within the company are also evaluated. Participants learn to flow chart processes and to identify the interactions between each process step.

ISO 9001/AS 9100 Documentation – 24 hr

This course provides instruction on ISO 9001/AS 9100 documentation requirements, structure, formatting, and maintenance. Participants are engaged in developing work instructions, procedures, and learn how to manage the required documentation, record keeping, and managing documentation changes. Included is a discussion on process documentation requiring knowledge of standardization and standard work, empowerment of employees and teams, developing alliances to optimize processes, and structuring change for improvement.

ISO 9001/AS 9100 Corrective and Preventive Action – 24 hr

This course provides instruction on how to respond to a non-conformance report by establishing corrective and preventive actions. Participants learn how to conduct root cause analysis on the causes attributed to the non-conformance and to develop corrective actions to resolve the non-conformance. Additionally, they learn to take a proactive approach and develop preventative actions that will prevent a reoccurrence of the non-conformance.

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.

Energy and Sustainable Business Solutions

E3: Energy, Economy and Environment – 24 hr

E3 provides manufacturers with customized, hands-on assessments of production processes and assists with the identification and implementation of energy-saving projects. E3 builds a company's competitive advantage by:

- Increasing manufacturers' productivity
- Driving innovation and encouraging global leadership
- Helping foster a green workforce
- Improving the regional economy by retaining jobs in companies
- Reducing environmental impacts

This 3-day on-site workshop uses a hands-on approach to introduce the company's energy management team to the basic principles of energy management. Activities include analysis of current energy usage and costs, instruction on energy efficiency and savings strategies, identification of potential savings projects and financial analysis to estimate impacts.