



## Introduction to Lean Manufacturing – Small Groups

Onsite – 6 Hours – Optimum class size 6 – 8 students

### Training Description:

An interactive course that combines classroom instruction with intensive hands-on experience in the simulated shop-floor venue. Introduction of Lean Manufacturing exposes the frailty of Traditional Manufacturing Concepts in a production facility. Students experience the process of assembling in an environment that begins with traditional thinking (Push Scheduling) and is gradually transformed (4 rounds) into a world-class Lean facility utilizing Lean Concepts (Cell and Pull). Students experience directly the immediate and dramatic impact of the transformation process on themselves, their workplace roles and the enterprise of which they are part.

### Training Objective:

The objective of this introductory training will be to provide participants with a clear understanding of lean principles and how, in a simulated environment, these principles can be applied in their company. Terminology, concepts and application methods will be learned and will serve as a springboard for the changes that are expected to undertake to address needed improvements in a production environment. This training will become the basis for the introduction of other training tools that will bring about significant improvements in quality and productivity,

### Skill Attainment:

Upon completion of training participants will have the ability to begin to apply the principals of Lean Manufacturing. This will include the basics of 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. This course will provide a clear understanding of the eight wastes in manufacturing and how to eliminate them. The eight wastes are Overproduction, Excess Inventory, Wait Time, Excess Motion, Transportation, Rework and Defects, Inefficient Process, and Under-utilized People. This training will give employees the opportunity to bring about change by eliminating waste on a daily basis. These skills are transferable within the company, industry and are highly desirable by any manufacturer.



## **Introduction to Lean Manufacturing (Delivered in one 8-hour training class)**

### **Introduction to Simulation**

- Review the agenda and have participants understand the training is a mix of lecture, simulation and discussion.
- Course and Simulation Orientation
- Round 1 of Simulation
  - Participants will be assigned roles in the simulation and be provided with very brief instructions and written work instructions
  - They will operate the factory as instructed and understand the initial problems with traditional manufacturing practices and review problems that took place
- Lecture - Introduction to Lean Manufacturing
  - History of Manufacturing
  - Lean Manufacturing Terminology
  - Review the 8 Wastes
- Concepts introduction
  - Introduce Standardized Work, 5S and Workplace Organization, Visual Controls, and Plant Layout
- Round 2 Simulation
  - Participants run the simulation again with the incorporation of the training concepts identified above
  - Simulation is followed by a debriefing of what was improved and what remains a problem
- Lecture – Introduction of New Concepts
  - Understanding Organizational Culture
  - Introduction of concepts including: Quick Changeover, Batch Size Reduction, Point of Use Storage (POUS), Quality at the Source
- Round 3 Simulation
  - Participants run the simulation again with the incorporation of the training concepts identified above
  - Post Simulation debrief of what was improved and what remains a problem
- Lecture
  - Final Concepts training - Introduction to; Total Productive Maintenance (TPM), Overall Equipment Effectiveness (OEE), Pull Systems / Kanban, Takt Time, and Cellular Manufacturing
- Final Simulation Round 4
  - Implement final concepts into simulation to understand how all of the Lean Principles discussed can impact the quality and volume of work completed on time.
  - Discussion and wrap up.