Principles of Lean Manufacturing

Onsite – 8 Hours – Optimum Class Size: 15- 20 Participants

Training Description:

Principles of Lean Manufacturing is an interactive course that combines classroom instruction with intensive hands-on experience in the simulated shop-floor venue called the Time Wise, Inc. Clock Factory. Principles of Lean Manufacturing exposes the frailty of traditional manufacturing concepts in a high volume, low variety mass production facility. Participants experience the process of assembling a variety of working clocks 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). Participants directly experience the immediate and dramatic impact of the transformation process on themselves, their workplace roles, and the enterprise of which they are part. This training is delivered onsite and is geared for all levels.

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 be undertaken 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 training 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 participants 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 Simulation

- Review the agenda and have participants understand the training is a mix of lecture, simulation, and discussion.
- Orientation to Timewise Inc.,
    - Introduce participants to the simulation portion of the training and introduce the “President” of Timewise, Inc. who will provide a typical employee orientation to the company and what their roles will be in the simulation.
- Round 1 of Simulation

- Employees will be assigned roles in the Clock Factory simulation and be provided with very brief instructions and written work instructions
- They will operate the factory for 15 minutes 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
- Concept's introduction
  - Introduce Standardized Work, 6S and Workplace Organization, Visual Controls, and Plant Layout
- Round 2 Simulation
  - Students run Timewise Factory simulation again with the incorporation of the training concepts identified above
  - Simulation runs 15 minutes 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
  - Students run the Timewise Factory simulation again, incorporating the training concepts identified above.
  - Simulation runs 15 minutes followed by a debriefing 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 the Lean Principles discussed can impact the quality and volume of work completed on time.
  - Simulation runs 15 minutes followed by discussion and wrap up