Strategic JIT and Kanban for Lean Manufacturing Training Course

Ref: #IM1303

Course Introduction / Overview:

This intensive training course provides a comprehensive exploration of Just-in-Time (JIT) and Kanban systems, two of the most powerful pillars of Lean Manufacturing. In today's competitive global market, achieving operational excellence is not just an advantage; it is a necessity. This program is designed to move beyond theoretical knowledge, offering a practical roadmap for implementing these transformative methodologies to eliminate waste, optimize workflow, and enhance productivity. Drawing upon the foundational principles developed by pioneers like Taiichi Ohno within the Toyota Production System, participants will gain a deep understanding of how to create a demand-driven, continuous flow environment. As detailed in influential works like "The Toyota Way" by Jeffrey Liker, the focus is on creating value for the customer by minimizing inventory, reducing lead times, and empowering teams. BIG BEN Training Center has structured this course to equip professionals with the skills to analyze their current processes, design robust pull systems, and lead a cultural shift towards continuous improvement, ensuring sustainable gains in efficiency and quality for their organizations.

Target Audience / This training course is suitable for:

- Operations Managers.
- Production Planners and Supervisors.
- Supply Chain and Logistics Professionals.
- Manufacturing and Industrial Engineers.
- Continuous Improvement and Lean Specialists.
- Quality Assurance and Control Managers.
- Plant Managers.
- Procurement and Inventory Managers.
- Team Leaders in a manufacturing environment.

Target Sectors and Industries:

- Automotive Manufacturing and Assembly.
- Aerospace and Defense Industries.
- Electronics and High-Tech Manufacturing.
- Pharmaceutical and Medical Device Production.
- Consumer Goods and FMCG.
- Heavy Machinery and Industrial Equipment.
- Food and Beverage Processing.
- Government and Public Sector Operations.

Target Organizations Departments:

- Production and Operations.
- Supply Chain Management.
- Logistics and Warehousing.
- Manufacturing Engineering.
- Quality Assurance and Control.
- Procurement and Purchasing.
- Continuous Improvement Departments.
- Research and Development.

Course Offerings:

By the end of this course, the participants will have able to:

- Master the core principles of Lean, JIT, and Kanban methodologies.
- Identify and eliminate the seven types of waste (Muda) in manufacturing processes.
- Design and implement a visual Kanban system to manage workflow and limit work-in-progress.
- Calculate Takt time to synchronize production pace with customer demand.
- Apply the 5S methodology to create a clean, organized, and efficient workplace.
- Develop a value stream map to analyze and improve material and information flow.
- Implement pull systems to replace traditional push-based production scheduling.
- Utilize Poka-Yoke techniques for error-proofing processes and improving quality.
- Lead Kaizen events to foster a culture of continuous improvement.
- Integrate JIT and Kanban principles with suppliers for a more agile supply chain.
- Measure and track key performance indicators (KPIs) for lean systems.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, engaging, and practical, ensuring that participants can immediately apply their learning in the workplace. This course moves beyond traditional lectures by incorporating a blended learning approach. A significant portion of the program is dedicated to hands-on simulations that replicate real-world manufacturing environments, allowing participants to experience the effects of implementing JIT and Kanban systems firsthand. We will analyze detailed case studies from world-class companies that have successfully transformed their operations using these principles. Group discussions and collaborative workshops will encourage peer-to-peer learning and the sharing of diverse industry experiences. Participants will work in teams on practical exercises, such as creating value stream maps and designing Kanban boards for specific scenarios. Our expert instructors facilitate these sessions, providing personalized feedback and guiding participants through complex problem-solving activities. The emphasis is on learning by doing, ensuring a deep and lasting understanding of the strategic implementation of JIT and Kanban.

Course Agenda (Course Units):

Unit One: Foundations of Lean Manufacturing and Pull Systems

- Introduction to Lean Thinking and its Core Principles.
- The History and Evolution of the Toyota Production System (TPS).
- Identifying the Seven Wastes (Muda) in Manufacturing.
- Value Stream Mapping (VSM) for Process Analysis.
- Understanding the Concept of Value-Added vs. Non-Value-Added Activities.
- Introduction to Pull Systems vs. Push Systems.
- The Role of JIT and Kanban in a Lean Enterprise.

Unit Two: Deep Dive into Just-in-Time (JIT) Principles

- The Pillars of Just-in-Time Production.
- Understanding and Calculating Takt Time.
- Achieving Continuous Flow (One-Piece Flow).
- Heijunka: The Principle of Production Leveling and Smoothing.
- Implementing a Pull System with JIT.
- The Role of Quick Changeovers (SMED) in Supporting JIT.
- Supplier Relationships and Partnership in a JIT Environment.

Unit Three: Mastering the Kanban System for Visual Control

- Introduction to Kanban as a Signaling System.
- The Six Rules of Kanban for Effective Operation.
- Types of Kanban Cards (Production, Withdrawal, Supplier Kanban).
- Designing and Implementing a Physical Kanban Board.
- Calculating the Optimal Number of Kanban Cards.
- Setting and Managing Work-in-Progress (WIP) Limits.
- Digital Kanban Systems and their Applications.

Unit Four: Essential Lean Tools for JIT and Kanban Success

- The 5S Methodology for Workplace Organization (Sort, Set in Order, Shine, Standardize, Sustain).
- Poka-Yoke: Techniques for Error-Proofing Processes.
- Jidoka (Autonomation): Building Quality at the Source.
- Root Cause Analysis using the 5 Whys Technique.
- Standardized Work as a Foundation for Improvement.
- Organizing and Leading Effective Kaizen Events.
- Visual Management Techniques for the Shop Floor.

Unit Five: Strategic Implementation, Metrics, and Continuous Improvement

- Developing a Roadmap for JIT and Kanban Implementation.
- Overcoming Common Challenges and Resistance to Change.
- Key Performance Indicators (KPIs) for Measuring Lean Success.
- Integrating JIT and Kanban with Enterprise Resource Planning (ERP) Systems.
- The Role of Leadership in Sustaining a Lean Culture.
- Scaling JIT and Kanban Across the Organization.
- Future Trends in Lean Manufacturing and Operational Excellence.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

How might the core principles of JIT and Kanban be adapted to address the increasing volatility and unpredictability in modern global supply chains?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by focusing intensely on the strategic integration of JIT and Kanban, rather than treating them as isolated tools. While many programs cover the "what" and "how," we emphasize the "why," exploring the deep cultural and leadership shifts necessary for sustainable success. Our curriculum is built around a practical, simulation-heavy methodology that allows participants to experience the dynamics of a pull system in a controlled environment, making mistakes and learning without real-world consequences. We move beyond generic examples, using targeted case studies that reflect the specific challenges of diverse industries, from automotive to pharmaceuticals. The course content is meticulously structured to build from foundational principles to advanced strategic application, ensuring a robust understanding of how these systems interact with the entire value chain, including suppliers and customers. The focus is not just on implementing a system but on fostering a mindset of continuous improvement and operational excellence, empowering participants to become true agents of change within their organizations.