LEAN PHARMA—APPLYING LEAN TO DRUG DEVELOPMENT & MANUFACTURING

Improving Medicines and Reducing Costs

TAKING LEAN PHARMA TO THE NEXT LEVEL

The University of Michigan offers enterprise-wide, lean training to meet your specific needs within the pharmaceutical industry, including drug development and manufacturing.

Register Today: InterPro.engin.umich.edu

PROGRAM DATE
April 14–16, 2008
Ann Arbor, Michigan

presented by

Michigan Engineering
LEARN PHARMA—APPLYING LEAN TO DRUG DEVELOPMENT MANUFACTURING

APPLYING LEAN TO DRUG DEVELOPMENT AND MANUFACTURING

This unique course focuses on how lean principles can be applied in pharmaceutical manufacturing and drug development. The current state of the pharmaceutical industry has made it crucial that significant cost reductions in manufacturing and drug development are achieved while increasing the throughput, reducing inventories, and cutting cycle times in pharmaceutical manufacturing. It is also crucial to improve drug development lead times while reducing the cost associated with the development process.

Our instructor will share his experiences with pharmaceutical and non-pharmaceutical companies that have undertaken lean initiatives in manufacturing and drug development. You will learn how to apply lean principles to transform your pharmaceutical manufacturing and drug development processes.

WHAT YOU’LL LEARN

Lean Pharma programs will teach you how to apply lean principles to:
- Improve throughput, and cut inventory and reduce flow times in your pharmaceutical manufacturing processes
- Map drug development processes, identify waste to cut costs and decrease development times
- Align metrics with your lean initiatives to achieve lasting improvements
- How to successfully transform your pharma operation

PROGRAM FOCUS

Overview and Introduction
- Lean in pharma
- Applying the Toyota Production System to pharma
- Key performance measures in pharma

Lean Manufacturing Techniques
- Value stream mapping for pharmaceutical manufacturing
- Identifying waste in the current state of the value chain
- Creating a future state and a lean transformation plan
- Tracing the root causes of waste
- Reducing cycle times
- Increasing throughput
- Internal benchmarking for pharmaceutical operations
- 5S
- Setup reduction
- Total productive maintenance
- Pull system implementation
- Kanban, CONWIP and other pull systems
- Challenges of implementing pull in pharma
- Optimal campaign sizes in pharma

Variability and Its Causes in Pharma
- Process and flow variability
- Downtime, setups and other variability sources
- Variability and buffers
- Optimizing inventory, time and capacity buffers

Pharma Case Studies
- Setup reduction in packaging lines
- Capacity increase in pilot plants
- WIP and cycle time reduction in tabletting
- Throughput increase in the bio-pharmaceutical process

The Pharma Supply Chain
- Understanding how to extend lean to the pharma supply chain
- Extending lean practices to suppliers

Drug Development Process
- How to extend lean principles to the drug development process
- Value Stream Mapping the drug development process
- Implementing Continuous Improvement and Standardized Work in the drug development process

PROGRAM INSTRUCTOR

Izak Duenyas is John Psarouthakis Professor of Manufacturing Management and Professor of Operations Management at the Ross School of Business at the University of Michigan and also holds an appointment as Professor of Industrial and Operations Engineering. Professor Duenyas is an expert on lean practices in manufacturing and services. He has worked with many companies including Merck, Pfizer, Teva, Boeing, Xerox, Ford, GM, Cummins, DaimlerChrysler and Steelcase. Dr. Duenyas currently serves as an area editor for Operations Research in manufacturing, service and supply operations.
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PROGRAM INSTRUCTOR

Jerry W. Claunch

President of Claunch & Associates, Inc. He is renowned for his leadership and expertise in the areas of setup time reduction and statistical quality improvements. Mr. Claunch has authored and co-authored more than 50 books and professional journal articles. His book Set-Up Time Reduction, published by McGraw-Hill has been described as authoritative and a manufacturing must read. This two-day module is a natural extension to our lean manufacturing focused custom program.

CUSTOM PROGRAMS

APPLYING LEAN TO DRUG DEVELOPMENT AND MANUFACTURING

UNIQUE PROGRAM FEATURES

include a hands-on simulation, course-related software, real-world case studies and computer simulation models.

APPLYING LEAN TO DRUG DEVELOPMENT AND MANUFACTURING

PROGRAMS BUILT TO ORDER

In addition to our public offering, U-M can bring lean pharma to your facility.

We have delivered this program for leading pharma companies around the world and can customize our training to meet your specific needs. Customized programs can specifically focus on drug development or manufacturing and kilo labs.

What’s more, we offer a 2-day Rapid Reliable Change-Over Module. This module is taught by Jerry W. Claunch, CPM, founder and president of Claunch & Associates, Inc. He is renowned for his leadership and expertise in the areas of setup time reduction and statistical quality improvements. Mr. Claunch has authored and co-authored more than 50 books and professional journal articles. His book Set-Up Time Reduction, published by McGraw-Hill has been described as authoritative and a manufacturing must read. This two-day module is a natural extension to our lean manufacturing focused custom program.

THREE DAYS FOR $2,295*

Fee includes tuition, instructional materials, continental breakfast, lunch and breaks each day.

*Program fee at time of brochure printing. Check our current program fee schedule at InterPro.engin.umich.edu. Fee is subject to change.

CERTIFICATION

A non-credit certificate of professional achievement in Lean will be awarded upon successfully completing the ten-day program and passing three online exams.

HOW TO REGISTER*

Visit our website at InterPro.engin.umich.edu or send an email to MEntline@umich.edu or call (734) 647-7200.

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LEAN PHARMA

LEARNING OBJECTIVES

1. **LEAN PHILOSOPHY**
   - Learn the Lean principles and their application in the pharmaceutical industry.

2. **LEAN TOOLS**
   - Introduction to Lean tools and their use in drug development and manufacturing processes.

3. **LEAN PRACTICES**
   - Case studies of companies implementing Lean practices in drug development and manufacturing.

4. **LEAN PHARMACIST**
   - Role of the Lean pharmacist in improving healthcare delivery.

5. **LEAN CHALLENGES**
   - Identifying and addressing challenges in applying Lean in the pharmaceutical industry.

6. **LEAN AND SIX SIGMA**
   - Integration of Lean and Six Sigma methodologies for improved performance.

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Six Sigma Healthcare—Green Belt (online)
Lean Office and Business Processes
Lean Product & Process Development Certificate Program
Lean Logistics & Supply Chain Certificate Program

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