Training Programs in Operational Excellence
The Traditional Lean Journey Begins – In this economic time organizations are turning to lean to reduce cost and drive their bottom line. They are educating their people, creating value streams that flow, and they are seeing results. They are working through the theory that lean is about eliminating waste and a never-ending journey of continuous improvement. They have been told that the lean journey is a long one that takes many, many, years… for most.

The Destination is Set – There are companies that have gone beyond building value streams that flow, and they have done it much quicker than others. They have ‘leapfrogged’ their lean journey (and their competitors) to new heights, while others are still working on continuous improvement and value streams. Their robust value streams not only flow at customer demand, they are built with an immune system. They ‘self heal’ when the flow is abnormal. They are using the economy to motivate their journey to the highest level. The net result: their management is not managing people, chasing parts, resources, or suppliers; their management is working on offense.

These companies have defied the myth that lean is a journey with no destination. They set a destination; they knew where they were going. By doing so, they have been able to not only jump to new heights but to accelerate their journey as well. Their destination was not to create value streams that flow, their destination was to create Operational Excellence.

And it worked.

The Definition and Methodology – Lean is not new; it has been around for years. Operational Excellence is the next progressive step that will benchmark the industry. Our mission at the Institute for Operational Excellence is to define Operational Excellence in a way that top executives and front line operators can understand. We define Operational Excellence as “When each and every employee see the flow of value to the customer, and fix that flow before it breaks down.”

Our faculty provides the leading-edge education to organizations on the principles of Operational Excellence and the step-by-step approach to create and sustain it. We provide in-depth knowledge through formal education, innovative products, and conference keynoting. We answer the question – “Where will your lean journey take you?”

Sincerely,

Kevin Duggan
Founder
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Forward/Principles of Operational Excellence

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Overview
This course is an executive level overview that will provide students with an in-depth understanding of the fundamental principles behind lean and creating Operational Excellence including: defining product value in terms of the customer; identifying the value stream for each product; making value flow; letting the customer pull the value from the producer; striving for perfection.

Learning Objectives
• To introduce the concept of Operational Excellence from an executive viewpoint
• To define Operational Excellence and teach the lean tools to achieve it
• To provide in detail the guidelines of building a lean value stream
• To demonstrate the use of advanced tools such as mixed model value streams, shared resource flow, and business process value streams
• To illustrate the importance of creating organizational enablers at the beginning
• To show what type of leadership is needed to be successful
• To show how Operational Excellence impacts the bottom line

Program Agenda
Module One:
• Defining Operational Excellence

Module Two:
• Understanding value and how it can be seen on a current state map
• An overview of Value Stream Mapping

Practical Exercise #1:
Simulation of the current state
Designed to teach the process required to design a current state

Module Three:
• Understanding the future state and how to apply lean guidelines such as scheduling one point, interval, and pitch

Practical Exercise #2:
Simulation of the future state
Designed to teach the process required to design a future state

Module Four:
• How to measure Operational Excellence

Module Five:
• Implementation and leadership in an organization striving for Operational Excellence

Who Should Attend:
A good cross-function of different executives will provide the most benefit to the company. This includes:
• Presidents and CEO’s
• CFO’s
• Division Managers and Vice Presidents
• Engineering Directors
• Human Resources Directors
• Purchasing Directors
• Marketing and Sales Directors
Overview
This is the course to get your journey to Operational Excellence started! Creating Flow for Operational Excellence is a lean tool that allows students to see the flow of value to the customer. This tool illustrates ‘A day in the life of a part’. The course will cover how to construct a current state map, a future state map, and the beginning steps to an implementation plan.

Learning Objectives
• Introduce how to create lean flow
• Develop the skills to construct a current state map from customer request through shipment
• Learn how to calculate a lead time leader
• Learn how to apply the eight lean guidelines into a future state map
• Understand the basic steps taken from the future state map through implementation

Program Agenda
Module One:
• What is a value stream map
• Understanding the current state
• Learning how to incorporate inventory, process times, setup times, and uptimes of each process into a current state map
  Practical Exercise #1: Mapping the current state
  Involves developing a hand drawn picture that explains the current state flow of information and material in the operation.
• Developing a lead-time ladder

Module Two:
• Understanding the future state
• Understanding what makes a good value stream
• Applying the eight lean guidelines
  Practical Exercise #2: Creating the future state
  Involves developing a hand drawn picture that explains the future state vision of how to create flow in the operation.

Module Three:
• Skills needed to implement future state objectives
• The end result is a strategic, step-by-step plan that will build value streams that flow at the rate of customer demand.

Class Duration:
1 day

Recommended Class Size:
20-25

Prerequisites:
Novices to lean concepts should attend an Introduction to Operational Excellence session first to familiarize themselves with basic concepts and lean principles

Who Should Attend:
• Management of all levels
• Operators
• Supervisors
• Team Leaders
• Production Control
• Manufacturing Engineers
• Industrial Engineers
• Inventory Control
• Quality Control

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Creating Flow in the Office for Operational Excellence

Overview
This course teaches advanced lean principles and how they apply in the office environment. Key concepts that are covered include: process families, binary connections, work flow cycles, integration events, pitch, and other techniques to create lean business processes.

Students will leave this course with the knowledge of how to create flow in the office, how to see when flow in the office has stopped, and methods for reestablishing flow.

Learning Objectives
• Introduce Operational Excellence in the office
• Introduce how to create flow in the office
• Develop the ability to “see the flow” and create future state administrative value streams that have less waste

Program Agenda

Module One:
• Understanding value stream mapping for the business process

Module Two:
• Mapping the current state for business processes
  Practical Exercise # 1:
  Create a current state business process value stream map

Module Three:
• Explanation of what makes a good office value stream
• Introduction of Operational Excellence concepts for the business process

Module Four:
• The future state business process
  Practical Exercise # 2:
  Develop business processes future state value stream map

Module Five:
• Achieving the future state

Module Six:
• Implementation training

Class Duration: 1 day

Recommended Class Size: 20-25

Prerequisites:
The prerequisite for this class is Creating Flow for Operational Excellence

Who Should Attend:
• Value Stream Managers
• Office Administrators
• Business Process Improvement Personnel
• Product Development Personnel
• Engineers

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Overview
This course is designed to teach students the lean method for creating flow in factories that have a high complexity of products, demand, and shared resources. This course takes the concepts of value stream mapping to the next level by showing students how to apply lean principles in a high-variety environment.

In this course we will introduce product family selection in complex environments. From this, students will learn how to create a value stream of multiple product flows at the pull of the customer.

Based on the book “Creating Mixed Model Value Streams” by Kevin J. Duggan. Published by Productivity Press.

Learning Objectives
• Determining true product families
• Creating continuous flow in a mixed model environment
• Calculating takt time for a mix of products
• Creating standard work for a mix of products with varying cycle times
• Setting up first in first out (FIFO) lanes
• Developing pitch and scheduling the pacemaker
• Leveling the schedule with mix logic charts

Program Agenda
Module One:
• Quick review of value stream mapping
• Where EMC example left off (3 products, same cycle time, steady demand)

Module Two:
• Determining product families
  
  "Practical Exercise # 1: Product family development"

• Determine families by work content
  
  "Practical Exercise #2: Product family development using work content"

Module Three:
• Determine takt time by family
  
  "Practical Exercise # 3: Determining takt time for the mix"

Module Four:
• Equipment needed to support takt
  
  "Practical Exercise # 4: Determining equipment loading for the mix"

Module Five:
• EPEI for machines and understanding interval
  
  "Practical Exercise # 5: Determine the interval for the mix"

Module Six:
• Balancing processes to takt time for the mix of products
  
  "Practical Exercise # 6: Balancing charts for the mix"

Module Seven:
• Creating standard work for the mix
• Developing pitch for mixed model
• Leveling the mix each interval
  
  "Practical Exercise #7: Heijunka scheduling/load leveling"
• Adjusting to changes in customer demand

Class Duration:
1 day

Recommended Class Size:
20-25

Prerequisites:
The prerequisite for this class is Creating Flow for Operational Excellence

Who Should Attend:
• Team Leaders
• Continuous Improvement leaders
• Production Control
• Manufacturing Engineering
• Industrial Engineering
• Inventory Control
• Quality Control
• Finance
• Support Groups

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Creating Flow through Shared Resources

Overview
In this technical class on applying Operational Excellence, delve into the newest techniques to implement lean and Operational Excellence in the most difficult and complex environment – shared resources. This course provides methods for moving the schedule point further and further upstream by learning how to flow parts through shared resources. Learn the importance of dedicating parts to shared resources and looking upstream to determine what the product families could be. Set intervals (EPEI) for shared resources and calculate branch takt times. Determine how to use multiple FIFO lanes to create continuous flow through shared resources. Discover how to handle batch processes such as heat treat ovens and variable rework flows along with the value stream management of shared resources.

Learning Objectives
- Determining product families when looking at upstream processes
- Dedicating parts to shared resources
- Setting intervals (EPEI) for shared resources
- Calculating branch takt time and average weighted cycle time
- Using multiple FIFO lane systems to create flow through shared resources
- Dealing with rework
- Creating flight schedules to handle batch processes
- Scheduling and sequencing upstream resources
- Managing the flow through shared resources

Program Agenda

Module One:
- Determining upstream process families
  Practical Exercise # 1:
  Sort part numbers into families

Module Two:
- Dedicating parts to shared resources
- Machine loading for shared resources
  Practical Exercise # 2:
  Complete machine load calculations and load chart

Module Three:
- EPEI interval analysis
  Practical Exercise # 3:
  Complete an internal analysis and EPEI chart

Module Four:
- Branch takt time

Module Five:
- Average weighted cycle times
  Practical Exercise # 4:
  Calculate branch takt and the average weighted cycle time

Module Six:
- Developing multiple FIFO lane systems
- Using the single point of schedule

Module Seven:
- Managing flow through shared resources

Who Should Attend:
- Value Stream Managers
- Purchasing/Sourcing Managers
- Plant Managers
- Supply Chain Managers
- Internal Plant Suppliers
- External Suppliers
- Office Administrators
- Business Process Improvement Personnel

Prerequisites:
The prerequisite for this class is Creating Flow for Operational Excellence
Suggested course is Creating Mixed Model Flow

Class Duration:
1 day

Recommended Class Size:
20-25
Overview

Many companies have implemented one piece flow cells, kanban systems, and complete value streams in their facilities only to discover their value streams do not flow due to the supply chain. Supply chains have become more critical as the Operational Excellence journey progresses, and traditional communication and scheduling techniques still leave the supplier guessing at what the customer wants.

Creating Flow through the Supply Chain is an in-depth class that breaks down flow in the value stream into its basic elements and teaches how to apply these techniques out in the supply chain. In this course, students learn how to create, select, implement, and sustain lean connections that enable flow with suppliers.

Learning Objectives

- Current state supply chain connections
- Future state supply chain connections that enable flow
- Establishing supplier capability
- Heijunka (level loading) scheduling the supplier
- Implementing connections the enable flow with the supplier

Program Agenda

**Module One:**
- Brief review of flow concepts
- Introduction to supply chain connections
- Explanation of what makes a good supply chain connection

**Module Two:**
- Types of connections
- Connection attributes
- Calculating demand variation
- Determining which part/which connection
- Determining supplier reliability
- Sizing connections

**Module Three:**
- Creating flow through supply chain connections
  
  **Practical Exercise # 1:** Simulation for supply chain excellence
  - Selecting the right initial suppliers
  - Debugging to expected supplier performance

**Module Four:**
- Sustaining the connections
- What do we do when things go wrong?
- How do we know suppliers will never fail?
Other Operational Excellence Courses

- Balancing Work for Continuous Flow
- Fixing Flow when it Breaks Down
- Value Stream Management
- 5S Workplace Organization to Support Flow
- Setup Reduction
- Total Productive Maintenance
- Sizing Supermarkets and FIFO Lanes
- Standard Work
- Introduction to Operational Excellence