

Course Selection Guide

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About Principles On Demand

The Principles On Demand learning program allows you to customize the curriculum based on your unique training needs.*

Select the appropriate courses for each training group in your organization. Each course is approximately 3 hours of self-paced online study. The objectives and topics (lessons in the course) are provided for each course.

An appendix is available that suggests learning programs based on roles and topics.

Course Code Numbering Key:

PIM – *Principles of Inventory Management*

POP – *Principles of Operations Planning*

PMM – *Principles of Manufacturing Management*

PDL – *Principles of Distribution and Logistics*

PMO – *Principles of Managing Operations*

e.g., PIM02: (PIM – *Principles of Inventory Management*; 02 – course 2)

*This feature is available if you have purchased the Principles On Demand full library, an offering exclusively through chapters, international channel partners, and ASCM corporate development. Individuals may purchase preconfigured courses through ascm.org.

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Course Title:

Operation Management Foundations (PM001)

Objectives:

- Define the science and practice of operations management (OM)
- Answer the question why OM should be studied
- Describe how today's business trends are impacting OM
- Discuss the role of operations managers in the organization
- Define the value-added activities performed by OM
- Describe how OM fits into the organization
- Define the scope of OM functions
- Describe how OM has changed over the decades
- Outline the role of OM and business strategy
- Identify how OM contributes to business strategy
- Detail the ten strategic decisions of OM
- Identify career opportunities in the field of OM

Topics:

Operations Management Foundations – Overview
What Is Operations Management?
What Business Trends Are Impacting Operations Management?
What Do Operations Managers Do?
What Value-Added Activities Are Performed?
How Does Operations Management Fit into the Organization?
What Is the Scope of Operations Management Functions?
Operations Management – Changing Perspectives
Contributing Role of Operations Management to Strategy
Ten Strategic Operations Management Decisions
Operations Management Foundations – Summary and Review

Note: Course codes PIM01, PDL01, PM001, POP01, PMM01 also used for the same content.

Course Title:

Introduction to Distribution and Logistics (PDL02)

Objectives:

- Define distribution management
- Demonstrate the components of the supply and distribution channel
- Detail a channel design tree structure
- Describe the various types of channel intermediaries
- Identify the need for distribution channels
- Detail the roles performed by the distribution function
- Define logistics management
- Describe the functions of logistics management
- Explain the components of logistics operations
- Understand the concept and practice of reverse logistics
- Detail the components of an effective logistics strategy
- Explore the guidelines for creating a logistics strategy
- Understand the role of the logistics function in supply chain management

Topics:

Introduction to Distribution and Logistics – Overview
Defining Distribution Management
What Is the Supply and Distribution Channel?
The Need for Distribution Channels
Reducing Channel Transaction Complexity
Channel Intermediaries
Role of the Distribution Function
Defining Logistics Management
Logistics Management Functions
Logistics Operations
Reverse Logistics and Motivating Factors
Reverse Logistics Hierarchy and Benefits
Logistics Strategy
Guidelines for Logistics Strategy
Logistics and Supply Chain Management
Introduction to Distribution and Logistics – Summary and Review

Course Title:

Channel Network Design (PDL03)

Objectives:

- Define the activities involved in channel network design
- Explain the reasons for supply and distribution channels
- Detail critical channel network design considerations
- Understand channel network design factors
- Outline levels of channel network dependency
- Work with the channel configuration attribute matrix
- Describe several different channel network design options
- Compare distribution network design option performance
- Deploy a framework for channel network design
- Discuss the micro decisions influencing distribution channel design
- Use the factor-rating method for channel network design
- Use the center-of-gravity method for channel network design
- Detail channel demand and capacity

Topics:

Channel Network Design – Overview
Channel Network Design Fundamentals
Reasons for Supply and Distribution Channels
Critical Design Considerations
Channel Design Factors
Level of Channel Dependency
Channel Design – Manufacturing Method
Channel Configuration Attribute Matrix
Producer Storage with Direct Delivery
Producer Storage with Drop Ship
Producer with Extended Channel Network
Aggregator with Extended Channel Network
Aggregator with e-Business Network
Comparing Distribution Network Option Performance
Framework for Channel Network Design
Micro Decisions Influencing Channel Design
Factor-Rating Method
Center of Gravity Method
Channel Demand and Capacity
Channel Network Design – Summary and Review

Course Title:

Inventory Management (PDL04)

Objectives:

- Define the inventory management function
- Identify the functions of inventory
- Outline the strategic inventory management process
- Understand the characteristics of inventory in the distribution channel
- Trace channel inventory and demand flows
- Identify the components of inventory replenishment
- Describe replenishment ordering techniques
- Understand the order point model
- Calculate order point safety stock
- Determine the replenishment order quantity
- Identify the components of inventory carrying cost
- Calculate the economic order quantity (EOQ)
- Manage with minimum and maximum ordering
- Detail the replenishment planning process

Topics:

Inventory Management – Overview
Inventory Definitions
Functions of inventory
Strategic Inventory Management Process
Characteristics of inventory in the Distribution Channel
Channel Inventory and Demand Flows
Inventory Replenishment Components
Ordering Techniques – When to Order
Order Point – Basic Model and Order Point Trigger
Order Point – Potential of Demand Variation and Safety Stock
Calculating the Safety Stock
Determining the Order Quantity
Order and Inventory Carrying Cost Components
Determining the Optimal Order Quantity
EOQ Calculation
Maximum and Minimum Ordering
Replenishment Planning Process
Inventory Management – Summary and Review

Course Title:

Distribution Requirements Planning (PDL05)

Objectives:

- Describe distribution channel dependencies
- Detail “push” system functions
- Detail “pull” system functions
- Decide what to choose: reorder points or DRP?
- Define distribution requirements planning (DRP)
- Explore time phasing – the heart of DRP
- Understand the DRP planning grid
- Calculate the projected available balance (PAB) and the DRP grid
- Calculate net requirements and the DRP grid
- Review the DRP planned order generation
- Perform PAB and net requirements recalculation
- Explore DRP and the bill of distribution (BOD)
- Outline the DRP planning process
- Perform a full DRP calculation

Topics:

Distribution Requirements Planning – Overview
Distribution Channel Dependencies
“Push” System Functions
“Push” System Allocation – Example
“Pull” System Functions
What to Choose: Order Points or DRP
Defining Distribution Requirements Planning (DRP)
Time Phasing – The Heart of DRP
Introduction to the DRP Grid
PAB and the DRP Grid
Net Requirements and the DRP Grid
DRP Planned Order Generation
PAB and Net Requirements Recalculation
DRP Grid Exercise
DRP and the Bill of Distribution
DRP Planning Process
DRP Example
Distribution Requirements Planning – Summary and Review

Course Title:

Warehouse Management (PDL07)

Objectives:

- Define warehouse management
- Detail warehouse functions – materials handling, product storage, order management, and information transfer
- Describe the different types of warehouse – private, public, contract, and in transit
- Explore the basic objectives of warehousing
- Review warehousing strategic decision components
- Use of third-party logistics (3PL) service providers in warehousing strategy
- Detail the warehouse operational management process
- Discuss the importance of warehouse work standards
- Describe the warehouse receiving flow
- Examine the functions of warehouse stocking activities
- Illustrate the components of successful warehouse inventory transaction management
- Outline the order picking and shipping flow
- Emphasize the importance of warehouse performance measurements

Topics:

Warehouse Management – Overview
Defining Warehouse Management
Warehouse Functions – Materials Handling
Product Storage
Order Management
Information Transfer
Types of Warehousing
Basic Operations of Warehousing
Strategic Decision Components
Use of Third-Party Logistics (3PL)
Warehouse Management Process
Importance of Warehouse Standards
Warehouse Work Standards Exercise
Receiving Flow
Warehouse Stocking Functions
Three P's of inventory Control
Transaction Management
Order Picking Options
Order Shipment Flow
Warehouse Performance
Warehouse Management – Summary and Review

Course Title:

Packaging and Materials Handling (PDL08)

Objectives:

- Define warehouse design and layout objectives
- Determine warehouse size and capacity
- Describe basic warehouse layouts
- Understand warehouse layout development
- Detail warehouse design layout principles
- List the key principles of materials handling
- Classify the types of storage systems
- Outline large-item or large-volume product storage
- Review small-item or low-volume product storage
- Review automated storage systems
- Discuss stocking inventory in warehouse locations
- Describe dock materials handling equipment
- Describe mobile materials handling equipment
- Define the role of packaging and unitization
- List the key drivers of warehouse automation
- Detail the components of warehouse automation

Topics:

Packaging and Materials Handling – Overview
Warehouse Design and Layout Objectives
Warehouse Size and Capacity
Basic Warehouse Layouts
Warehouse Layout Development
Warehouse Design and Layout Principles
Principles of Materials Handling
Types of Storage Systems
Large-Item or Large-Volume Storage
Small-Item or Low-Volume Product Storage
Automated Storage Systems
Stocking Inventory in Warehouse Locations
Dock Equipment
Mobile Materials Handling Equipment
Role of Packaging
Unitization
Unitization Principles and Examples
Warehouse Automation – Key Drivers
Warehouse Automation Components
Warehouse Management System (WMS)
Packaging and Materials Handling – Summary and Review

Course Title:

Transportation Management (PDL09)

Objectives:

- Define transportation management
- Understand the fundamental principles of transportation
- Detail the principles of transportation operations
- Describe transportation participants
- Outline the load transport aspects of transportation services
- Outline the product storage aspects of transportation services
- Explain the relationship of transportation to other business functions
- Classify the modes of transportation: motor, railroad, air, water, pipeline, and intermodal
- Describe the types of transportation carriers
- Define the functions and impact on transportation of third-party logistics (3PL) and fourth-party logistics (4PL) service providers
- Outline the various forms of logistics outsourcing models
- Detail the challenges facing today's transportation industry

Topics:

Transportation Management – Overview
Defining Transportation Management
Fundamental Principles of Transportation
Principles of Transportation Operations
Transportation Participants
Transportation Services – Load Transport
Transportation Services – Product Storage
Relationship of Transportation to Other Business Functions
Modes of Transportation
Types of Transportation Carriers
Third-Party Logistics (3PL) – Functions and Transportation
Logistics Outsourcing Models
Transportation Challenges
Transportation Management – Summary and Review

Course Title:

Transportation Operations (PDL10)

Objectives:

- Describe the principles of transportation operations
- Review the role of transportation administration
- Detail the types of transportation risk
- Outline the components of the transportation management process
- Classify the elements of transportation cost
- Review the detailed components of transportation cost
- Understand transportation rates and pricing
- Explain domestic transportation terms of sale
- Detail the steps in transportation mode selection
- Detail the steps in transportation carrier selection
- Review transportation routing and scheduling functions
- Review transportation documentation and post-shipment processing
- Outline transportation performance measurement
- Define transportation management technologies

Topics:

Transportation Operations – Overview
Transportation Operations Principles
Role of Transportation Administration
Types of Transportation Risk
Transportation Management Process
Transportation Cost
Detailed Transportation Cost Components
Transportation Rates and Pricing
Terms of Sale
Transportation Mode Selection
Transportation Carrier Selection
Transportation Routing and Scheduling
Documentation and Post-Shipment Processing
Transportation Performance Measurement
Transportation Performance Scorecard
Transportation Management System
Transportation Operations – Summary and Review

Course Title:

Fundamentals of Inventory Management (PIM02)

Objectives:

- Define inventory management
- Define inventory management objectives
- Describe what inventory management does
- Describe the different classes of inventory
- Identify the different levels of inventory management
- Review the characteristics of inventory in the supply chain
- Detail the strategic inventory management process
- Balance demand and supply objectives
- Contrast the conflicting objectives of inventory management among marketing/sales, finance, and operations
- Understand inventory trade-off decisions
- Describe inventory and demand flows
- Define supply chain inventory and demand flows
- Describe inventory dynamics
- Understand how inventory provides value
- Determine whether inventory is an asset or a liability
- Assess the financial impact of inventory management

Topics:

Fundamentals of Inventory Management – Overview
Defining Inventory Management
Why Does Inventory Have to Be Managed?
Inventory Management Objectives
What Does Inventory Management Do?
Classes of Inventory
Levels of Inventory Management
Characteristics of Inventory in the Supply Chain
Strategic Inventory Management Process
Strategic Inventory Management Issues
Balancing Demand and Supply Objectives
Inventory – Conflicting Objectives
Inventory Trade-Off Decisions
Inventory and Demand Flows
Inventory Dynamics
How Does Inventory Provide Value?
Inventory – Asset or Liability?
Return on Assets
Financial Impact of Inventory
Fundamentals of Inventory Management – Summary and Review

Course Title:

Purpose and Function of Inventory (PIM03)

Objectives:

- Define the purpose of inventory
- Discuss the five functions of inventory
- Describe the purpose of decoupling inventories
- Detail the components of inventory decision making
- Review the role of cycle, safety, and seasonal inventories
- Define the various costs associated with inventory
- Determine an item unit cost
- Detail the sources of inventory order costs
- Define the components of inventory carrying cost
- Explore effect of stock out and capacity-related costs
- Work with the five basic methods of inventory valuation
- Discuss how excess and obsolete inventories affect inventory management
- Review the components of transportation cost
- Review inventory management performance measurements
- Review the concept of cost-benefit trade-off analysis

Topics:

Purpose and Function of Inventory – Overview
Purpose of Inventory
Functions of Inventory
Purpose of Decoupling/Buffering Inventories
How Much Inventory Is Needed?
Components of Inventory Decisions
Defining Cycle Inventory and Safety Inventory
Defining Seasonal Inventory
Inventory Costs
Unit Costs
Order Costs
Inventory Carrying Cost Components
Stockout Costs
Capacity-Related Costs
Inventory Valuation
Surplus/Obsolete Inventory
Transportation Cost
Measuring Inventory Performance
Cost-Benefit Trade-Off
Purpose and Function of Inventory – Summary and Review

Course Title:

Inventory Replenishment Management (PIM04)

Objectives:

- Understand the inventory demand driver
- Define inventory replenishment management
- Detail the components of inventory replenishment management
- Describe the inventory replenishment review interval
- Detail the principles of inventory replenishment
- Outline the inventory replenishment ordering techniques
- Describe the visual review technique
- Describe the two-bin system technique
- Describe the periodic review system technique
- Describe the order point inventory ordering system
- Calculate inventory safety stock
- Calculate the standard deviation
- Determine the order quantity
- Detail order and inventory carrying cost components
- Determine the economic order quantity (EOQ)
- Review the inventory replenishment planning process

Topics:

Inventory Replenishment Management – Overview
Understanding the Demand Driver
Defining Inventory Replenishment Management
Components of Inventory Replenishment Management
Replenishment Review Interval: Continuous Versus Periodic Review
Inventory Replenishment Principles
Replenishment Ordering Techniques
Visual Review Technique
Two-Bin System Technique
Periodic Review System Technique
Order Point Technique
Order Point – Potential of Demand Variation and Safety Stock
Calculating the Safety Stock
Determining the Order Quantity
Order and Inventory Carrying Cost Components
Determining the Economic Order Quantity
Replenishment Planning Process
Inventory Replenishment Management – Summary and Review

Course Title:

Additional Inventory Replenishment Techniques and Inventory Performance (PIM05)

Objectives:

- Work with several additional inventory replenishment techniques
- Counter uncertainty in supplier delivery times
- Understand and perform replenishment planning using time-phased order point (TPOP)
- Define replenishment quantities by item class
- Work with financial statements and inventory
- Calculate inventory values, turns, and ratios
- Define inventory performance management tools
- Understand and work with ABC inventory control
- Establish inventory accuracy tools
- Perform effective transaction management
- Work with periodic and perpetual inventory systems
- Use the year-end periodic physical inventory
- Understand and establish a cycle counting program
- Identify today's inventory electronic data collection technologies

Topics:

Inventory Performance – Overview
Additional Inventory Replenishment Techniques
Supplier Lead Time Uncertainty
Time-Phased Order Point (TPOP)
Replenishment by Item Class
Inventory Performance Management
Financial Statements
Inventory Values, Turns, and Ratios
Inventory Performance
ABC Inventory Control
Impact of Inventory Inaccuracy and Inventory Accuracy Tool Kit
Three P's of Inventory Control
Transaction Management
Periodic and Perpetual Inventory Review
Year-End (Periodic) Physical Inventory
Cycle Counting – Definition and Methods
Periodic Physical Inventory vs. Cycle Counting
Electronic Data Collection
Inventory Performance – Summary and Review

Course Title:

Lean Inventory – Theory and Practice (PIM07)

Objectives:

- Define the concepts of just in time (JIT) and lean and how they apply to the management of inventories
- Describe why implementing lean is important
- Detail the structure of lean
- Describe in detail the three major sources of operations waste
- Discuss the eight types of process waste
- Differentiate value-added work from waste
- Manage inventory effectively in a lean environment
- Explore the lean inventory flow analogy
- Describe the impact of inventory reduction
- Detail lean pull-system basics
- Calculate the number and work with kanbans/containers
- Review the calculation of production, move, and supplier kanbans
- Discuss the benefits of lean management

Topics:

Lean Inventory – Theory and Practice – Overview
Defining Just-In-Time (JIT)
Defining Lean
Why Implement Lean?
The Structure of Lean
Three Major Areas of Waste
Eight Deadly Wastes
Differentiate Work from Waste
Managing Inventory in a Lean Environment
Inventory Flow Analogy
Impact of Inventory Reduction
The Pull System – Basic Concepts
Kanban Overview
Calculating Kanban Cards – Production
Calculating Kanban Cards – Move
One-Card Kanban Production Example
Calculating Kanban Cards – Supplier
Lean Benefits
Lean Inventory – Theory and Practice – Summary and Review

Course Title:

Fundamentals of Purchasing (PIM08)

Objectives:

- Define the purchasing function
- Identify purchasing as a key business function
- Describe the categories of purchasing
- Detail the strategic responsibilities of purchasing
- Describe purchasing's detailed responsibilities
- Understand the structure of the purchasing organization
- Describe purchasing's role with other business functions
- Understand the difference between centralized and decentralized purchasing
- Describe the buyer/planner concept
- Manage the make or buy decision
- Create an effective purchasing strategy

Topics:

Fundamentals of Purchasing – Overview
Defining Purchasing
Purchasing as a Key Business Function
Categories of Purchasing
Purchasing's Strategic Responsibilities
Detailed Purchasing Responsibilities
Purchasing's Place in the Organization
Typical Purchasing Organization
Purchasing's Relations with Other Functions
Centralized Versus Decentralized Purchasing
Buyer/Planner Concept
Strategic Versus Operational Activities
Anatomy of Purchasing Strategy
Step 1 – Environmental Scanning
Step 2 – Organizational Structure
Step 3 – Inventory Strategy
Step 4 – Supplier Relations
Step 5 – Technology Enablers
Step 6 – Performance/Continuous Improvement
Fundamentals of Purchasing – Summary and Review

Course Title:

Sourcing Strategies (PIM09)

Objectives:

- Define the sourcing process
- Understand the difference between strategic and tactical buying
- Detail the steps in reaching the make-or-buy decision
- Develop a cost avoidance analysis
- Conduct an effective spend analysis
- Distinguish between different types of supplier relationship
- Execute a sole- or a multiple-supplier sourcing strategy
- Effectively score capabilities and select the optimal supplier
- Work with different supplier pricing alternatives
- Engage in effective negotiations with a supplier
- Understand the elements of supplier contract formulation
- Construct a collaborative program that engages the supplier in product design
- Define supplier relationship management (SRM)

Topics:

Sourcing Strategies – Overview
Defining Sourcing
Strategic Sourcing Activities
Tactical Buying
Tactical Buying Versus Strategic Sourcing
Sourcing Process Steps
Make-or-Buy Decision
Spend Analysis
Creating the Bid or Proposal
Supplier Sourcing
Sourcing Alternatives
Supplier Scoring and Assessment
Supplier Categorization
Overview of Pricing
Negotiation Objectives
Discounting
Contracting
Design Collaboration
Advantages of Collaborative Supplier Involvement
Supplier Relationship Management (SRM)
Benefits of SRM
Implementing SRM Strategy
Sourcing Strategies – Summary and Review

Course Title:

Purchase Order Management and Performance Measurement (PIM10)

Objectives:

- Define the purchasing management process
- Manage the procurement database
- Detail the various purchase order methods
- Trace the purchase order flow from requirements identification to purchase order close-out
- Determine the timing of purchase order release
- Use material requirements planning (MRP), reorder point, and kanban systems for order release
- Establish a vendor-managed inventory (VMI) process
- Determine inbound transportation factors
- Perform receiving and order closeout
- Review purchase order status reporting
- Review supplier and internal purchase organization performance
- Work with international sourcing
- Explore the impact of the Internet and computerized technologies on procurement.

Topics:

Purchase Order Management and Performance Measurement – Overview
Purchasing Management Process
Procurement Database Files
Timing of Purchases
Purchasing Process Methods
Purchase Order Flow
Determining PO Release
Material Requirements Planning
MRP Purchase Order Actions
Purchasing Kanban
Supplier Kanban Example
Vendor Managed Inventory (VMI)
Transportation Mode Decision
Receiving and Order Close-out
Status Reporting
Purchasing Performance Measurement
International Sourcing Overview
Impact of the Internet on Purchasing
Internet-Enabled Purchasing Components
Implementing e-Procurement
Purchase Order Management and Performance Measurement – Summary and Review

Course Title:

Introduction to Manufacturing Management (PMM02)

Objectives:

- Define manufacturing management
- Review the components of manufacturing management
- Define manufacturing strategy
- Review product manufacturing environments
- Understand the impact of variety, volume, and lead time
- Explore product manufacturing positioning
- Detail manufacturing process choices
- Explore manufacturing process choice positioning
- Review process layout options
- Explore process layout positioning
- Detail steps for developing a manufacturing strategy
- Outline manufacturing structural and infrastructural choices
- Explore batch versus flow production
- Explore push versus pull manufacturing techniques

Topics:

Introduction to Manufacturing Management – Overview

Defining Manufacturing

Defining Manufacturing Strategy

Product Manufacturing Environments

Variety, Volume, and Lead Time

Product Manufacturing Positioning

Marketplace/Customer Expectations

Manufacturing Process Choices

Processing Tasks and Flows

Process Choice Positioning

Process Layout Options

Process Layout Positioning

Manufacturing Strategy Steps

Forms of Manufacturing Strategy

Manufacturing Structural Choices

Batch Versus Flow Production

Push Model

Pull Model

Introduction to Manufacturing Management – Summary and Review

Course Title:

Manufacturing Product Structures (PMM03)

Objectives:

- Define the product structure
- Define the bill of material
- Define the process routing
- Work with the product structure management process
- Define bill of material uses
- Determine basic bill of material formats
- Achieve bill of material accuracy
- Define plant work centers
- Calculate with work center utilization and efficiency
- Determine processing time elements
- Establish the process routing
- Discuss manufacturing costing
- Understand the product structure cost development
- Perform a standard cost calculation.

Topics:

Manufacturing Product Structures – Overview
Product Structure Definitions
One Product Structure
Product Structure Management Process
Bill of Material Uses
Basic Bill of Material Formats
Other BOM Forms
Achieving BOM Accuracy
Work Centers
Work Center Utilization and Efficiency
Processing Time Elements
Establishing the Process Routing
Importance of Manufacturing Costing
Product Costing Components and Uses
Product Structure Cost Development
Manufacturing Product Structures – Summary and Review

Course Title:

Basics of Material Requirements Planning (MRP) (PMM04)

Objectives:

- Understand the requirements to plan and make a product
- Define the critical inventory question
- Define the two basic order methods: stock replenishment and material requirements planning(MRP)
- Understand the difference between independent and dependent demand
- Discuss the problems with using stock replenishment techniques
- Compare stock replenishment and MRP techniques
- Understand the concept of time phasing
- Define MRP
- Map the flow of MRP
- Detail MRP objectives and functions
- Work with MRP inputs and outputs
- Use bills of material, lead-time offsetting, and exploding
- Work with MRP planning grid calculations

Topics:

Basics of MRP – Overview
How Do You Make a Product?
Critical Inventory Questions
Inventory Management Methods
Independent Versus Dependent Demand
Problem with Statistical Stock Replenishment
Statistical Replenishment/MRP Comparison
Time Phasing – the Heart of MRP
MRP Definition
MRP in the MPC Flow
MRP Flow
MRP Objectives and Functions
MRP Process Inputs and Outputs
Using the Bill of Material Structure for MRP
Lead Time Offsetting and Exploding
Introduction to the MRP Grid
PAB and the MRP Grid
Net Requirements and the MRP Grid
MRP Generation Order Policies
MRP Planned Order Generation
PAB and Net Requirements Recalculation
MRP Grid Exercise
Basics of MRP – Summary and Review

Course Title:

Managing with MRP (PMM05)

Objectives:

- Perform the MRP BOM explosion process
- Define the role of the MRP planner
- Understand the causes of MRP change
- Detail the MRP planning process
- Define the prerequisites for MRP
- Work with the MRP generation
- Understand the types of MRP supply orders
- Detail MRP system action messages
- Perform MRP action message activities
- Define MRP performance policies and methods
- Identify MRP problem indicators
- Develop MRP performance measurements

Topics:

Managing with MRP – Overview
Bills of Material Example
Gross and Net Requirements – Explosion
MRP Explosion – Level 0
MRP Explosion – Level 1
MRP Explosion – Level 2
Role of the MRP Planner
Causes of MRP Change
MRP Management Process
Prerequisites for MRP
MRP Generation
Types of MRP Supply Orders
MRP Action Messages
MRP Action Report
Action Message Worksheet
Answering Action Messages
Policies and Methods
MRP Problem Indicators
MRP Performance Measurements
Managing with MRP – Summary and Review

Course Title:

Capacity Planning and Management (PMM07)

Objectives:

- Define capacity management
- Detail the elements of capacity management
- Understand the relationship between planning and controlling priorities and capacities
- Understand the four levels of capacity management
- Define capacity requirements planning (CRP)
- Understand the flexibility of capacity and scheduling
- List the objectives of capacity planning
- Detail the inputs into capacity management
- Describe the steps to effectively managing the capacity process
- Detail the components of capacity management
- Calculate work center capacity
- Calculate work center load
- Schedule work center operations
- Manage the load versus capacity report
- Manage excesses and shortages in capacity

Topics:

Capacity Planning and Management – Overview
Definitions of Capacity
Capacity Elements
Capacity Management Levels
CRP Definition
Flexibility of Capacity and Scheduling
Capacity Planning Objectives
Inputs into Capacity Management
Managing the Capacity Process
Capacity Components
Calculating Work Center Capacity
Calculating Work Center Load
Work Center Aggregate Load Display
Basic Scheduling and Loading Techniques
Finite and Infinite Loading
Load Profile
Load Versus Capacity Report
Managing Excesses and Shortages in Capacity
Capacity Planning and Management – Summary and Review

Course Title:

Production Activity Control (PMM08)

Objectives:

- Define production activity control (PAC)
- Detail the goals of PAC
- Detail the characteristics of PAC systems
- Understand the linkage between PAC and the planning system
- Work with PAC database files
- Work with the major activities of the PAC system
- Detail the production order release process
- Detail PAC scheduling activities
- Explore PAC scheduling priority rules
- Detail PAC data collection and monitoring activities
- Understand the purpose of PAC control and feedback activities
- Detail order disposition and closeout activities

Topics:

Production Activity Control — Overview
Defining Production Activity Control
Goals of Production Activity Control
Characteristics of PAC Systems
PAC Functions Detail
PAC and the Planning System
PAC Database Files
PAC System Prerequisites
Major PAC Activities
Order Release Process
Production Order Packet
Scheduling Operations
Backward Scheduling Example
Detailed Scheduling
Dispatching Priority Rules
Data Collection and Monitoring
Purposes of PAC Control and Feedback
Short-Term Corrective Actions
Order Disposition and Closeout
PAC Activities – A Summary
Production Activity Control — Summary and Review

Course Title:

Advanced Scheduling (PMM09)

Objectives:

- Detail the two types of scheduling
- Define MRP-push system and lean-pull system scheduling
- Define scheduling components
- Work with MRP-based scheduling inputs
- Manage order schedules
- Work with scheduling functions
- Understand planner order release and scheduling
- Use the dispatch list
- Detail the steps in the rescheduling process
- Resolve schedule conflicts
- Work with order status and work center load reports
- Use operation overlapping and lot-splitting techniques
- Schedule bottleneck work centers
- Manage scheduling with input/output reporting

Topics:

Advanced Scheduling – Overview
Types of Scheduling
MRP-Push System Scheduling
Lean-Pull System Scheduling
MRP Versus Lean Scheduling Factors
Scheduling Definition – Revisited
MRP-Based Scheduling Inputs
Managing Order Schedules
Scheduling Functions
Planned Order Release and Scheduling
Order Release – Loading and Sequencing
Order Dispatching
Steps in the Rescheduling Process
Resolving Schedule Conflicts
Order Status Report
Work Center Load Profile
Operation Overlapping
Lot Splitting
Scheduling Bottleneck Work Centers
Schedule Performance
Input/Output Reporting
Advanced Scheduling – Summary and Review

Course Title:

Lean Production Management (PMM10)

Objectives:

- Define lean and just-in-time (JIT) concepts and practices
- Trace the evolution of the lean concept
- Detail the advantages of implementing lean
- Understand the structure of lean production
- Define the concept of process waste
- Use lean to standardize production processes
- Explore the elements of “lean thinking”
- Define employee involvement and empowerment
- Explore the components of lean production concepts and practices
- Work with lean plant layout design
- Understand the basics of the lean production pull system
- Define Kanban production techniques
- Execute a two-card Kanban production flow
- Understand the connection between MRP and lean scheduling techniques
- Use lean to develop the “customer-focused” organization

Topics:

Lean Production Management – Overview
Defining Lean
Lean Evolution
Defining Just-In-time (JIT)
Comparing JIT to Lean
Why Implement Lean?
The Structure of Lean
Removal of Waste
Standardization and the 5S System
Lean Thinking
Employee Involvement and Empowerment
Elements and Goals of Lean Production
Lean Plan Layout Design
The Pull System – Basic Concepts
Kanban Overview
Calculating Kanban Cards
Two-Card Kanban Process Flow
MRP Planning and Lean Scheduling
Production Leveling
Heijunka Scheduling
Takt Time Scheduling
Customer Focus
Lean Production Management – Summary and Review

Course Title:

Planning Foundations (POPO2)

Objectives:

- Understand how to create a business strategy
- Understand the basics of business planning
- Describe the dynamics of business planning
- Understand the different levels of planning that occurs with a business
- Understand the planning and control process model
- Describe the features of a business plan
- Understand how the different levels of business planning work with each other
- Work with a business planning process model
- Develop a business mission/vision
- Perform investment planning
- Perform profit planning
- Perform asset and capital planning
- Describe the components of a planning architecture model

Topics:

Planning Foundations – Overview
Defining Planning
Planning Levels
The Planning and Control Environment
The Planning Process – Shewhart Cycle
The Closed-Loop Planning Cycle
The Principles of Planning
Strategic Questions
Boundaries of Enterprise Strategies
Defining Business Planning
Business Planning Process
Enterprise Mission/Vision
Competitive Values
Investment Planning
Profit Planning
Asset Planning
Capital Planning
Planning Architecture in the MPC System
Planning Review
Planning Foundations – Summary and Review

Course Title:

Forecasting (POP03)

Objectives:

- Define the forecasting function
- Work with the three levels of forecasting
- Define demand
- Explore the universal principles of forecast management
- Understand forecast design and parameter issues
- Detail the forecasting process
- Detail the benefits of forecast accuracy
- Describe general forecasting techniques and data sources
- Review qualitative, quantitative, and causal forecasting techniques
- Discuss why forecasts fail

Topics:

Forecasting – Overview
Defining Forecasting
Four Levels of Forecasting
What Is Demand?
Universal Principles of Forecasting
The Forecasting Process
Improving Forecast Accuracy
General Forecasting Techniques
Forecasting Data Sources Forecasting Categories
Qualitative Forecasting Overview
Qualitative Forecasting Models
Quantitative Intrinsic Techniques
Averages
Exponential Smoothing
Time Series Decomposition
Quantitative Causal Techniques
Why Forecasts Fail
Forecasting – Summary and Review

Course Title:

Demand Management (POP04)

Objectives:

- Define demand management
- Review the components of demand management
- Place demand management in the MPC system
- Evaluate forecast performance
- Use the measures of forecast error
- Calculate forecast error
- Determine the MAD and standard deviation of forecast error
- Calculate forecast bias and tracking errors
- Define customer relationship management (CRM)
- Work with customer order management
- Define customer service management
- Explore demand management technology tools
- Define demand management performance

Topics:

Demand Management – Overview
Defining Demand Management
Components of Demand Management
Evaluating Forecast Performance
Measures of Forecast Error
Calculating Forecast Error
Mean Absolute Deviation (MAD) of the Forecast Error
Standard Deviation
Normal Distribution of Forecast Error
Forecast Bias
Mean Absolute Percentage Error (MAPE)
Tracking Signal
Limits of Forecasting
Defining CRM
Order Management
Order Management Process
Order Promising
Customer Service Management
Nine Steps to Customer Service Management
Information Technologies
Performance Measurement
Demand Management – Summary and Review

Course Title:

Sales and Operations Planning (POP05)

Objectives:

- Define sales and operations planning (S&OP)
- Understand S&OP in the MPC system
- Understand the S&OP detailed planning process
- Determine product families
- Identify S&OP planning inputs
- Identify S&OP historical input data
- Compile a summary of S&OP outputs
- Understand the S&OP grid
- Work with the make-to-stock (MTS) S&OP grid
- Work with the make-to-order (MTO) S&OP grid
- Implement the monthly S&OP planning meeting
- Define the benefits of S&OP

Topics:

Sales and Operations Planning — Overview
Sales and Operations Planning Definition
Organizations with Separate and Integrated Business Plans
S&OP — A Balancing Act
S&OP in the MPC System
S&OP Inputs and Outputs
S&OP Planning Process
Determining Product Families
S&OP Planning Inputs
Summary of S&OP Outputs
Understanding the MTS S&OP Grid
S&OP Exercise
Understanding the MTO S&OP Grid
Monthly S&OP Planning Process
Data Gathering
Demand Planning
Supply Planning
Pre-S&OP Meeting
Executive S&OP Meeting
Benefits of S&OP
Sales and Operations Planning — Summary and Review

Course Title:

Aggregate Operations Planning (POP07)

Objectives:

- Manage the detailed S&OP process
- Understand the sales and marketing planning processes
- Work with product life cycles and delivery network structures
- Calculate an S&OP product family forecast disaggregation
- Understand the production planning process
- Determine production planning strategies
- Calculate the financial impact of the production plan
- Define resource requirements planning
- Develop resource capacity and production family load profiles
- Generate a resource requirements plan
- Understand the inventory planning process
- Calculate a production plan using an inventory target
- Develop the distribution plan
- Determine transportation, warehouse, and equipment and labor requirements

Topics:

Aggregate Operations Planning – Overview
Detail S&OP Planning – Review
Marketing/Sales Planning – Key Questions
Marketing and Sales Planning Process
Product Life Cycle Dynamics
Product Volume/Profit Analysis
Forecast Disaggregation
Production Plan – Operations Questions
Production Planning Process
Production Strategies
Level Production Strategy
Chase Production Strategy
Financial Decisions – Total Costs
Resource Planning – Definition
Resource Planning – Levels, Horizons, and Methods
Resource Planning Process
Resource and Load Profiles
Resource Planning Exercise
Inventory Planning Process
Inventory Turnover
Distribution Planning Process
Distribution Channel Structure
Warehouse Plan
Aggregate Operations Planning – Summary and Review

Course Title:

Master Scheduling Foundations (POP08)

Objectives:

- Define master scheduling – principles and concepts
- Understand the role of master scheduling in the manufacturing planning and control (MPC) system
- Detail the objectives of master scheduling
- Understand master scheduling and the manufacturing environment
- Work with master scheduling approaches
- Detail the inputs to master scheduling
- Review the interaction between sales and operations planning (S&OP) and master scheduling
- Establish planning bills of material
- Understand the master schedule grid
- Work with the master schedule grid and demand management
- Calculate the projected available balance (PAB) in the master schedule grid
- Calculate net requirements in the master schedule grid
- Generate MPS orders
- Calculate available-to-promise in the master schedule grid
- Work with MPS time fences and zones

Topics:

Master Scheduling Foundations – Overview
Master Schedule Definitions
Master Scheduling in the MPC System
Master Scheduling Process Flow
What the Master Schedule Is NOT
Marketplace/Customer Expectations
Manufacturing Requirements
Scheduling Approaches
Inputs to the Master Schedule
S&OP and the Master Schedule
Product Family Planning Bill of Material
Planning BOM Exercise
Introduction to the MPS Grid
Understanding Master Schedule Demand
Demand and the Master Schedule Grid
PAB and the Master Schedule Grid
Net Requirements and MPS Planned Orders
MPS Planned Order Generation
PAB and Net Requirements Recalculation
MPS Generation Order Policies
ATP and the Master Schedule Grid
Master Schedule Grid
Time Fences and Zones
Time Fences and the Master Schedule Grid
Master Scheduling Foundations – Summary and Review

Course Title:

Master Scheduling Processes (POP09)

Objectives:

- Define the role of the master scheduler
- Review the causes of master schedule change
- Work with the master scheduling management process
- Work with the forecast
- Manage order requests
- Understand the use of time fences
- Understand types of master schedule orders
- Work with action messages
- Work with safety stock
- Discuss capacity planning methods
- Define the rough-cut capacity planning process
- Calculate the rough-cut capacity plan
- Detail the performance elements of a successful master schedule

Topics:

Master Scheduling Processes – Overview
Role of the Master Scheduler
Causes of Master Schedule Change
Master Schedule Management Process
Master Schedule Generation
Managing the Forecast
Managing Order Requirements
Time Fence Review
Types of Master Schedule Orders
Action Messages
Safety Stock and the Master Schedule
Capacity Planning – Levels, Horizons and Methods – Revisited
RCCP Processing Steps
Calculating the Product Load for RCCP
RCCP Calculation
Overload and Underload Solutions
Master Schedule Rebalancing
MPS Process – Closing the Loop
Performance Policies and Methods
Master Schedule Problem Indicators
MPS Performance Measurements
Master Scheduling Processes – Summary and Review

Course Title:

Operations Systems (POP10)

Objectives:

- Explore the importance of information technology
- Detail the role of information technology
- Analyze the technology strategic triangle
- Explore technology organizational framework assumptions
- Outline operations planning system assumptions
- Explore how system technology benefits planning
- Define enterprise resources planning (ERP)
- Trace the evolution of ERP systems
- Analyze the components of today's ERP system
- Compare ERP and "best of breed" software solutions
- Detail the requirements for ERP and system thinking
- Outline the ERP organizational maturity model
- Review ERP and enterprise competitive development
- Detail the benefits of applying ERP systems to the management of the business

Topics:

Operations Systems – Overview
Technology Terms Matching Exercise
Importance of Information Technology
Role of Information Technology
Technology Strategic Triangle
Organizational Framework Assumptions
Purpose of Information Systems
How Systems Technology Benefits Planning
What Is an ERP System?
Evolution of ERP – Stage 1
Evolution of ERP – Stage 2
Evolution of ERP – Stage 3
Evolution of ERP – Stage 4
Evolution of ERP – Stage 5
ERP and Best-of-Breed Systems
Information Technology and Systems Thinking
Enterprise Business System Components
Enterprise System Maturity Model
Benefits Summary
Operations Systems – Summary and Review

Course Title:

Processes and Operations (PM002)

Objectives:

- Define organizations, processes, and operations
- Define a process
- Detail the flow of a process
- Understand the difference between products and services
- Define an operation
- Determine the difference between processes and operations
- Discuss the relationship of processes and the customer
- Review the place of different types of customers in the supply chain
- Identify customer wants and needs
- Match customer wants and needs with process solutions
- Detail the scope of process management
- Understand the organization as a network of functional processes
- Map the process-driven organization
- Explain team-based process networking
- Describe the strategic impact of processes and operations
- Outline and work with the four vs of processes

Topics:

Processes and Operations – Overview
Processes and Operations Foundations
Defining Processes Medium
Process Diagram
Products Versus Services
Defining Operations
Process Operations Mapping
Defining the Customer
Customers in the Supply Chain
Content of Customer Wants and Needs
Scope of Process Management
The Organization as a Network of Functional Processes
The Process-Driven Organization
Team-Based Process Networking
Strategic Impact of Processes and Operations
The Four “Vs” of Processes
The Four Processes “Vs” – Typology
Process and Operations – Summary and Review

Course Title:

Project Management (PM003)

Objectives:

- Define project management
- List the components of a project
- Describe the four objectives of a project
- Detail project goals dynamics
- Contrast managing ongoing operations and project management
- Outline the project management system
- Define the phases of the project management life cycle
- Review the project positioning phase
- Review the initiation and planning phase
- Review project human resource management, roles, and responsibilities
- Construct a project schedule
- Review the execution and control phase
- Review the completion phase
- Understand Gantt charts
- Plan projects with CPM and PERT
- Work with CPM and PERT scheduling examples

Topics:

Project Management — Overview
Defining Project Management
Components of a Project
Four Project Objectives
Project Goals Dynamics
Dynamics of Managing Ongoing Operations and Project Management
Project Management System
Project Management Phases and Life Cycle
Project Positioning Phase
Initiation and Planning Phase
Project Human Resource Management, Roles, and Responsibilities
Project Schedule
Execution and Control Phase
Controlling the Project Completion Phase
Gantt Chart
Planning Projects with CPM/PERT Basic AON CPM Networking
AON PERT Networking
Project Management — Summary and Review

Course Title:

Product Design and Development (PM004)

Objectives:

- Describe the life cycle of products
- Detail the drivers of new product development
- Understand the principles of product development
- Describe the product design organizational structure
- Review the changing paradigms in product design development
- Explore the steps linking product design and processes
- Work with the product design process flow
- Perform a break-even analysis
- Perform a make or buy analysis
- Define quality function deployment (QFD)
- Explore the house of quality
- Explore the four houses of quality
- Detail product design techniques
- Review service design and development

Topics:

Product Design and Development – Overview
Need for New Products
Drivers of New Product Development
Product Development Principles
Design Organizational Structures
Changing Paradigms in Design Development
Linking Designs and Processes
Product Design Process Flow
Break-Even Analysis
Make or Buy Analysis
What is Quality Functional Deployment (QFD)?
House of Quality – Overview
House of Quality – Example
The Four Houses of Quality
Product Design Techniques
Designing Services – Characteristics
Service Design Process Flow
Product Design and Development – Summary and Review

Course Title:

Process Design Strategies (PM005)

Objectives:

- Define process design
- Detail the factors influencing process design
- Describe the different process choices
- Outline transformation process types
- Build core process design structures
- Determine the cost equalization point (CEP)
- Interpret the cost equalization point (CEP) graphic
- Define process layout design
- Detail the factors driving process layout design
- List the various process layout options
- Position process choices with layout choices
- Describe hybrid process layouts
- Investigate production cells
- Maximize process layout efficiency
- Work with assembly lines and assembly-line balancing

Topics:

Process Design Strategies – Overview
Factors Influencing Process Design
Process Choices
Transformation Process Type
Process Design – Core Design Structure
Cost Equalization Point (CEP)
CEP Graphic
Defining Process Layout Design
Factors Driving Process Layout Design
Process Layout Options
Process Choice and Layout Positioning Matrix
Assessing Process and Resource Layout Choices
Hybrid Process Layouts
Production Cells – Revisited Maximizing Process Layout Efficiency
Assembly Line Example and Line Balancing
Process Design Strategies – Summary and Review

Course Title:

Total Quality Management (PM007)

Objectives:

- Define quality
- Discuss why quality has become so important
- Detail the dimensions of quality
- Review the elements of the cost of quality
- Discuss the hidden costs of poor quality
- Interpret the cost of quality graphs
- Define total quality management (TQM)
- Review the ideas of quality management thought leaders
- Outline TQM and business strategy
- Determine the TQM program
- Define quality control
- Define continuous improvement
- Define process management
- Describe the elements of design for quality
- Review the elements of employee involvement in quality management
- Position lean process management and TQM
- Outline the components of the TQM tool kit

Topics:

Total Quality Management – Overview
Defining Quality
Why Has Quality Become So Important?
Dimensions of Quality
Cost of Quality
Hidden Costs of Poor Quality
Cost of Quality Graphs
Total Quality Management – Definition
Quality Thought Leaders
TQM and Strategy
TQM Program Quality Control
Continuous Improvement
Process Management
Design for Quality
Employee Involvement
Lean Processes
TQM Tool Kit
Total Quality Management – Summary and Review

Course Title:

Statistical Quality Control (PM008)

Objectives:

- Define statistical quality control (SQC)
- Review the statistical quality control system
- Detail the three stages of statistical quality control
- Understand the different types of quality problems
- Explore the range of quality problems
- Understand process variance
- Describe the patterns of variability
- Review process capability ratio and index calculations
- Define statistical process control (SPC)
- Define inspection
- Review the basics of inspection
- Review sampling techniques
- Develop a sampling plan
- Understand how to work with \bar{x} -bar and p-control charts

Topics:

Statistical Quality Control – Overview
Defining Statistical Quality Control (SQC)
The Statistical Quality Control System
Three Stages of Statistical Quality Control
Types of Quality Problems
Exploring Quality Problems
Understanding Process Variance
Sources of Variation in Processes
Patterns of Variability – Data Collection
Patterns of Variability
Process Capability
Process Capability Ratio and Index
Defining Statistical Process Control (SPC)
Defining Inspection
Inspection Basics
Sampling Techniques
Developing a Sampling Plan
SPC – Control Chart Basics
X-Chart – Steps
Creating a p-Chart
Interpreting SPC Charts
Statistical Quality Control – Summary and Review

Course Title:

Process Improvement and Optimization (PM009)

Objectives:

- Define process improvement
- Explore process improvement paths
- Understand process improvement dynamics
- Detail the elements of process improvement
- Work with process improvement methodologies
- Understand six sigma quality
- Detail the tools for six sigma quality improvement
- Work with flowcharts
- Work with check sheets
- Work with histograms
- Work with cause-and-effect diagrams
- Work with Pareto diagrams
- Work with scatter diagrams
- Work with control charts
- Apply benchmarking
- Work with balanced scorecard
- Use lean kaizen and process improvement
- Apply sustainability and process improvement

Topics:

Process Improvement and Optimization – Overview
Defining Process Improvement
Process Improvement Paths
Process Improvement Dynamics
Elements of Process Improvement
Process Improvement Methods: Plan-Do-Check-Act (PDCA)
Process Improvement Methods: Define-Measure-Analyze-Improve-Control (DMAIC)
Six Sigma Quality
Tools for Six Sigma Quality Improvement
Flow Charts
Check Sheets
Histograms
Cause-and-Effect Diagrams
Pareto Diagram
Scatter Diagrams
Control Charts
Benchmarking
Balanced Scorecard
Lean Kaizen and Sustainability
Lean Kaizen Circle
Sustainability and Process Improvement Contribution
Process Improvement and Optimization – Summary and Review

Course Title:

Organizational Management and Performance (PMO10)

Objectives:

- Define the objectives of organizational design
- Detail the principles of organizational design
- List the values of organizational design
- Design capable organizations
- Guide the organization through change
- Review change management strategies
- Detail the eight steps of change management
- Understand the role of change leadership and management
- Understand risk terms and concepts
- Manage organizational resiliency
- Detail the tools for managing risk
- Outline workplace management goals
- Review the job characteristic model
- Improve job potential and motivation
- Calculate work measurements and standards
- Perform a time study calculation
- Perform a time study calculation
- Perform a work sampling calculation

Topics:

Organizational Management and Performance – Overview
Objectives and Definition of Organizational Design
Principles of Organizational Design
Organizational Design Values
Designing Capable Organizations
Guiding the Organization Through Change
Change Management Strategies
Eight Steps of Change Management
Role of Change Leadership and Management
Risk Terms and Concept
Managing Organizational Resiliency
Tools for Managing Risk
Workplace Management Goals
Job Characteristics Model
Improving Job Potential and Motivation
Work Measurements and Standards
Work Measurement Techniques
Time Study Steps
Work Sampling Steps
Work Sampling – Activity Percentages
Organizational Management and Performance – Summary and Review

Appendix A: Learning Programs by Role:

Cross-Functional and Sr. Management

PMO01: Operations Management Foundations
 POP05: Sales and Operations Planning
 POP07: Aggregate Operations Planning
 PMO02: Operations and Processes
 PMO03: Project Management
 PMO09: Process Improvement and Performance
 PMO10: Organizational Management and Performance
 POP10: Operations Systems

Supply Chain Manager – Strategic

POP02: Planning Foundations
 POP03: Forecasting
 POP05: Sales and Operations Planning
 POP07: Aggregate Operations Planning
 PDL02: Introduction to Distribution and Logistics
 PDL03: Channel Network Design
 PMO09: Process Improvement and Performance
 PMO10: Organizational Management and Performance

Supply Chain Manager – Operational

PIM07: Lean Inventory – Concept and Practice
 PIM08: Fundamentals of Purchasing
 PIM09: Sourcing Strategies
 POP08: Master Scheduling Foundations
 PDL04: Inventory Management
 PDL07: Warehouse Management
 PDL08: Packaging and Material Handling
 PDL09: Transportation Management
 PDL10: Transportation Operations

Master Scheduling Manager

POP02: Planning Foundations
 POP03: Forecasting
 POP04: Demand Management
 POP05: Sales and Operations Planning
 POP07: Aggregate Operations Planning
 POP08: Master Scheduling Foundations
 POP09: Master Scheduling Processes
 PDL05: Distribution Requirements Planning

Buyer/Purchasing Control

PIM02: Fundamentals of Inventory Management
 PIM03: Purpose and Function of Inventory
 PIM04: Inventory Replenishment Management
 PMM04: Basics of Materials Requirements Planning
 PMM05: Managing with MRP
 PIM08: Fundamentals of Purchasing
 PIM09: Sourcing Strategies
 PIM10: Purchase Order Management and Performance Measurement

Inventory Planner

POP02: Planning Foundations
 PIM02: Fundamentals of Inventory Management
 PIM03: Purpose and Function of Inventory
 PIM04: Inventory Replenishment Management
 PIM05: Additional Inventory Management Techniques and Inventory Performance
 PIM07: Lean Inventory – Concept and Practice
 PMM04: Basics of Materials Requirements Planning (MRP)
 PMM05: Managing with MRP
 PMM07: Capacity Planning and Management

Distribution and Logistics Manager

PIM08: Fundamentals of Purchasing
 PIM09: Sourcing Strategies
 POP08: Master Scheduling Foundations
 PDL04: Inventory Management
 PDL05: Distribution Requirements Planning (DRP)
 PDL07: Warehouse Management
 PDL08: Packaging and Material Handling
 PDL09: Transportation Management
 PDL10: Transportation Operations

Materials Manager

PIM02: Fundamentals of Inventory Management
 PIM03: Purpose and Function of Inventory
 POP05: Sales and Operations Planning
 POP08: Master Scheduling Foundations
 PIM04: Inventory Replenishment Management
 PMM04: Basics of Materials Requirements Planning
 PIM08: Fundamentals of Purchasing
 PIM09: Sourcing Strategies
 PDL07: Warehouse Management
 PDL08: Packaging and Material Handling

Production Manager

PMM02: Introduction to Manufacturing Management
 PMM03: Manufacturing Process Structures
 PMM07: Capacity Planning and Management
 PMM08: Production Activity Control
 PMM09: Advanced Scheduling
 PMM10: Lean Production Management
 PMO05: Process Design Strategies
 PMO07: Total Quality Management
 PMO08: Statistical Process Control
 PMO09: Process Improvement and Performance

Engineering Management

PMO01: Operations Management Foundations
 PMO02: Operations and Processes
 PMO03: Project Management
 PMO04: Product Design and Development
 PMO05: Process Design Strategies
 PMO07: Total Quality Management
 PMO08: Statistical Process Control
 PMO09: Process Improvement and Performance
 PMO10: Organizational Management and Performance

Appendix B: Learning Programs by Topic

Statistical Inventory Planning and Control

PIM04: Inventory Replenishment Management
PIM05: Additional Inventory Management Techniques and Inventory Performance
PDL04: Inventory Management

Material Requirements Planning (MRP)

POP2: Planning Foundations
PMM04: Basics of Material Requirements Planning
PMM05: Managing with MRP
PMM07: Capacity Planning and Management

Managing Sales and Operations Planning (S&OP)

POP2: Planning Foundations
POP03: Forecasting
POP04: Demand Management
POP05: Sales and Operations Planning
POP07: Aggregate Operations Planning

Master Scheduling Issues

POP02: Planning Foundations
POP03: Forecasting
POP04: Demand Management
POP05: Sales and Operations Planning
POP07: Aggregate Operations Planning
POP08: Master Scheduling Foundations
POP09: Master Scheduling Processes

Purchasing Control Issues

PIM08: Fundamentals of Purchasing
PIM09: Sourcing Strategies
PIM10: Purchase Order Management and Performance Measurement

Shop Floor Issues

PMM02: Introduction to Manufacturing Management
PMM03: Manufacturing Process Structures
PMM07: Capacity Planning and Management
PMM08: Production Activity Control
PMM09: Advanced Scheduling
PMM10: Lean Production Management

Warehouse and Transportation Issues

PDL07: Warehouse Management
PDL08: Packaging and Material Handling
PDL09: Transportation Management
PDL10: Transportation Operations

Creating Distribution Channels

PDL02: Introduction to Distribution and Logistics
PDL03: Channel Network Design

Planning Distribution Inventories

PDL04: Inventory Management
PDL05: Distribution Requirements Planning

Inventory Control Issues

PIM02: Fundamentals of Inventory Management
PIM03: Purpose and Function of Inventory
PIM04: Inventory Replenishment Management
PIM05: Additional Inventory Management Techniques and Inventory Performance

Lean Issues

PIM07: Lean Inventory – Concept and Practice
PMM10: Lean Production Management
PM005: Process Design Strategies
PM007: Total Quality Management
PM008: Statistical Process Control
PM009: Process Improvement and Performance
PM010: Organizational Management and Performance

Issues in Demand Management

POP02: Planning Foundations
POP03: Forecasting
POP04: Demand Management

Issues in Quality Management

PM007: Total Quality Management
PM008: Statistical Process Control
PM009: Process Improvement and Performance

Appendix C: Course Design

Each course consists of a learning plan that includes:

- Overview
- Readings
- Practice questions
- Key terms
- Summary and review
- Performance check

Note that the readings and practice questions are grouped topically to allow users to read and then practice concepts related to each topic.

Course tools also include:

- Course dashboard
- Search
- Bookmarks