Principles of Distribution and Logistics (PDL)

**Session 1: Operations Management Foundations**

Describe how today’s business trends are driving operations management  
Define the science of operations management  
Identify the decisions made by operations managers  
Explain how operations management is important to both manufacturing and service functions  
Discuss the role of operations management in the organization  
Describe operations management’s role in supply chain management  
Provide examples of how operations management is a competitive weapon  
Identify career opportunities in the field of operations management  
Perform a distribution and logistics self-assessment review

**Session 2: Introduction to Distribution and Logistics**

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

**Advanced Topics**

The organization of logistics  
The distribution sorting process  
Value-added role of logistics  
Reverse logistics financial worksheet

**Session 3: Channel Network Design**

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.

Advanced Topics
- Global channel facilities
- Delivery network facilitators
- Location break-even analysis

Session 4: Inventory Management
- 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 EOQ
- Work with minimum/maximum inventory controls
- Detail the replenishment planning process

Advance Topics
- The periodic review system
- Normal distribution diagram
- Measuring inventory performance
- Calculation order points with supplier lead time uncertainty
- Cycle counting processing

Session 5: Distribution Requirements Planning (DRP)
- 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

**Advanced Topics**
- Fair share allocation
- Using safety stock in DRP
- Using DRP for logistics capacity planning
- Developing a warehouse capacity plan
- Exploring distribution resources planning (DRP II)

**Session 6: Mid-Term Exam**

**Session 7: Warehouse Management**

Define warehouse management
Detail warehouse functions – material handling, product storage, order management, and information transfer
Describe the different types of warehouse – private, public, contract, and intransit
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
Illustrating the components of successful warehouse inventory transaction management
Outline the order picking and shipping flow
Emphasize the importance of warehouse performance measurements

**Advanced Topics**
- Specialized warehousing services
- Warehouse strategy steps
- Developing warehouse time standards
- Annual physical inventory and cycle counting
- Approaches to measuring logistics performance

**Session 8: Packaging and Material Handling**

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

Advanced Topics
  Cube utilization and accessibility
  The cross-docking warehouse
  Advanced dock door management
  Warehouse space calculation
  Shipping containers
  Environmental impact of packaging

Session 9: Transportation Management
  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, pipelines, and intermodal
  Describe the types of transportation carriers
  Define the functions and impact on transportation of third-party logistics (3PLs)
  Outline the various forms of logistics outsourcing models
  Detail the challenges facing today's transportation industry

Advanced Topics
  Private fleet management
  Choosing a logistics service provider (LSP)
  Advantages and risks of a logistics service provider (LSP)

Session 10: Transportation Operations
  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 detail components of transportation cost
Understanding 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 management
Define transportation management technologies

**Advanced Topics**
- Transportation risk mitigation - methodology
- Transportation rates and pricing
- Transportation rate negotiation
- Transportation contract estimating
- International terms of sale

**Session 11: Final Exam**