Detailed Scheduling and Planning (DSP) Curriculum

Version 5.0

Session 1—Inventory Policies

Types and Classifications of Inventory
- Major Types of Manufacturing Inventory
- Sub-classifications of Manufacturing Inventory
- Other Manufacturing Inventory
- Service Inventory

Aggregate Inventory Policies
- Resolving Sales and Operational Conflicts
- Inventory Valuation
- Inventory Performance Metrics

Item Inventory Policies
- Lot Sizing
- Safety Stock

Session 2—Inventory Planning

Order Review Methods
- Independent Demand
- Dependent Demand

Aggregate and Disaggregate Planning
- Manufacturing Planning and Control
- MRP II for Service

Impact of Lean Production Concepts
- Tighter Coupling of Production Activities
- Lean Production Tools

Accuracy, Storage, Handling, and Tracking
- Inventory Accuracy
- Storage and Location of Inventory Items
- Handling, Tracking, and Tracing of Inventory

Session 3—Information Used in the Material Planning Process

Information Used in Material Planning
- Inventory Data
- The Master Production Schedule
- Engineering Data

Characteristics of the Material Planning Process
- Material Planning in Different Production Environments
- MRP Model
• Planning Process Parameters
• Performance Characteristics

Session 4—MRP Mechanics: The Basics
Introduction
• MRP Objectives and Functions
• The MRP Grid
• Bills of Material

MRP Calculation of Gross and Net Requirements
• Gross and Net Requirements and Planned Orders
• Sources of Gross Requirements
• Summary of MRP Process Logic

Session 5—Using MRP Outputs and Managing Projects
Maintaining the Material Plan
• Maintain Order Priorities
• Pegging
• What-If Analysis and Simulation 5-21
• Revision of Planning Parameters
• Closing the Loop
• Integration of Lean with ERP/MRP

Project Management
• What is a Project?
• Project Phases
• Conceptual (Initiation) Phase
• Planning Phase
• Project Plan Elements
• Execution (Implementation) Phase
• Monitoring and Control Phase
• Closure Phase

Session 6—Detailed Capacity Planning
Influences on Detailed Capacity Planning
• Detailed Capacity Planning
• Major Influences on Detailed Capacity Planning
• Flexibility of Capacity and Scheduling
• Planning Material or Capacity First
• Manufacturing Environment
• Capacity-Related Terminology and Concepts

Information Used in Detailed Capacity Planning
• Capacity-Related Data
• Load-Related Data and Sources of Load

Detailed Capacity Planning Techniques
• System Design Specifications
• Simulation and Modeling Techniques

**Session 7—Detailed Capacity Management**

Capacity Requirements Planning
- Capacity Management
- Classical Capacity Requirements Planning

Capacity Management in Process Industries
- Process Industries
- Key Process Industry Characteristics
- Process Flow Scheduling

Other Capacity Management Approaches
- Line Balancing in Repetitive Manufacturing
- Capacity Management in Service Industries

Performance Measurements
- Introduction
- Key Performance Measures

**Session 8—Establishing Supplier Relationships**

Factors Determining Supply Relationships
- Mutual Business Value Principles
- Make-or-Buy Decision
- Purchasing Strategy
- Strategic Sourcing
- Tactical Buying
- Tactical Buying Versus Strategic Sourcing
- Financial Viability

Collaborative Relationships
- Strategic Alliances
- Supplier Partnerships

Supply Alternatives and Techniques
- Sole, Single, or Multiple Sourcing
- Supplier-Managed Inventories
- Cross-Functional Teams

Communication with Suppliers
- Strategic Communication
- Operational Communication

**Session 9—Supplier Partnerships**

Product and Process Development
- Time-to-Market
- Traditional Versus Concurrent Engineering
- Supplier Involvement
Purchasing
- Purchasing Approaches
- Types of Contracts

Supply Chain Acceleration
- Total Cost of Ownership
- Training
- The Role of Engineering
- Supplier Relationship Management
- Delivery Approaches
- Supplier Rating System