

# 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