

# Basics of Supply Chain Management

This is an introductory course for production and inventory management personnel and related disciplines for CPIM candidates. This course provides basic definitions and concepts for planning and controlling the flow of materials into, through, and out of an organization. It explains fundamental relationships among the activities that occur in the supply chain from suppliers to customers. In addition, the course addresses types of manufacturing systems, forecasting, master planning, material requirements planning, capacity management, production activity control, purchasing, inventory management, distribution, quality management, and Just-in-Time manufacturing.

Featured sections in this module include:

## ***I. Business-wide Concepts***

This section of the outline covers basic business-wide concepts, including the various production environments used for the transformation process and financial fundamentals.

Also in this section, three of the more common company-wide management approaches (MRP II, JIT, and TQM) are presented together with their interrelationships and are included in the following major topic areas:

- A. Elements of the Supply Chain
- B. Operating Environments
- C. Financial Fundamentals
- D. Manufacturing Resource Planning (MRP II)
- E. Just-in-Time (JIT)
- F. Total Quality Management (TQM)

## ***II. Demand Planning***

This section covers demand planning, including a basic understanding of markets and customer expectations, the definition of value, and a fundamental overview of demand forecasting and are included in the following major topic areas:

- A. Marketplace-Driven
- B. Customer Expectations and Definition of Value
- C. Customer Relationships
- D. Demand Management

### ***III. Transformation of Demand into Supply***

This section includes design, management, and control of the transformation process itself. The first part of this section includes the design of products, processes, and information systems used for planning. The rest of the section includes fundamentals of planning systems, execution controls, and performance measures and are included in the following major topic areas:

- A. Design
- B. Capacity Management
- C. Planning
- D. Execution and Control
- E. Performance Measurements

### ***IV. Supply***

This section is devoted to supply issues. These include the concepts of inventory, purchasing, and physical distribution and are included in the following major topic areas:

- A. Inventory
- B. Purchasing
- C. Physical Distribution System

**COURSE CONTENT IS PRESENTED IN 30 HOURS, 3 HOURS PER WEEK**

*When presented in-house, the schedule can be arranged for your convenience.*

# Master Planning of Resources

In this course, students explore processes used to: develop sales and operations plans; identify and assess internal and external demand and forecasting requirements; and effect an achievable master schedule consistent with business policies, objectives, and resource constraints. The course focuses on developing and validating a plan of supply, relating management of demand to the environment, and developing and validating the master schedule.

In addition, the course encompasses concepts for transforming sales, marketing, and business requirements into a feasible and economic operations plan in various business environments. It also addresses concepts and methodologies for managing projected and actual demands from distribution networks and external customers. Finally, the course presents methods for integrating sales and operations plans, demand forecasts, and customer demand into a specific master schedule.

Featured sections in this module include:

## ***I. Developing and Validating a Plan of Supply***

- A. Relating the Planning Processes to the Environment.
- B. Understanding Business Choices that Impact the Aggregate Planning Process.
- C. Developing and Validating a Sales and Operations Plan.

## ***II. Identifying, Quantifying and Assessing Demand***

- A. Relating Management of Demand to the Environment
- B. Forecasting Demand
- C. Recognizing and Processing Actual Demand.

## ***III. Developing and Validating the Master Schedule***

- A. Relating the Master Scheduling Process to the Business Environment.
- B. Understanding the Business Choices that Impact the Master Scheduling Process.
- C. Constructing and Implementing the Master Schedule.
- D. Measuring the Business Planning Processes.

**COURSE CONTENT IS PRESENTED IN 24 HOURS, 3 HOURS PER WEEK**

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## Detailed Scheduling and Planning

This course focuses on material and capacity scheduling and planning. It includes a detailed explanation of material requirements planning (MRP), a technique suitable for use in many environments. The course also introduces another material planning technique, material-dominated scheduling, which is applicable to process industries and other mature production environments. The course explains capacity requirements planning in detail and introduces other capacity-planning techniques, including processor-dominated scheduling.

Featured sections in this module include:

### ***I. Planning Material Requirements to Support the Master Schedule***

- A. Recognizing Techniques and Practices of Inventory
- B. Identifying Information Used in Material Planning
- C. Identifying the Desirable Characteristics of the Detailed Material Planning Process
- D. Mechanics of the Detailed Material Planning Process
- E. Maintaining the Validity of the Material Plan
- F. Interactions with Other Systems (closing the loop)

### ***II. Planning Operations to Support the Priority Plan***

- A. Recognizing the Characteristics and Techniques of the Detailed Capacity Planning Process
- B. Identifying Information used in the Detailed Capacity Planning Process
- C. Identifying Desirable Characteristics of the Detailed Capacity Planning Process
- D. Uses of the Detailed Capacity Planning Process
- E. Measuring the Performance of the Detailed Capacity Planning Process
- F. Interactions with Other Systems

### ***III. Planning Procurement and External Sources of Supply***

- A. Establishing Relationships with Suppliers
- B. Techniques and Concepts for Supplier Partnerships
- C. Implementing the new relationship

**COURSE CONTENT IS PRESENTED IN 27 HOURS, 3 HOURS PER WEEK**

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## **Execution and Control of Operations**

This course focuses on three main areas: prioritizing and sequencing work; executing work plans, implementing controls, and reporting activity results; and evaluating and providing feedback on performance. The course explains techniques for scheduling and controlling production and process operations. It also addresses the execution of quality initiatives and continuous improvement plans as well as controlling and handling inventories. Finally, the course presents techniques for evaluating performance and collecting data for effective feedback.

Featured sections in this module include:

### ***I. Prioritizing and Sequencing Work to be Performed***

- A. Interfaces
- B. Production environment
- C. Scheduling Production and Process Operations

### ***II. Executing Plans, Implementing Physical Controls, and reporting Results of Activities Performed***

- A. Authorizing and Reporting Activities for Push Systems
- B. Authorizing and Reporting Activities for Pull Systems
- C. Transaction Reporting
- D. Communicating Customer-Supplier Information
- E. Controlling Resources
- F. Executing Quality Initiatives, Eliminating Waste, and Implementing Continuous Improvement Plans

### ***III. Evaluating Performance and Providing Feedback***

- A. Evaluating Quality Management Processes
- B. Monitoring Supplier Performance
- C. Evaluating Performance of Production Operations
- D. Evaluating Contractual and Regulatory Compliance and Cost Performance of Operations

**COURSE CONTENT IS PRESENTED IN 27 HOURS, 3 HOURS PER WEEK**

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# Strategic Management of Resources

In this course, students explore the relationship of existing and emerging processes and technologies to manufacturing strategy and supply-chain-related functions. The course addresses three main topics: aligning resources with the strategic plan, configuring and integrating operating processes to support the strategic plan, and implementing change. For maximum comprehension of course content, students should be familiar with the information and concepts presented in other CPIM modules before taking this course.

Featured sections in this module include:

## ***I. Aligning the Resources with the Strategic Plan***

- A. Competitive market issues
- B. Choices affecting facilities
- C. Choices affecting the supply chain
- D. Choices affecting information technology
- E. Choices affecting organizational design

## ***II. Configuring and Integrating the Operating Processes to Support the Strategic Plan***

- A. Configuring and integrating the priority planning processes
- B. Configuring and integrating the capacity planning processes
- C. Configuring and integrating design and development processes
- D. Configuring and integrating cost management processes

## ***III. Implementing Change***

- A. Evaluating and managing projects
- B. Measuring organizational performance
- C. Managing change in an organization

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