QUEST
Professional Center

PROFESSIONAL TRAINING COURSE

Course No. 1667

Production Planning & Control

OPERATIONS & PRODUCTION MANAGEMENT
INDUSTRIAL ENGINEERING, MAINTENANCE & OPERATIONS

DURATION
5 Days

DELIVERY
Classroom

Course Overview

The Production Planning & Control Training Course provides a comprehensive and practical framework for improving the effectiveness of production planning, scheduling, resource coordination, and operational control. The course is designed to help professionals translate demand and organizational objectives into realistic production plans while maintaining an effective balance between production capacity, materials, workforce, equipment, inventory, delivery requirements, and operational priorities.

Effective production planning and control is essential for maintaining stable operations, reducing delays, improving resource utilization, and meeting production commitments. Successful planning requires more than preparing schedules; it requires the ability to analyze demand, evaluate capacity, determine material and resource requirements, establish production priorities, monitor execution, and respond effectively to operational deviations.

The program covers key areas of production planning and control, including demand analysis, production planning horizons, capacity planning, material requirements planning, workforce and equipment planning, production scheduling, work order management, inventory coordination, and production monitoring. Participants will also examine the relationship between production planning and procurement, maintenance, quality, logistics, and supply chain activities.

A strong focus is placed on operational control and performance analysis. Participants will learn how to compare planned production with actual results, identify delays and bottlenecks, analyze deviations, establish corrective actions, and use production performance indicators to improve planning accuracy and execution. The course also addresses replanning and priority management when demand, resources, materials, equipment availability, or operational conditions change.

Through practical exercises, planning scenarios, production scheduling activities, and case-based analysis, participants will develop the ability to prepare integrated production plans, establish effective production schedules, coordinate resources and materials, monitor execution, analyze performance gaps, and improve production control systems. The Production Planning & Control Training Course supports organizations seeking stronger production reliability, better resource utilization, improved delivery performance, and more effective operational decision-making.

Objectives

- Analyze advanced production planning and control principles and their relationship to organizational operational objectives.
- Evaluate production demand and operational requirements and translate them into practical production plans.
- Develop integrated production plans that consider capacity, materials, workforce, equipment, inventory, and delivery requirements.
- Apply effective capacity planning methods to identify resource gaps and operational constraints.
- Design realistic production schedules that balance priorities, available resources, production requirements, and delivery commitments.
- Apply material requirements planning principles and integrate material availability with production schedules and inventory levels.
- Evaluate production orders and compare actual execution against approved production plans and schedules.
- Analyze production delays, deviations, bottlenecks, and resource constraints and establish appropriate corrective actions.
- Improve coordination between production, procurement, inventory, maintenance, quality, logistics, and supply chain functions.
- Design performance indicators for measuring planning accuracy, scheduling effectiveness, production adherence, and operational control.
- Apply replanning and priority management techniques when demand, resources, materials, or operating conditions change.
- Develop a practical production planning and control improvement plan by the end of the course.

Who Should Attend

This training course is designed for production managers, operations managers, planning managers, production planners, production controllers, manufacturing supervisors, production engineers, process engineers, industrial engineers, and specialists responsible for production planning, scheduling, material requirements, inventory coordination, and production control.

The course is particularly relevant to professionals working in manufacturing, oil and gas, petrochemicals, energy, engineering, heavy industry, industrial services, and utilities. It is also

suitable for supply chain, procurement, logistics, and inventory professionals whose responsibilities require close coordination between materials, resources, production requirements, and operational schedules.

The program will also benefit plant managers, operations and supply chain managers, inventory and procurement managers, quality and maintenance managers, senior executives, and decision makers responsible for improving productivity, production reliability, delivery performance, and the effective balance between demand, production capacity, materials, and available resources.

Learning Outcomes

- Analyze production requirements and translate demand into clear and executable production plans.
- Develop production plans that balance demand, capacity, materials, workforce, equipment, inventory, and delivery requirements.
- Evaluate production capacity and identify constraints that may affect the execution of production plans.
- Develop effective production schedules based on operational priorities, resource availability, and delivery commitments.
- Apply material requirements planning principles and coordinate material availability with production requirements.
- Monitor production orders and evaluate adherence to approved production plans and schedules.
- Analyze deviations between planned and actual production and identify their primary causes.
- Develop corrective actions for production delays, bottlenecks, resource shortages, material shortages, and scheduling problems.
- Improve coordination between production, procurement, inventory, maintenance, quality, logistics, and supply chain functions.
- Establish relevant performance indicators for evaluating production planning, scheduling, and control effectiveness.
- Apply replanning techniques when demand, resource availability, equipment condition, or operating requirements change.
- Develop a practical framework for improving production planning and control within the organization.

Course Outline

DAY 01

Foundations of Production Planning & Control

- Strategic role of production planning and control in operational performance
- Production planning levels and the relationship between strategic, tactical, and operational planning
- Demand analysis, production requirements, customer priorities, and operational commitments
- Establishing production objectives and aligning them with capacity and available resources

> **PRACTICAL APPLICATION**
> Analyze a production case and translate demand requirements into an initial production plan

DAY 02

Capacity, Materials & Resource Planning

- Production capacity planning and assessment of available and required capacity
- Identifying production constraints, bottlenecks, and resource limitations
- Material requirements planning and coordination of raw materials with production schedules
- Workforce, equipment, and supporting resource planning

> **PRACTICAL APPLICATION**
> Develop an integrated capacity, materials, workforce, and equipment plan for a defined production requirement

DAY 03

Production Scheduling & Operational Coordination

- Principles of production scheduling and work order sequencing
- Production priorities and management of competing resource requirements
- Coordinating material flow and work orders across production stages
- Managing changes in demand, production delays, equipment downtime, and material shortages

DAY 03 — CONTINUED

PRACTICAL APPLICATION

Develop and optimize a production schedule under multiple operational constraints

DAY 04

Production Monitoring, Control & Performance Analysis

- Monitoring production plans and work order execution
- Comparing planned production with actual production results
- Variance analysis and identification of production delays and bottlenecks
- Performance indicators for production planning, scheduling, and operational control

PRACTICAL APPLICATION

Analyze production performance data, identify execution gaps, determine root causes, and develop corrective actions

DAY 05

Production Planning Improvement & Operational Excellence

- Replanning and priority management in changing operational environments
- Integrating production planning with inventory, procurement, maintenance, quality, and logistics
- Improving planning accuracy, schedule reliability, and production visibility
- Continuous improvement approaches for production planning and control

FINAL WORKSHOP

Develop a comprehensive Production Planning & Control improvement plan covering planning, materials, capacity, scheduling, performance indicators, monitoring mechanisms, corrective actions, and implementation priorities

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Register or Request More Information

Course page: https://quest-training.com/courses/production-planning-control
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