KOENIG SOLUTIONS · COURSE OUTLINE

Supply Chain: MRP, MPS & Forecasting

Learn to plan supply chains using MRPII, S&OP, forecasting, master scheduling, MRP, capacity planning and production activity control.

COURSE OVERVIEW

This course covers MRPII and supply chain systems alongside Sales and Operations Planning as a means of aligning organisational activity. It then examines forecasting, from an overview of forecasting objectives through qualitative and quantitative techniques to advanced topics such as macroforecasting, focus forecasting and new product forecasts. The course continues with production strategy, Gantt charts and scheduling, master production scheduling, material requirements planning, and capacity planning using rough-cut capacity planning and capacity requirements planning. It closes with three lessons on production activity control, covering scheduling, bottleneck management, linear programming, lead-time control and operation overlapping.

WHO THIS COURSE IS FOR

- **Supply Chain Planners**
- **Master Schedulers**
- **Production Planners**
- **Demand Forecasters**
- **Capacity Planners**
- **Materials Managers**

COURSE SYLLABUS

12 Modules

01

Certification and Systems

This lesson will discuss professional certification, and you'll get acquainted with APICS, the professional society for supply change management (SCM) practitioners. You'll find out about the concept of an operating system and the use of a supply chain. You'll also learn about Material Resources Planning (MRPII) and the role that it plays in an organization.

02

Sales and Operations Planning

MRPII creates a logical structure for information, activities, and material to flow. While beneficial, MRPII represents only half of what an organization needs to succeed. In this lesson, you'll see the other half of the picture, Sales and Operations Planning (S&OP). It's a dynamic process that can make your company a world-class organization. You'll learn how to successfully use S&OP, identify key focus areas, and appreciate the benefits of following the S&OP cycle.

03

An Overview of Forecasting

In this lesson, you'll examine forecasting, defined as a prediction based on scientific observation. You'll explore the history and nature of forecasting and learn about customer demand. You'll discover how to set forecasting objectives and create a process to develop and update weekly or monthly forecasts.

04

Forecasting Techniques

In this lesson, you'll examine the components of demand: averages, linear trend, seasonality, and cyclical, irregular, and random factors. The lesson will cover many qualitative forecasting techniques, including the Delphi method, panel consensus, and historical analogy. You'll learn about quantitative forecasting by working on problems involving time series (simple and weighted moving average and exponential smoothing) and associative methods (linear regression and multiple regression analysis). You'll start to get a sense of which forecasting methods to use for which situations.

05

Advanced Forecasting Topics

This lesson will conclude the discussion of forecasting. You'll find out about macroforecasting and two forecasting techniques that really fit in the quantitative or qualitative categories: focus forecasting and pyramid forecasting. You'll discover how to develop forecasts for new products, and learn how to use techniques to effectively control your forecasts before they get too far off track.

06

Strategy and the Production Plan

In this lesson, you'll learn how to develop and use a Gantt chart, examine basic scheduling principles, and discover how to overcome production schedule challenges. You'll also learn how to use priority rules to sequence work orders, use shop loading, and manage work orders. Finally, the lesson will teach you all about lead-time. You'll learn to identify its components and about how you can successfully control it.

07

Master Production Scheduling

The topic of this lesson is the master production schedule (MPS). An MPS breaks down the production plan in greater detail. To manage your MPS effectively, you'll need a master scheduler. The lesson will teach you about how the master scheduler converts the production schedule to an MPS, applies a final assembly schedule, and uses available-to-promise (ATP) to satisfy customer orders. You'll also learn how critical it is to measure and control your MPS and methods to keep it moving in the right direction.

08

Material Requirements Planning

The process called material requirements planning (MRP) is one of the great inventions of the 20th century. In this lesson, you'll discover how MRP can help your company. You'll learn about the basics, dependent demand, bills of materials, and inventory records, and study the various reports and schedules. You'll also find out how to lot-size MRP orders and what it takes to implement MRP.

09

Capacity Planning

To succeed with capacity planning, you must manage the present and the future. You need to balance flexibility (being able to meet new and diverse needs in different ways) with capability (doing what you must do now). In this lesson, you'll learn about the goals and requirements to effectively manage capacity. You'll also discover how to use strategic capacity management, rough-cut capacity planning (RCCP), and capacity requirements planning (CRP) to define, plan, measure, and control output.

10

Production Activity Control, Part 1

The last four lessons will discuss production activity control (PAC). PAC is vital because it activates all of your plans, including the MPS, MRP, and your capacity plan. You'll look at the PAC cycle and its requirements and benefits, then learn how to apply backward and forward scheduling, manage bottlenecks, and optimize set up management. The lesson will also cover linear programming as a way to schedule products when you face supply and demand constraints.

11

Production Activity Control, Part 2

In this lesson, you'll examine another method with an acronym: production scheduling and control (PSC). PSC is the part of PAC that carries out your planning, going all the way back to the business plan. By the time you finish this lesson, you'll know how to develop and use a Gantt chart, understand basic scheduling principles, and know how to overcome production schedule challenges. You'll also learn how to use priority rules to sequence work orders, use shop loading, and manage work orders.

12

Production Activity Control, Part 3

In this final lesson, you'll learn all about lead-time. The lesson will identify its components and discuss how you can successfully control it. You'll finish the course by studying operation overlapping as a way to improve production and keep materials flowing smoothly.

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training | Live Online Classes (ILO) | Fly-Me-A-Trainer (FMAT) | Flexi (Self-Paced) | 1-on-1 Training

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