This course supports the assessment for Quality, Operations, and Decision Science Concepts. The course covers 11 competencies and represents 8 competency units.

**Introduction**

**Overview**
The job of a manager is critical to the success of all types of organizations. No job is more important to business and our society than the job of a manager. Managers determine whether our social institutions serve us well or whether they squander our talents and resources. As a student of management, you will learn theories, skills, and tools that will help you to become a better manager.

This course focuses upon the operations function of a business organization and on specific topics that relate to the operations function. Operations management focuses on effectively and efficiently managing processes used to produce and distribute an organization's products and services. The operations function is often described as the most critical function because it determines whether or not the business survives and is profitable.

Watch the following video introduction for this course:

*Note: To download this video, right-click the following link and choose "Save as...":* [download video](#)

**Competencies**
This course provides guidance to help you demonstrate the following 11 competencies:

- **Competency 304.1.1: Quality Management Concepts**
  The graduate understands the concepts associated with quality management.

- **Competency 304.1.2: Process Improvement Teams**
  The graduate understands how to form and use process improvement teams.

- **Competency 304.1.3: Cost-Quality Relationship**
  The graduate understands the relationship between costs and quality.

- **Competency 304.1.4: ISO**
  The graduate is knowledgeable about the International Organization for Standards (ISO), a body dedicated to quality improvement.

- **Competency 304.1.5: Quality Initiatives**
  The graduate understands quality initiatives and ways to improve performance.

- **Competency 304.2.1: Graphical Charts**
  The graduate understands the types and uses of graphical charts in operations management.

- **Competency 304.2.2: Auditing Process**
  The graduate understands the auditing process and the desired outcomes for each phase in the auditing process.

- **Competency 304.2.3: Systems Design**
The graduate is knowledgeable about designing systems.

- **Competency 304.2.5: Supply Chain Management**
  The graduate is knowledgeable about supply chain management.

- **Competency 304.3.1: Analysis and Problem Solving**
  The graduate understands the issues and processes related to analyzing situations and developing and implementing solutions to problems.

- **Competency 304.3.2: Decision-Making Tools**
  The graduate understands various approaches to decision making and the tools and processes that are used.

**Course Instructor Assistance**

As you prepare to demonstrate competency in this subject, remember that course instructors stand ready to help you reach your educational goals. As subject matter experts, mentors enjoy and take pride in helping students become reflective learners, problem solvers, and critical thinkers. Course instructors are excited to hear from you and eager to work with you.

Successful students report that working with a course instructor is the key to their success. Course instructors are able to share tips on approaches, tools, and skills that can help you apply the content you’re studying. They also provide guidance in assessment preparation strategies and troubleshoot areas of deficiency. Even if things don’t work out on your first try, course instructors act as a support system to guide you through the revision process. You should expect to work with course instructors for the duration of your coursework, so you are welcome to contact them as soon as you begin. Course instructors are fully committed to your success!

**Preparing for Success**

The information in this section is provided to detail the resources available for you to use as you complete this course.

**Learning Resources**

The learning resources listed in this section are required to complete the activities in this course. For many resources, WGU has provided automatic access through the course. However, you may need to manually enroll in or independently acquire other resources. Read the full instructions provided to ensure that you have access to all of your resources in a timely manner.

**Automatically Enrolled Resources**

You can access the learning resources listed in this section by clicking on the links provided throughout the course. You may be prompted to log in to the WGU student portal to access the resources.

**VitalSource E-Texts**

The following textbooks are available to you as an e-text within this course. You will be directly linked to the specific readings required within the activities that follow.


Note: These e-texts are available to you as part of your program tuition and fees, but you may purchase a hard copy at your own expense through VitalSource or a retailer of your choice. If you choose to purchase the text from a retailer, please use the ISBN listed to ensure that you receive the correct edition.

Directions for purchasing a printed text from VitalSource:

1. Access the text using the course links.
2. Click on the Main Menu Icon in the upper left corner.
3. Click Print on Demand
4. If your text is available, it will be listed.
5. Click on the text and follow the prompts for purchasing the book.

For more information, review the Print on Demand Option for VitalSource Texts: Help documentation.

Minimum Technical Requirements

Obtain a Calculator

You will need a financial calculator or access to spreadsheet software, such as Microsoft Excel, for computational problems throughout this course. The recommended financial calculator is the Texas Instruments BA-II Plus. You may only use an approved financial calculator during the pre-assessment and assessment for this course. You are unable to use Excel during the assessments.

Topics and Pacing

The pacing guide suggests a weekly structure to pace your completion of learning activities. It is provided as a suggestion and does not represent a mandatory schedule. You may contact your Course Instructor for alternatives to this Pacing Guide if you desire other options.

- Week 1
  - Capacity
  - Managing Projects
- Week 2
  - Process Improvement Teams
- Week 3
  - Cost-Quality Relationship
  - International Organization for Standardization
- Week 4
  - The Management of Quality
Graphical Charts
Managing the Supply Chain

- Week 5
  - Location
  - Process and Layout
  - Aggregate Planning Inventory
  - Managing the Supply Chain
  - Material Requirements Planning
  - Scheduling

- Week 6
  - Decision Models and Processes

- Week 7
  - Decision Making

- Week 8
  - Pre-assessment
  - Review
  - Assessment

Note: This pacing guide does not replace the course. Please continue to refer to the course for a comprehensive list of the resources and activities.

Cohort Schedule
You may join the cohort offerings and review the Cohort Guide. A Cohort is an interactive, live event held over multiple sessions and hosted by a course instructor. As opposed to what a webinar can provide, a Cohort delves more deeply into the content of the course. The Cohort Guide offers additional information to guide you through this course. For this to be most beneficial, please come prepared to discuss the material for each session. If you sign up ahead of time, you will receive an email with preparation materials for each session.

- Cohort Guide: Quality, Operations, and Decision Science Concepts

Systems Design and Operations

Product and service design are the starting point for satisfying the customer, but the customer's satisfaction will depend on the effectiveness and efficiency of the variety of systems that interact as the product or service moves through the processes leading to customer acquisition. The effectiveness and efficiency of these systems and processes are impacted by their design and operation, and by decisions regarding location, capacity, layout, and design of the work performed by individuals and by machines.

Capacity
Capacity refers to the upper limit or maximum load that a facility or process can handle during a specified period of time. In the operations function, load is often measured in terms of physical units produced or the number of services performed.

This topic addresses the following competency:

- Competency 304.1.1: Quality Management Concepts
The graduate understands the concepts associated with quality management.

This topic highlights the following objectives:

- Identify the tools used for capacity planning.
- Apply financial concepts such as break-even analysis, time value of money, depreciation, tax implications, etc., in an operations management context.

When you have completed study of this topic, you should be able to:

- describe the factors that determine effective capacity,
- identify considerations that can be utilized when developing capacity alternatives,
- interpret the results depicted by cost-volume analysis of capacity alternatives,
- identify techniques that are useful for evaluating capacity alternatives from a financial or economic standpoint, and
- identify the seven categories of constraints that can limit the performance of a process or system.

Read: Chapter 5

Read the following chapter from Operations Management:

- Chapter 5 ("Strategic Capacity Planning for Products and Services")

Watch: Video

View the following video:

- Strategic Capacity Planning Video

Complete: Study Guide

Complete the following study guide:

- Capacity Study Guide

Test Your Knowledge

Click this link and follow the subsequent instructions to navigate to the following practice quiz:

- Capacity Quiz

Managing Projects

As used here, the term project applies to one-time, non-routine operations that are complex in nature and are generally accompanied by considerable uncertainty and risk. The project management approach enables the organization to identify and plan the tasks necessary to complete the project and to concentrate the manager's attention and the organization's efforts on performance activities and objectives in a way that enables them to keep track of those tasks. It also facilitates, when necessary, focus upon the tasks that are most likely to impede completion of the entire project on time.
This topic addresses the following competency:

- Competency 304.2.4: System Operation and Control
  The graduate is knowledgeable about operating and controlling the system.

This topic highlights the following objectives:

- Identify the tools used in project management.
- Select the appropriate operations tactic for a given situation.
- Identify qualitative and quantitative aspects associated with designing work systems.

When you have completed study of this topic, you should be able to:

- identify the key metrics and the main tools that are utilized when employing project management.
- name six key decisions in project management.
- discuss key steps in risk management.
- understand analyzing networks with different types of time estimates.

Read: Chapter 17

Read the following chapter from Operations Management:

- [Chapter 17 ("Project Management")](#)

Watch: Video

View the following video:

- [Project Management Video](#)

Complete: Study Guide

Complete the following study guide:

- [Project Management Study Guide](#)

Test Your Knowledge

Click this link and follow the subsequent instructions to navigate to the following practice quiz:

- [Project Management Quiz](#)

**Process Improvement Teams**

Continued improvement in product quality and process is necessary for long-term survival. The use of process improvement teams is a key tool for identifying problems and opportunities. Teams that are created correctly and assigned appropriate goals contribute to the success of the organization by implanting creative and effective solutions.

**Process Improvement Teams**
Creating and managing successful teams requires understanding and applying the criteria for team effectiveness.

This topic addresses the following competency:

- **Competency 304.1.2: Process Improvement Teams**  
  *The graduate understands how to form and use process improvement teams.*

This topic highlights the following objectives:

- Recognize appropriate goals of process improvement teams.
- Identify the process for establishing a process improvement team.
- Describe the responsibilities that rest with team members.

When you have completed study of this topic, you should be able to:

- identify mistakes typically made by management that result in the failure of work teams,
- identify problems typically experienced by team members that result in the failure of work teams,
- explain the main threat to team effectiveness, and
- identify the eight attributes of high-performance teams.

**Read: Chapter 8**

Read the following chapter from *Quality and Performance Excellence*:

- Chapter 8 (“Quality Teamwork”)

**Read: Chapter 8**

Read the following from *Organizational Behavior*:

- Chapter 8 (“Groups and Teams”)

**Watch: Video**

View the following video:

- Process Improvement Teams Video

**Complete: Study Guide**

Complete the following study guide:

- Process Improvement Teams

**Test Your Knowledge**

Click this link and follow the subsequent instructions to navigate to the following practice quiz:

- Process Improvement Teams Quiz
Cost-Quality Relationship

Prior to utilizing resources to improve quality, the cost associated with it needs to be realized. Managing quality includes balancing the costs of preventative and improvement activities with the outcome of those activities.

**Cost-Quality Relationship**

Joseph M. Juran determined that profits could be increased by reducing the costs of poor quality. *Costs of quality* are categorized into three types: appraisal, prevention, and failure. Measuring these costs in comparison to profit is a valuable tool in an organization’s quality strategy.

This topic addresses the following competency:

- **Competency 304.1.3 Cost-Quality Relationship**
  
  *The graduate understands the relationship between costs and quality.*

This topic highlights the following objectives:

- Identify the types of costs associated with quality.
- Recognize the point at which costs associated with improvement are not warranted.

When you have completed study of this topic, you should be able to:

- identify and interpret the seven charts, graphs, and diagrams that are commonly referred to as the seven basic quality tools;
- identify which type of chart or diagram will effectively depict specified types of data or relationships that are key to operations management decisions; and
- describe how to use a flowchart as a problem-solving tool.

**Read: Chapter 9**

Read the following chapter from *Operations Management*:

- [Chapter 9 ("Management of Quality")](#)
  - Sections 9.2-9.4

**Watch: Video**

View the following video:

- [The Costs of Quality Video](#)

**Complete: Study Guide**

Complete the following study guide:

- [Costs of Quality Study Guide](#)
Click this link and follow the subsequent instructions to navigate to the following practice quiz:

- Cost of Quality Quiz

ISO

The International Standardization Organization (ISO) is an organization that promotes standardization in all processes and quality on an international level. The standardization of processes contributes to lower costs, higher quality, customer focus, and reliability. These are all characteristics required for facilitating international trade.

**International Organization for Standardization**

Two well-known standards are ISO 9000 and ISO 14001. There are specific requirements to become certified in these standards.

This topic addresses the following competency:

- **Competency 304.1.4: ISO**
  
  *The graduate is knowledgeable about the International Organization for Standards (ISO), a body dedicated to quality improvement.*

This topic highlights the following objectives:

- Identify the role of International Organization for Standards (ISO).
- Identify the key principles that guided the development of International Organization for Standards (ISO).
- Recognize the practices employed by the International Organization for Standards (ISO).
- Sequence the steps to receive quality certification through the International Organization for Standards (ISO).

When you have completed study of this topic, you should be able to:

- identify the quality management principles that form the basis of ISO 9000.
- recognize the role of the International Organization for Standards (ISO) and the principles that guide the work of the organization.
- contrast and compare the concepts associated with "Total Quality Management," "Continuous Improvement," and "Six Sigma".

**Review: Chapter 9**

Review the following chapter from *Operations Management*:

- Chapter 9 ("Management of Quality")
  - Section: 9.6

**Websites for Additional Reading on ISO**

For additional help in understanding ISO, access and read the following websites:
Quality Initiatives

It is essential for products and services to meet the expectations of the customers. W. Edward Deming championed the total quality management (TQM) movement which has resulted in quality programs being present in most U.S. manufacturers. The programs that are managed effectively result in a continuous improvement process that will meet the customer’s expectations and reduce costs.

The Management of Quality

Management will be involved in determining methods to implement quality improvement programs. These issues may include evaluation of costs associated with quality, customer needs, and leading total quality management teams.

This topic addresses the following competency:

- **Competency 304.1.5: Quality Initiatives**
  
  *The graduate understands quality initiatives and ways to improve performance.*

This topic highlights the following objectives:

- Identify the characteristics of a customer-oriented organization.
- Identify the key elements of total quality management.
- Identify the eight key principles of a quality management system.
- Identify the issues management faces when implementing quality and incorporating improvements into daily operations.
- Identify procedures that lead to process improvement.

When you have completed study of this topic, you should be able to:
- describe issues management will encounter when implementing quality improvement programs.
- describe techniques management can use to facilitate successful implementation of processes and procedures that will lead to quality improvement.
- evaluate costs associated with quality and apply the costs to quality improvement decisions.
- describe how customer needs drive process improvement and quality improvement.
- identify the advantages of applying a team approach to total quality management.

**Review: Chapter 9**

Review the following chapter from *Operations Management*:

- **Chapter 9 ("Management of Quality")**
  - Sections 9.7-9.9

**Read: Chapter 2 and Chapter 7**

Read the following chapters from *Quality and Performance Excellence*:

- **Chapter 2 ("Frameworks for Quality and Performance Excellence")**
- **Chapter 7 ("Designing Organizations for Performance Excellence")**

**Review: Chapter 3 and Chapter 5**

Review the following chapters from *Quality and Performance Excellence*:

- **Chapter 3 ("Tools and Techniques for Quality Design and Control")**
- **Chapter 5 ("Competitive Advantage and Strategic Management for Performance Excellence")**

**Watch: Video**

View the following video:

- **Total Quality Management**

**Complete: Study Guide**

Complete the following study guide:

- **Study Guide**

**Test Your Knowledge**

Click this link and follow the subsequent instructions to navigate to the following practice quiz:

- **TQM - Total Quality Management Quiz**

### Tools of Quality Management

An effectively managed quality program requires the use of graphical charts. These tools
support both process improvement and problem solving.

**Graphical Charts**
A variety of charts can be used to monitor, analyze, and graphically display data about quality performance. Selecting the appropriate tool for the tasks is a key concept in managing quality.

This topic addresses the following competency:

- **Competency 304.2.1 Graphical Charts**
  *The graduate understands the types and uses of graphical charts in operations management.*

This topic highlights the following objectives:

- Identify the types of graphical charts used in operations management.
- Interpret charts used in statistical process control (SPC).
- Identify the uses of functional flowcharts.
- Identify the uses of histograms.
- Identify the uses of run charts.
- Identify the uses of control charts.
- Evaluate situations to determine if the process variation is acceptable or unacceptable.
- Recognize the losses resulting from process variation.

When you have completed study of this topic, you should be able to

- identify and interpret the seven charts, graphs, and diagrams that are commonly referred to as the seven basic quality tools.
- identify which type of chart or diagram will effectively depict specified types of data or relationships that are key to operations management decisions.
- describe how to use a flowchart as a problem-solving tool.
- analyze process variation as a source of quality problems and recognize when action should be taken to improve process control.
- interpret control charts for variables, control charts for attributes, and run tests.

**Read and Review: Chapter 9 and Chapter 10**

Read or review the following sections from *Operations Management*:

- **Chapter 9 ("Management of Quality")**
  - Section 9.10
    - Quality Tools
    - Illustrations of the Use of Graphical Tools

- **Chapter 10 ("Quality Control")**

**Read: Chapter 9**

Read the following sections from *Operations Management*:
Read: Chapter 3

Read the following sections from *Quality and Performance Excellence*:

- **Chapter 3 ("Quality & Performance")**
  - p.122-126

Watch: Video

View the following video:

- **Graphical Tools Video**

Complete: Study Guide

Complete the following study guide:

- **Graphical Tools Study Guide**

Test Your Knowledge

Click this link and follow the subsequent instructions to navigate to the following practice quiz:

- **Graphical Tools Quiz**

Read: Chapter 9

Read the following sections in *Operations Management*:

- **Chapter 9 ("Management of Quality")**
  - Section 9.9 Problem Solving, and Process Improvement

Read: Chapter 2

Read the following sections in *Quality & Performance Excellence*:

- **Chapter 2 ("Frameworks for Quality and Performance Excellence")**
  - p. 84-88

Watch: Video

View the following video:

- **Six Sigma Video**

Complete: Study Guide

Complete the following study guide:

- **Six Sigma Study Guide**

Test Your Knowledge
Click this link and follow the subsequent instructions to navigate to the following practice quiz:

- [Six Sigma Quiz](#)

**Auditing Process**

Auditing is a key process in evaluating potential suppliers. Once an organization has decided which materials to purchase externally, the sources are evaluated for capabilities in meeting the needs of the organization. Supplier audits are used to certify suppliers.

**Managing the Supply Chain**

A quick picture of supply chain management can be envisioned by considering the management of all of the activities and organizations that are involved, from the source of raw material to the final consumer, in making the right product available at the right time, in the right place, at the right price. This topic covers part of the keys to success in that endeavor.

This topic addresses the following competency:

- **Competency 304.2.2: Auditing Process**
  The graduate understands the auditing process and the desired outcomes for each phase in the process.

This topic highlights the following objectives:

- List the activities that must be carried out to complete each phase in the audit process.

When you have completed study of this topic, you should be able to:

- identify the factors that should be covered by a supplier audit.

**Read: Chapter 15**

Read the following section from *Operations Management*:

- [Chapter 15 ("Supply Chain Management")](#)  
  - Section: 15.10

**Watch: Video**

View the following video:

- [Supply Chain Management Video](#)

**Complete: Study Guide**

Complete the following study guide:

- [Supply Chain Management Study Guide](#)

**Test Your Knowledge**
Click this link and follow the subsequent instructions to navigate to the following practice quiz:

- Supply Chain Management Quiz

**Systems Design**

The success of all organizations is dependent upon human efforts. Increased intensity of competition has created a renewed interest in and attention on work design as a key to competitive success. Competition highlights the need to control costs and improve productivity.

**Location**

Location is considered part of the marketing strategy for some firms, but it is critical to resource access for others. Location decision criteria differ depending on the nature of the business and the need for competitive advantage.

This topic addresses the following competency:

- **Competency 304.2.3: Systems Design**
  
  *The graduate is knowledgeable about designing systems.*

This topic highlights the following objectives:

- Identify issues that impact facility location and design.
- Sequence the steps for selecting a production site.
- Identify the tools that are used for evaluating potential locations.

When you have completed study of this topic, you should be able to:

- explain the different reasons why location is important to different types of businesses.
- identify the factors or criteria that must be considered by different types of businesses.
- discuss key considerations related to global location decisions.
- describe the general procedure employed when making location decisions. and
- interpret results depicted by various location evaluation and decision tools.

**Read: Chapter 8**

Read the following chapter from *Operations Management*:

- Chapter 8 ("Location Planning and Analysis")

**Watch: Video**

View the following video:

- Location Planning and Analysis Video

**Complete: Study Guide**

Complete the following study guide:
Test Your Knowledge

Click this link and follow the subsequent instructions to navigate to the following practice quiz:

- Location Planning Study Guide
- Location Planning Quiz

Process and Layout

Processes convert inputs to outputs. **Facilities layout** refers to the arrangement of the workplace. Process selection and facilities layout decisions are two of the most important decisions managers make because they have long-term consequences.

This topic addresses the following competency:

- Competency 304.2.3: Systems Design
  
  The graduate is knowledgeable about designing systems.

This topic highlights the following objectives:

- Identify issues to consider when developing a layout appropriate for an organization's operations.

When you have completed study of this topic, you should be able to:

- describe different process types and identify the advantages and disadvantages of each type.
- name the two main factors that influence process selection.
- describe what is meant by "sustainable production processes" and identify goals of such processes.
- identify the objectives of layout design and differentiate the various types of facilities layout.
- identify concepts associated with designing process layouts.
- interpret a flow process chart.
- identify motion study principles and concepts.
- identify the benefits of designing jobs for a team approach. and
- list the guidelines for successful team building.

**Read: Chapter 6 and Chapter 7**

Read the following chapters from *Operations Management*:

- Chapter 6 ("Process Selection and Facilities Layout")
- Chapter 7 ("Work Design and Measurement")

**Complete: Study Guide**

Complete the following study guide:
Supply Chain Management

Supply chains and value chains are different terms that are sometimes used interchangeably. Every organization is a member of one supply chain or another. The term value chain reflects the concept that value is added as products move along the supply chain.

Aggregate Planning

Aggregate planning and sales and operations planning are interchangeable terms for a strategy that takes a big-picture approach to planning as opposed to focusing on individual products or services. This planning type typically covers two to twelve months or one to four quarters, and is considered intermediate planning. Thus, aggregate plans fit between long-range plans and short-range plans.

This topic addresses the following competency:

- Competency 304.2.5: Supply Chain Management
  The graduate is knowledgeable about supply chain management.

This topic highlights the following objectives:
Identify the variables that influence aggregate planning.
- Identify strategies for developing aggregate plans that bridge strategic planning and short-range scheduling.
- Identify economic factors that apply to aggregate planning.

When you have completed study of this topic, you should be able to:

- describe the purpose of aggregate planning, the expected output from aggregate planning, and identify the variables that must be considered when developing the aggregate plan.
- compare the advantages and disadvantages of a chase demand strategy versus a level capacity strategy for meeting uneven demand. and
- describe the demand options and the supply options that can be applied to aggregate planning.

Read: Chapter 11

Read the following chapter from *Operations Management*:

- [Chapter 11 ("Aggregate Planning and Master Scheduling")](#)

Watch: Video

View the following video:

- [Aggregate Planning Video](#)

Complete: Study Guide

Complete the following study guide:

- [Aggregate Planning Study Guide](#)

Test Your Knowledge

Click this link and follow the subsequent instructions to navigate to the following practice quiz:

- [Aggregate Planning Quiz](#)

**Inventory**

Poor inventory management can result in increased operating costs, lost sales, and decreased customer satisfaction. Managers sometimes do not recognize the impact good inventory management can have and often do not understand the keys to effective inventory management.

This topic addresses the following competency:

- **Competency 304.2.5: Supply Chain Management**
  
  *The graduate is knowledgeable about supply chain management.*
This topic highlights the following objective:

- Identify issues related to managing different types of inventory within an organization.

When you have completed study of this topic, you should be able to:

- explain the various functions that are served by inventory.
- describe the requirements for effective inventory management, and
- explain the key concepts for determining how much inventory to order.

Read: Chapter 13 ("Inventory Management")

Read the following chapter from *Operations Management*:

- chapter 13 ("Inventory Management")

Watch: Video

View the following video:

- Inventory Management Video

Complete: Study Guide

Complete the following study guide:

- Inventory Study Guide

Test Your Knowledge

Click this link and follow the subsequent instructions to navigate to the following practice quiz:

- Inventory Quiz

Managing the Supply Chain

There are multiple ways to set up a supply chain. Once that supply chain is in place, the correct tools and methods must be used to ensure the supply is accurately matched to the demand.

This topic addresses the following competency:

- Competency 304.2.5: Supply Chain Management
  *The graduate is knowledgeable about supply chain management.*

This topic highlights the following objective:

- Identify approaches used to match supply and demand.

When you have completed study of this topic, you should be able to:

- explain five recent trends in supply chain management.
• identify factors involved in choosing a supplier.

Read: Chapter 15

Read the following sections from *Operations Management*:

• Chapter 15 (“Supply Chain Management”)  
  - Sections 15.2 and 15.4

Watch: Video

View the following video:

• Supply Chain Management Video

Complete: Study Guide

Complete the following study guide:

• Supply Chain Management Study Guide

Test Your Knowledge

Click this link and follow the subsequent instructions to navigate to the following practice quiz:

• Supply Chain Management Quiz

Material Requirements Planning

Material requirements planning (MRP) is a computerized information system that is used to help manufacturers manage inventory and schedule inventory replenishment.

This topic addresses the following competency:

• Competency 304.2.5: Supply Chain Management
  
  *The graduate is knowledgeable about supply chain management.*

This topic highlights the following objective:

• Recognize the concepts and calculations that drive materials requirement planning.

When you have completed study of this topic, you should be able to:

• differentiate between inventory management and material requirements planning (MRP).
• explain the three major sources of information input into an MRP system and typical MRP system outputs.
• identify benefits and requirements of MRP and how MRP aids managers in capacity requirements planning.

Read: Chapter 12

Read the following chapter from *Operations Management*:
Scheduling

Scheduling decisions are made after a series of other operating decisions have been made, so they are dependent upon and constrained by previous decisions. Nonetheless, scheduling decisions can have significant impact on whether or not an organization meets its customers' needs, as well as the cost effectiveness or profitability of meeting those needs.

This topic addresses the following competency:

- **Competency 304.2.5: Supply Chain Management**
  
  *The graduate is knowledgeable about supply chain management.*

This topic highlights the following objective:

- Identify issues that influence the scheduling function.

When you have completed study of this topic, you should be able to:

- identify the concepts and tools used for effective scheduling in low-volume systems.
- describe the three metrics used in the theory of constraints to assess the effectiveness of improvements.

**Read: Chapter 16**

Read the following chapter from *Operations Management*:

- **Chapter 16 ("Scheduling")**

**Watch: Video**

View the following video:
Complete: Study Guide

Complete the following study guide:

- Scheduling Study Guide

Test Your Knowledge

Click this link and follow the subsequent instructions to navigate to the following practice quiz:

- Scheduling Quiz

Analysis and Problem Solving

There are several methodologies that can be used for problem solving in an operations environment. Each of these methodologies has similarities in defining the problem, brainstorming for solutions, and measuring the results. Some methods have a more statistical approach in defining the problem. Organizations with successful problem solving methodologies in place have written these in to their strategic plans and supported the process from the top management throughout the organization.

Decision Models and Processes

When individuals first move into management ranks, they often take quite a bit of time to make decisions that will have significant impact. Later on, they find themselves making the same types of decisions much more quickly. No matter where a person is on this decision-making continuum, gaining a working knowledge of the various decision models and processes can be a valuable aid to effective decision-making.

This topic addresses the following competency:

- Competency 304.3.1: Analysis and Problem Solving
  The graduate understands the issues and processes related to analyzing situations and developing and implementing solutions to problems.

This topic highlights the following objectives:

- Recognize the process required to logically analyze and solve a problem.
- Identify the challenges associated with implementing a solution to a problem.
- Identify the guidelines for communicating solutions to employees affected by the problem.
- Identify criteria and guidelines for evaluating problem responses.
- Identify barriers to solving problems and strategies for overcoming them.
- Identify different types of problem solvers.
- Recognize the skills required to be an effective problem solver.

When you have completed study of this topic, you should be able to:
• contrast the impact personalized power would have on decision making compared to the impact of socialized power on decision making.
• identify which of the five bases of power would most likely generate begrudging support for a decision as opposed to enthusiastic support for the decision.

Review: Chapter 9

Review the following sections of *Operations Management*:

• [Chapter 9 ("Management of Quality")](#)
  - Sections 9.9 and 9.10
  - "Problem Solving"
  - "Methods for Generating Ideas Obstacles to Implementing TQM"

Read: Chapter 9 and Chapter 10

Read the following chapters from *Quality and Performance Excellence*:

• [Chapter 9 ("Engagement, Empowerment, and Motivation")](#)
• [Chapter 10 ("Leadership for Performance Excellence")](#)

*Note: The e-text for Chapter 9 contains copyright-redacted content. This missing content should not heavily impact your understanding of the material. Please read the remainder of the chapter and contact a course instructor if you have further concerns.*

Read: Chapter 11

Read the following section from *Organizational Behavior*:

• [Chapter 11 ("Decision Making and Creativity")](#)
  - Section 11.1 Rational and Nonrational Models of Decision Making

Read: Chapter 12

Read the following chapter from *Organizational Behavior*:

• [Chapter 12 ("Power, Influence, and Politics")](#)

**Decision-Making Tools**

The most important element of problem solving is decision making. In order to make good business decisions both efficiently and effectively, decision makers can select the right tool for the decision they are facing.

**Decision Making**

Each person has a decision-making style. That style can determine the types of decisions a person is more likely to make. A person’s decision-making style can be developed over time based on emotional intelligence, creative environment, and training.

This topic addresses the following competency:
Competency 304.3.2: Decision-Making Tools

The graduate understands various approaches to decision making and the tools and processes that are used.

This topic highlights the following objectives:

- Identify conditions that encourage creative thinking.
- Recognize strategies to overcome barriers to creative thinking.
- Identify appropriate conditions and applications of decision-making tools.
- Identify the characteristics, uses, advantages/disadvantages, and criteria for team decision making.
- Identify the ways power, authority, responsibility, and accountability influence decision making.
- Identify decision styles.
- Select the appropriate decision style for given situations.

Review: Chapter 8

Review the following chapter from Quality and Performance Excellence:

- Chapter 8 ("Quality Teamwork")

Read: Chapter 11

Read the following chapter from Organizational Behavior:

- Chapter 11, ("Decision Making and Creativity")

Watch: Video

View the following video:

- Process Improvement Teams Video

Complete: Study Guide

Complete the following study guide:

- Process Improvement Teams Study Guide

Test Your Knowledge

Click this link and follow the subsequent instructions to navigate to the following practice quiz:

- Process Improvement Teams Quiz

Read: Chapter 11, and Chapter 9
Read the following sections from *Organizational Behavior*:

- **Chapter 11 ("Decision Making and Creativity")**
  - p. 439-441
- **Chapter 9 ("Communication in the Digital Age")**
  - Figure 9.2

**Watch: Video**

View the following video:

- [Decision-Making Styles Video](#)

**Complete: Study Guide**

Complete the following study guide:

- [Decision-Making Styles Study Guide](#)

**Test Your Knowledge**

Click this link and follow the subsequent instructions to navigate to the following practice quiz:

- [Decision-Making Styles Quiz](#)

**Read: Chapter 11 and Chapter 7**

Read the following sections from *Organizational Behavior*:

- **Chapter 11 ("Individual and Group Decision Making")**
  - p.439-460
- **Chapter 7 ("Positive Organizational Behavior")**
  - p.273-278

**Watch: Video**

View the following video:

- [Decision-Making Techniques Video](#)

**Complete: Study Guide**

Complete the following study guide:

- [Decision-Making Techniques Study Guide](#)

**Test Your Knowledge**

Click this link and follow the subsequent instructions to navigate to the following practice quiz:

- [Decision-Making Techniques Quiz](#)

**Read: Chapter 9**
Read the following sections from *Operations Management*:

- **Chapter 9 ("Management of Quality")**
  - Table 9.7

**Read: Chapter 11**

Read the following sections from *Organizational Behavior*:

- **Chapter 11 ("Decision Making and Creativity")**
  - p. 435 - 439

**Read: Chapter 4**

Read the following sections from *Quality & Performance Excellence*:

- **Chapter 4 ("Tools and Techniques for Quality Improvement")**
  - p.145-146

**Watch: Video**

View the following video:

- **Analysis and Problem Solving Video**

**Complete: Study Guide**

Complete the following study guide:

- **Analysis & Problem Solving Study Guide**

**Test Your Knowledge**

Click this link and follow the subsequent instructions to navigate to the following practice quiz:

- **Analysis and Problem Solving Quiz**

**Final Steps**

Congratulations on completing the activities in this course! You are now prepared to complete the associated assessment. If you have not already been directed to complete it, schedule and complete the assessment now.