

BADM-2110: PRODUCTION/OPERATIONS MANAGEMENT

Cuyahoga Community College

Viewing: BADM-2110 : Production/Operations Management

Board of Trustees:

December 2021

Academic Term:

Fall 2022

Subject Code

BADM - Business Administration

Course Number:

2110

Title:

Production/Operations Management

Catalog Description:

Overview of manufacturing and service operations covering such topics as: flow, bottleneck, balance, quality, workplace contribution, planning, materials requirement planning, inventory management procurement, logistics, floor shop control, just-in-time (JIT), capacity changes, technology and design, vertical integration, and operation strategy.

Credit Hour(s):

3

Lecture Hour(s):

3

Lab Hour(s):

0

Other Hour(s):

0

Requisites

Prerequisite and Corequisite

BADM-1020 Introduction to Business; or BADM-2162 Introduction to Supply Management.

Outcomes

Course Outcome(s):

Analyze the manufacturing and service operations as they relate to process control. This includes utilizing concepts of plant layout, process flow, bottlenecks, and balances

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Quantitative Reasoning: Analyze problems, including real-world scenarios, through the application of mathematical and numerical concepts and skills, including the interpretation of data, tables, charts, or graphs.

Objective(s):

1. Apply process and product improvement tools to ensure and improve appropriate levels of process and product quality.
2. Evaluate the relationship between procurement, inventory control, and logistics.
3. Explain how technology changes and the introduction of new production affect the production process

Course Outcome(s):

Describe the manufacturing and service operations as they relate to process control.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Analyze types of decisions critical to smoothing capacity, managing inventories and planning production.
 2. Formulate the levels of strategic planning in relations to operations management.
 3. Utilize the concept of process mapping and analysis to identify opportunities for improvement.
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Course Outcome(s):

Utilize process and product innovation and improvement tools to ensure and improve appropriate level of process and product quality

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Analyze how quality management can help a company achieve a sustainable competitive advantage.
 2. Analyze the relationship of layout and variability as they relate to flows, bottlenecks, and balances.
 3. Analyze how new product/process innovation activities result in higher quality products and increased profitability.
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Course Outcome(s):

Identify types of decisions critical to smoothing capacity, managing inventories, and planning production.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Analyze how the lean manufacturing philosophy affects these decisions.
 2. Explain how capacity changes can be handled.
 3. Analyze the role inventory plays in smoothing capacity and planning production.
 4. Critique the just-in-time (JIT) philosophy.
 5. Analyze how technology changes and the introduction of new production affect the production process.
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Course Outcome(s):

Evaluate the relationship between purchasing, inventory control, and logistics.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Evaluate how effective supply management reduces supply risk, ensures availability of product, reduces costs and improves quality for the corporation.
 2. Analyze the pros and cons of outsourcing.
 3. Critique the relationship of vertical integration to a company's supply chain.
 4. Define the role logistics management plays in the flow and storage of information and products/services throughout the supply chain.
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Methods of Evaluation:

1. Examinations
2. Case analysis
3. Quizzes
4. Class project or term paper
5. Article discussions
6. Current Events discussions

Course Content Outline:

1. Overview of manufacturing and service operations
 - a. The scope of the manufacturing process
 - b. Manufacturing choices
 - c. The product-process matrix
 - d. Service operations
2. Flows, bottleneck, and balances
 - a. Process and information flow diagram
 - b. Bottlenecks
 - c. Line balance
 - d. Cycle time
 - e. Takt time
3. Bottlenecks in space and time: layouts and variability
 - a. Plant layout and bottlenecks
 - b. Variability and bottleneck: the queuing phenomenon
 - c. Managing the queue
 - d. TOC (Theory of Constraints)
4. Making quality happen
 - a. Appreciating quality
 - b. Quality management philosophies
 - c. Techniques of making quality happen
 - d. Fishbone diagram for problem solving
 - e. Control charts
5. The workforce contribution
 - a. Methods of improvement
 - b. Worker attitude and effort
6. Planning production
 - a. Factors in the design of production plans
 - b. Developing a good match between resource and demand
 - c. Capacity planning
 - d. Master schedule
 - e. Scheduling techniques
7. Material requirements planning (MRP)
 - a. Objectives and philosophies of inventory management
 - b. A description of MRP
 - c. MRP as a management tool
8. Managing inventory time independent system
 - a. The working of non-time-phased independent inventory systems
 - b. Periodic reorder system
 - c. Reorder point system
 - d. Safety stock
9. Supply management and organization
 - a. Purchasing
 - b. Inventory control
 - c. Logistics
10. The question of control
 - a. Shop floor control
 - b. Project management
 - c. Control in service businesses
11. Just-in-time (JIT) manufacturing
 - a. Philosophy
 - b. Kanban
 - c. KAIZEN
12. How to handle capacity change
 - a. Overview of capacity management
 - b. Deciding how much capacity to add and when
 - c. Capacity in a service industry
13. Technology and design

- a. Source of technological change
 - b. New product introduction
 - c. Process innovation
 - d. Recent developments in manufacturing technology
14. Dealing with opportunities for vertical integration
- a. Factors in the vertical integration decision
 - b. Advantages of vertical integration
15. Operations strategy
- a. Manufacturing strategy
 - b. Consistency
 - c. Continual improvement
 - d. Process matrix
 - e. Productivity
 - f. Flexibility
 - g. Time to market
 - h. Service operations strategy
 - i. Service process matrix

Resources

Swink, Morgan, Steven Melnyck, and Janet L. Hartley. *Operations Management*. 4th ed. McGraw-Hill, 2020.

Schroeder. *Operations Management in the Supply Chain*. 7th. McGraw-Hill, 2018.

Wisner, Joel D. *Operations Management: A Supply Chain Process Approach*. 8th ed. Sage, 2021.

Stevenson. *Operations Management*. 14th ed. McGraw Hill, 2021.

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