



**BAKER COLLEGE**  
**STUDENT LEARNING OUTCOMES**

**SCM3210 Manufacturing, Planning and Control**  
**3 Semester Hours**

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**Student Learning Outcomes & Enabling Objectives**

1. Define the various components that make up processes, including types of inputs and outputs.
  - a. Discuss operational, tactical and strategic capacity planning.
  - b. Estimate the capacity and utilization of a process.
  - c. Explain the impacts of bottlenecks, variance and other factors on process performance.
  - d. Describe process improvement methodologies.
  - e. Assess a process to determine how effective it is in achieving its desired outcome(s).
2. Explain and select the process structures within a supply chain that fits its unique competitive priorities.
  - a. Compare and contrast process structures.
  - b. Describe how layouts are designed to meet the demands placed upon it.
  - c. Analyze a product layout for efficiency.
3. Explore the core values and typical practices associated with quality management.
  - a. Apply the SixSigma DMAIC approach to quality improvement.
  - b. Compare and contrast various quality standards and certification programs.
  - c. Apply quality management tools for problem solving.
  - d. Identify the importance of data in quality management.
4. Describe the role of inventory control in the supply chain.
  - a. Explain the financial impact of inventory.
    - i. Carrying Cost
    - ii. Order and Setup Cost
    - iii. Stockout Cost
    - iv. Inventory Turnover
    - v. Days of Supply
  - b. Discuss inventory management systems and describe practical techniques for improving inventory planning.
5. Investigate the principals of lean systems.
  - a. Explain how the lean system approach improves value for internal operations and across the supply chain.
  - b. Describe the cultural changes, tools and techniques needed to implement a lean approach.
  - c. Discuss the strengths and limitations of lean systems.

## **Big Ideas**

- Capacity Planning
- Process Mapping
- Quality Management
- Inventory Controls
- Lean Systems

## **Essential Questions**

1. Why should capacity within the supply chain be managed strategically?
2. How does process mapping and analysis help managers improve effectiveness and efficiency?
3. How do capital constraints impact sales and operations planning?
4. What role do physical structures play in operations planning?
5. How do quality management tools and procedures help in identifying problems and problem solving?
6. What is the importance of effective inventory management?
7. What impact can lean thinking have on manufacturing planning and control?

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These SLOs are approved for experiential credit.

**Effective: Summer 2020**