



## PROFESSIONAL CERTIFICATE IN **Operations Management**

### Certificate Description

**This certificate provides high school graduates, professionals with limited experience or out-of-field students and professionals the opportunity to understand the significance of operations management in today's business environment.**

**Business & Society—BUS 105 (required)**—This survey course provides students with a general introduction to business activity and how it relates to our economic society. Students will explore how businesses are owned, organized, managed, and controlled.

**Outcomes:**

- Describe the basic environments (legal, social, economic) in which a business operates.
- Explain the basic concepts of management and recognize problems faced in operating a business enterprise.
- Identify basic concepts regarding money and banking, financial management, stock and bond markets, and risks involved in business.
- Discuss the changing factors that could influence business in the future.
- Distinguish the differences between the major forms of business organizations and be able to know and identify the characteristics of each.

**Principles of Accounting I—ACCT 205 (required)**—This course introduces students to financial accounting. Students can learn the fundamentals of the accounting cycle.

**Outcomes:**

- Understand & explain the Accounting Equation and its components (of assets, liabilities & capital)
- Understand the meaning & effects of transactions on revenues, expenses, assets, liabilities & capital
- Understand, distinguish and analyze the composition of "Capital" for unincorporated & incorporated for-profit entities
- Select and use the appropriate accounting policies and practices to a wide range of commercial situations requiring financial accounting information for "external" decision making purposes
- Identify the various user groups that need accounting information and the characteristics of the information that they need
- Prepare a Trial Balance, an Income Statement, Owner's Equity Statement and Balance Sheet;
- Participate in managerial decision processes requiring the input of accounting based information



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**Management & Leadership of Organizations—MGMT 310 (required)**—This course examines the elements of management and leadership as they apply to modern organizations. Special emphasis is placed on organizational change, role of managers, and cultural differences found in today's management environment.

**Outcomes:**

- Explain the concept of an organization and how it is changed
- Explain the role of a manager
- Outline the major theories of organizations
- Define the dimensions of an organization's culture
- Describe the techniques of managing change

**Materials Planning—MGMT 333**—This course takes an in-depth look at the planning and control of material flow and production activities in a manufacturing organization. Topics Include: forecasting, sales and operations planning, demand management, master production scheduling, material requirements planning, production execution, and just-in-time systems.

**Outcomes:**

- Discuss the concepts of demand management
- Demonstrate a knowledge of material requirements planning
- Evaluate the best practices of measuring business performance
- Apply critical thinking in applying master planning concepts
- Recognize techniques and practices of inventory management
- Use effective communication techniques

**Cost Control Management—MGMT 370**—This course deals with the control of the various costs associated with running a business. The course is broken down into three phases: comparing a company's costs to the industry average, finding out why a company's costs are higher than the industry average and implementing approaches to reduce a company's costs. Specific topics include: Materials Management Challenges, Benchmarking, Inventory Control and Management, Production Processes, Lean Manufacturing and Waste in Manufacturing.

**Outcomes:**

- Understand the importance of cost control management and measurement.
- Construct control charts to monitor processes
- Compare and contrast Cost Control Management and supply chain management
- Understand inventory management concepts and determine inventory quantities and ordering policies
- Develop aggregate capacity requirements for production planning.
- Describe applications of information technology: MRP & ERP systems and discuss lean operations and push vs. pull systems
- Utilize methods for operations scheduling and project cost control management.



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**Operations Management—MGMT 411**—This course explores the basic principles of operations management in modern organizations which involves design, management and improvement of productive processes. Subjects include evaluation of the transformation processes involved in the creation of goods and services in today's modern business.

**Outcomes:**

- Assess the importance of quality management and measurement.
- Construct control charts to monitor processes.
- Critically compare and contrast operations management and supply chain management.
- Evaluate inventory management concepts and determine inventory quantities and ordering policies.
- Develop aggregate capacity requirements for production planning.
- Critique applications of information technology: MRP & ERP systems.
- Appraise lean operations and push vs. pull systems
- Utilize methods for operations scheduling and project management

**Production Planning and Quality Management—MGMT 430**—This course focuses on Production planning and Quality in decision making. Emphasis is laid on forecasting aggregate production planning, capacity planning, materials requirement planning, scheduling, advanced techniques and approaches in modern production planning and control for designing manufacturing, quality and service systems.

**Outcomes:**

- Understand the importance of quality management and measurement.
- Construct control statistical charts to monitor quality processes
- Compare and contrast service and product quality
- Understand capacity planning management concepts and develop aggregate capacity requirements for production planning.
- Understand the cost of quality and cost of failure
- Utilize methods for operations scheduling and project management
- Utilize qualitative and quantitative forecasting to determine capacity planning.

**Supply Chain Management and Purchasing—MGMT 450**—This course explores the basic principles of supply chain management in modern organizations. The subjects include key areas of supply chain management such as supply chain economics, supply chain strategies, e-procurement, logistics management, global supply chain issues, vendor selection, and measurement of supply chain performance.

**Outcomes:**

- Critically appraise the key concepts of Supply Chain Management (SCM)
- Evaluate distribution Network Design in a Supply Chain
- Assess aggregate Planning and Product Variety Management
- Critique inventory Management: Deterministic & Stochastic; Multi-Period & Multi-Echelon
- Assess strategic Alliances and Outsourcing Strategies
- Evaluate Supply Chain Coordination and Contracts, Customer Value and Supply Chain Management