

**ASIA PACIFIC COLLEGE**

**School of Management**

Graduate Program

**Master in Management**

**with specialization in Business Analytics**

**COURSE SYLLABUS**

**Code**

Mmopema

**Title**

Operations and Production Management

**Credit Units**

3.0

**Description**

Operations management is the administration of business practices to create the highest level of efficiency possible within an organization. It is concerned with converting materials and labor into goods and services as efficiently as possible to maximize the profit of an organization. Operations management teams attempt to balance costs with revenue to achieve the highest net operating profit possible. Operations management involves utilizing resources from staff, materials, equipment and technology. Operations managers acquire, develop and deliver goods to clients based on client wants and the abilities of the company.

**Objective**

At the end of the course, the student must have utilized business analytics to handle various strategic issues including determining the size of manufacturing plants and project management methods, and implementing the structure of information technology networks. Other operational issues include the management of inventory levels, including work-in-process levels and raw materials acquisition; quality control; materials handling; and maintenance policies. Operations managers study the use of raw materials and ensuring minimal waste occurs. Managers utilize numerous formulas such as the economic order quantity formula to determine when and how large of an inventory order to process and how much inventory to hold on hand.

**OUTLINE**

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| **Session** | **Topic/s** | **Activities** |
| 1 | **Operations Management and Value Chains**  Operations Management. OM in the Workplace. Understanding Goods and Services. The Concept of Value. Customer Benefit Packages. Value Chains. Value Chain Frameworks. OM: A History of Change and Challenge. Key Challenges. | Class Discussion  Case Analysis  Spreadsheet Exercises |
| 2 | **Measuring Performance in Operations and Value Chains**  Types of Performance Measures. Analytics in Operations Management. Designing Measurement Systems in Operations. Models of Organizational Performance.  **Operations Strategy**  Gaining Competitive Advantage. Understanding Customer Wants and Needs. Evaluating Goods and Services. Competitive Priorities. OM and Strategic Planning. A Framework for Operations Strategy. | Class Discussion  Case Analysis  Spreadsheet Exercises |
| 3 | **Technology and Operations Management**  Understanding Technology in Operations. Technology in Value Chains. Benefits and Challenges of Technology. Technology Decisions and Implementation.  **Goods and Service Design**  Designing Goods and Services. Customer-Focused Design. Designing Manufactured Goods. Service-Delivery System Design. Service-Encounter Design. An Integrative Case Study of LensCrafters. | Class Discussion  Case Analysis  Spreadsheet Exercises |
| 4 | **Supply Chain Design**  Global Supply Chains. Supply Chain Design Trade-Offs. A Global Supply Chain: Inditex/Zara. Location Decisions. Supply Chain Optimization.  **Process, Selection, Design, and Analysis**  Process Choice Decisions. The Product-Process Matrix. The Service-Positioning Matrix. Process Design. Process Analysis and Improvement. Process Design and Resource Utilization. | Class Discussion  Case Analysis  Spreadsheet Exercises |
| 5 | **Facility and Work Design**  Facility Layout. Designing Product Layouts. Designing Process Layouts. Workplace and Job Design.  **Forecasting and Demand Planning**  Forecasting and Demand Planning. Basic Concepts in Forecasting. Statistical Forecasting Models. Regression as a Forecasting Approach. Judgmental Forecasting. Forecasting in Practice. | Class Discussion  Case Analysis  Spreadsheet Exercises |
| 6 | Midterm Operations Management Assessment | Research Paper  Online Consultation |
| 7 | Midterm Business Analytics Project | Oral Presentation  Panel Discussion |
| 8 | **Capacity Management**  Understanding Capacity. Capacity Measurement in Operations. Long-term Capacity Strategies. Short-term Capacity Management. Theory of Constraints. | Class Discussion  Case Analysis  Spreadsheet Exercises |
| 9 | **Managing Inventories in Supply Chains**  Understanding Inventory. Inventory Characteristics. ABC Inventory Analysis. Managing Fixed-Quality Inventory Systems. Managing Fixed-Period Inventory Systems. Single-Period Inventory Model.  **Supply Chain Management and Logistics**  Managing Supply Chains. Logistics. Risk Management in Supply Chains. Supply Chains in e-Commerce. Measuring Supply Chain Performance. Sustainability in Supply Chains. | Class Discussion  Case Analysis  Spreadsheet Exercises |
| 10 | **Resource Management**  Resource Planning Framework for Goods and Services. Aggregate Planning Options. Strategies for Aggregate Planning. Disaggregation in Manufacturing. Capacity Requirements Planning.  **Operations Scheduling and Sequencing**  Understanding Scheduling and Sequencing. Scheduling Applications and Approaches. Sequencing. Applications of Sequencing Rules. Schedule Monitoring and Control. Vehicle Routing and Scheduling. | Class Discussion  Case Analysis  Spreadsheet Exercises |
| 11 | **Quality Management**  Understanding Quality. Influential Leaders in Modern Quality Management. The GAP Model. ISO 9000:2000. Six Sigma. Cost-of-Quality Measurement. The “Seven QC Tools.” Other Improvement Strategies.  **Quality Control and SPC**  Quality Control Systems. Statistical Process Control and Variation. Constructing Control Charts. Practical Issues in SPC Implementation. Process Capability. | Class Discussion  Case Analysis  Spreadsheet Exercises |
| 12 | **Lean Operating Systems**  Principles of Lean Operating Systems. Lean Tools and Approaches. Lean Six Sigma. Lean Manufacturing and Service Tours. Just-in-time Systems.  **Project Management**  The Scope of Project Management. Techniques for Planning, Scheduling and Controlling Projects. Time/Cost Trade-Offs. Uncertainty in Project  Management. | Class Discussion  Case Analysis  Spreadsheet Exercises |
| 13 | Final Business Analytics Project | Oral Presentation  Panel Discussion |
| 14 | Final Operations Management Assessment | Research Paper  Online Consultation |

**REFERENCES**

|  |  |  |
| --- | --- | --- |
| **Title** | **Author/s** | **Year Published** |
| OM, 6th Edition  Cengage Learning | David Alan Collier and James R. Evans | 2017 |
| Operations Management Models: A Problem-Solving Approach  Manila: Anvil Publishing | Loma, E.J. | 2012 |
| Operations and Supply Chain Management: Theory and Practice  Cengage Learning | Verma, R. & Voyer, K. | 2012 |
| Operations Management for Competitive Advantage, 14th ed.  McGraw-Hill | Chase, R.B., Jacobs, F.R., & Aquilano, N.J. | 2013 |
| An Introduction to Operations Management, 10th ed.  Singapore: Pearson Education International | Heizer, J. & Render, B. | 2011 |

**INSTRUCTIONAL TOOLS**

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| **System** | **Function** | **URL** |
| Microsoft Excel | Data Analysis ToolPak for complex statistical or engineering analyses | http://office.microsoft.com/en-us/excel-help/about-statistical-analysis-tools.aspx |
| Neo LMS | Free cloud-hosted LMS+ with nothing to download or install | http://apc.edu20.org/  Registration code: apcstudent  Subject password: (c/o instructor) |
| Cengage Online | Companion website | http://www.cengage.com/professional |

**ASSESSMENT**

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| **Factor** | **Weight** |
| Activities   * Case analysis and class discussion | 30% |
| Exams   * Written and online assessment | 20% |
| Exercises   * Modeling and analytics workshop | 30% |
| Project   * Research paper and oral presentation | 20% |
| **Total** | **100%** |

**GRADING SYSTEM**

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| **Grade Point** | **Description** | **Letter Rating** | **Percentage Grade** |
| 4.0 | Excellent | A | 97-100 |
| 3.5 | Superior | B+ | 93-96 |
| 3.0 | Very Good | B | 89-92 |
| 2.5 | Good | B- | 85-88 |
| 2.0 | Satisfactory | C+ | 80-84 |
| 1.5 | Fair | C | 75-79 |
| 1.0 | Pass | D | 70-74 |
| R | Repeat |  | <70 |
| 0.0 | Fail | F | Excessive Absences |