

King Saud University
College Of Business Administration
Management Department
Course: Operations Management
371 Section: 35003
Second Semester - 1432/1433

Instructor: Dr. Abdullah M. Aldakhil

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Office Hours: Saturday & Sunday 12:00 pm - 2:00 pm
or by appointment

Class Hours: Saturday, Monday, and Wednesday
10:00 am –10:50 am (Room 56)

Course Description:

Operations Management (OM) is an exciting area of management that has an important impact on the productivity of both manufacturing and services. OM involves the planning, coordinating, and executing of all activities that create goods or services. The main goal of this course is to gain an understanding of how to make the operations management a strategic competitive weapon. This course will present a broad introduction to the field of operations management in a realistic manner. It will provide a solid understanding of the importance of operations management and its role in the organizations. This course discusses a wide range of operations topics, including project management, inventory management, capacity planning, facilities location, total quality management, forecasting, decision-making tools, supply chain management and operations strategy. It deals with these topics through a managerial, and applications-oriented perspectives. Also, special emphasis is placed on the international dimensions of operations. Finally, the course is integrative in nature, emphasizing the fit and relationship of operations with other functions of the firm.

Course Objectives:

1. Understand the interdependency of the world market and how business organizations compete globally.
2. Develop an understanding of the links between corporate strategy and operations strategy and how operations management principles can be used to gain competitive edge over competition.

3. Understand the relationship between quality, productivity and global competition as well as the importance of environmental, social, ethical, and work force diversity issues in the performance of the organizations.
4. Understand selected operations management techniques, and apply quantitative models to support managerial decision-making
5. Recognize the interaction of organizational factors and business environment in effecting operational strategy, tactics, and competitiveness
6. Understand current concepts and developments in the field of operations management as they apply to both manufacturing and service industries.
7. Be capable of defining operational problem situations; identify the criterion for effective resolution, and applying relevant methods of analysis.
8. Put operations management system in perspective by recognizing the inputs, transformation process, and desired outputs of a system.
9. Know how effective management of operations contributes to productivity improvement.
10. Know various functional areas of an organization and their critical integrated role in the performance of the organization.
11. Know the differences between manufacturing and service organizations.
12. Know the concept of competitive priorities and the primary ways business organizations compete globally.
13. Know the critical role of supply chain management in the competitiveness of the organizations.
14. Know how to set-up and use selected operations management techniques such as, break-even analysis, decision trees, project management (PERT/CPM), layout, queuing models, quality

Course Material:

Required:

- Jay Heizer, Barry Render, Operations Management, 10th Edition, Prentice Hall, 2011

Recommended:

- Chase, R. B.; F. R. Jacobs; and N. J. Aquilano; **Operations Management for Competitive Advantage**, 11th Edition, Irwin/McGraw-Hill, 2006
- Nigel Slack, Stuart Chambers, and Robert Johnston, **Operations Management**, 5th Edition, Prentice Hall, 2007
- Lee J. Krajewski, Larry P. Ritzman, Manoj Malhotra, **Operations Management: Process and Value Chains**, 8th Edition, Prentice Hall, 2007

Grading

The weight assigned to each requirement is as follows:

	Points	Percent
Midterm Exams (2 @ 200 points each)	400	40%
Final Exam (Comprehensive)	400	40%
Case Studies	100	10 %
Final Project	100	10%
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Total Points Available	1000	100%

Notes:

- It is your responsibility to check the instructor's website for announcements and updates
- Exams' times and due date of the Final project will be announced during the semester

Course Outline:

Chapter	Learning objectives
Chapter 1: operations and productivity	<ul style="list-style-type: none">• Define operations management• Explain the distinction between goods and services• Explain the difference between production and productivity• Compute single-factor productivity• Compute multifactor productivity• Identify the critical variables in enhancing productivity
Chapter 2: Operations Strategy in a Global Environment	<ul style="list-style-type: none">• Define mission and strategy• Identify and explain three strategic approaches to competitive advantage• Identify and define the 10 decisions of operations management• Understand the significant key success factors and core competencies• Identify and explain four global operations strategy options
Chapter 3: Project Management	<ul style="list-style-type: none">• Use a Gantt chart for scheduling• Draw AOA and AON networks• Complete forward and backward passes for a project• Determine a critical path• Calculate the variance of activity times• Crash a project

Chapter 4: Forecasting	<ul style="list-style-type: none"> • Understand the three time horizons and which models apply for each use • Explain when to use each of the four qualitative models • Apply the naive, moving average, exponential smoothing, and trend methods • Compute three measures of forecast accuracy • Develop seasonal indexes • Conduct a regression and correlation analysis • Use a tracking signal
Chapter 5: Designs of Goods and Services	<ul style="list-style-type: none"> • Define product life cycle • Describe a product development system • Describe how time-based competition is implemented • Describe how products and services are defined by operations management • Describe the documents needed for production • Describe customer participation in the design and production of services • Apply decision trees to product issues
Chapter 6: Capacity Planning	<ul style="list-style-type: none"> • Define capacity • Determine design capacity, effective capacity, and utilization • Perform bottleneck analysis • Compute break-even analysis • Determine the expected monetary value of a capacity decision • Compute net present value
Chapter 7: Location Strategies	<ul style="list-style-type: none"> • Identify and explain seven major factors that effect location decisions • Compute labor productivity • Apply the factor-rating method • Complete a locational break-even analysis graphically and mathematically • Use the center-of-gravity method • Understand the differences between service and industrial-sector location strategies
Chapter 8: Layout Strategies	<ul style="list-style-type: none"> • Discuss important issues in office layout • Define the objectives of retail layout • Discuss modern warehouse management and terms such as ASRS, cross-docking, and random stocking • Identify when fixed-position layouts are appropriate • Explain how to achieve a good process-oriented facility layout • Define work cell and the requirements of a work cell • Define product-oriented layout • Explain how to balance production flow in a repetitive

	or product-oriented facility
Chapter 9: Inventory Management	<ul style="list-style-type: none"> • Conduct an ABC analysis • Explain and use cycle counting • Explain and use the EOQ model for independent inventory demand • Compute a reorder point and safety stock • Apply the production order quantity model • Explain and use the quantity discount model • Understand service levels and probabilistic inventory models
Chapter 11: Just-in-Time and Lean Operations	<ul style="list-style-type: none"> • Define just-in-time, TPS, and lean operations • Define the seven wastes and the 5 Ss • Explain JIT partnerships • Determine optimal setup time
Chapter 12: Maintenance and Reliability	<ul style="list-style-type: none"> • Describe how to improve system reliability • Determine system reliability • Determine mean time between failure (MTBF) • Distinguish between preventive and breakdown maintenance • Describe how to improve maintenance • Compare preventive and breakdown maintenance costs • Define autonomous maintenance