



### **16 Week Plan (Production and Operations Management)**

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|-----------------------|----------------------------------------------------|
| <b>Course code:</b>   | MSCI-3106                                          |
| <b>Title:</b>         | <b><u>Production and Operations Management</u></b> |
| <b>Credit Rating:</b> | 3                                                  |

## **Objective**

The course introduces field of production / operations management. Topics to be covered represent a blend of concepts, industrial engineering cost accounting, general management, quantitative methods and statistics. This will include both operations as well as strategic issues as applied forecasting, aggregate planning, scheduling, shop floor control, total quality management, inventory management, facility layout and project management.

## **Learning outcomes**

- Explain the strategic importance, functions and productivity of manufacturing and service processes in a supply chain
- Develop forecasts for a company's products
- Analyze and solve decision problems using decision making approaches under uncertain and risky conditions
- Identify and recommend an appropriate capacity management approach under changing demand
- Interpret the nature of inventory costs and solve the single period fixed quantity inventory model to suggest lot sizes
- Recognize the importance of six sigma quality and apply the basic analytical tools of six sigma quality.
- Examine manufacturing layouts and design a balanced assembly line for a product
- Develop a project plan and schedule, and assess project completion probabilities.
- Apply simulation to model waiting lines in manufacturing and service operations

## Contents

| Week | Content Details                                                                                                 |
|------|-----------------------------------------------------------------------------------------------------------------|
| 01   | <ul style="list-style-type: none"><li>• Overview of the production and operations management</li></ul>          |
| 02   | <ul style="list-style-type: none"><li>• Operations and Productivity</li></ul>                                   |
| 03   | <ul style="list-style-type: none"><li>• Operations Strategy in a Global Environment</li></ul>                   |
| 04   | <ul style="list-style-type: none"><li>• Strategy development and implementation</li></ul>                       |
| 05   | <ul style="list-style-type: none"><li>• Design product and services</li></ul>                                   |
| 06   | <ul style="list-style-type: none"><li>• Overview of TQM</li></ul>                                               |
| 07   | <ul style="list-style-type: none"><li>• Tools of TQM</li></ul>                                                  |
| 08   | <ul style="list-style-type: none"><li>• Case Study</li></ul>                                                    |
| 09   | <b>Mid-term examination</b>                                                                                     |
| 10   | <ul style="list-style-type: none"><li>• Process strategy</li></ul>                                              |
| 11   | <ul style="list-style-type: none"><li>• Production Technology</li></ul>                                         |
| 12   | <ul style="list-style-type: none"><li>• Location Strategy</li></ul>                                             |
| 13   | <ul style="list-style-type: none"><li>• Layout Strategy</li></ul>                                               |
| 14   | Project management                                                                                              |
| 15   | <ul style="list-style-type: none"><li>• Activity scheduling, networking and work break down structure</li></ul> |
| 16   | <ul style="list-style-type: none"><li>• Supply chain management</li></ul>                                       |
| 16   | <ul style="list-style-type: none"><li>• Logistics and distribution management</li></ul>                         |
| 17   | <ul style="list-style-type: none"><li>• Presentations</li></ul>                                                 |
| 18   | <b>Final- Term Exam</b>                                                                                         |

## Recommended Books

1. Everett, A. Jr. & Ronald, E. J. (1996). *Production and Operations Management*. Prentice London: Hall International UK Ltd.
2. Elwood, B. S. & Rakesh, S. K. (2002). *Modern Production/Operations Management*. Prentice Hall.
3. Dilworth, J. D. (1998). *Production and Operations Management*. McGraw–Hill.
4. Heizer, J. & Render, B. (2008). *Operations Management*. Allyn and Bacon.
5. Krajewski, L. J. & Ritzman, L. P. (1999). *Operations Management*. New York: McGraw–Hill, Weasly Longman, Inc.
6. Chase, R. B., Robert, J. F. & Aquilano, N. J. (2006). *Operations Management*. McGraw–Hill.