



## **International Management Institute, Bhubaneswar**

**OM 501: Operations Management – I**

**PGDM 2015-17, Term II**

**Credit: Full (3 credits)**

**Session Duration: 90 minutes**

**Faculty** : Dr. Rajwinder Singh  
**Email** : rajwindergheer@imibh.edu.in  
**Phone (Extn no.)** : 178  
**Office Hours** : Tuesdays 3:00 – 5:00 pm

**Course introduction:** This course shall help you to understand the basics of operations management (OM), role of OM in the execution of firm operations and to develop abilities to understand, structure and solve operations related problems. It will help you to sharpen your skills and improve knowledge to address the important aspects of business operations, including capacity, productivity, quality, demand forecasting, project management, manufacturing and supply chain. Also, there shall be learning regarding configuration of operations in an organization and factors that can potentially drive the complexity of managing such operations. The course will equip you with the right tools, techniques and skills to estimate, compute, analyse and configure key elements of operations management.

### **Objectives of the course**

- a) To make the students aware of the role of Operations Management in business organizations.
- b) To develop an understanding of the applications of Operations Management concepts in strategic decision making
- c) To develop analytic capabilities in the students by equipping them with concepts, tools and techniques required in managing operations.

At the end of the course the students should be able to:

- Understand the importance of Operations Management in organizations
- Relate Operations Management with strategic decision making in a firm
- Apply theoretical concepts to real life situations

### **Pre-requisites for the course**

Basic knowledge of mathematics

## Pedagogy

Pedagogy would be a combination of lectures, case studies and problem solving. Lecture classes shall be discussion based and students are expected to read the relevant chapters from the book and any other reading material provided before they come to the class. Case studies will be discussed which will help in understanding Operations Management in actual work situations.. The course will be taught as per the session plan given in this document. *Students are expected to participate in the class discussions.*

## Evaluation criteria

End term exam	: 30%
Mid term exam	: 30%
Quizzes	: 20%
Project/Assignment	: 20%
TOTAL	<hr/> : 100%

## Project

As part of the evaluation, students are required to do a project which shall involve study of real life application of one or more aspects of Operations Management covered during the course. This study can either be done for a services or a manufacturing organization. *Preferably, students must visit the organization and collect first hand information.* If this is not possible, desk research may be done. Students must be able to do a critical analysis of the particular aspect(s) of Operations Management being studied. At the end of the term, students are required to make a presentation on the project. Each member of the group is expected to speak in the presentation. Presentations shall be evaluated for: *content, presentation style and communication, and response to questions.* Peer evaluation shall be done and all members of the group may not get the same grade.

## Text book

Chase R B, Shankar Ravi, Aquilano N J and Jacobs F R, “Operations and Supply Management”, Tata McGraw Hill Education Limited, 12<sup>th</sup> edition.

## Reference books

Heizer, Jay; Render, Barry and Rajashekhar, Jagdeesh, ‘**Operations Management**’, Pearson publication, 9th Edition.

John F. Barlow, **Excel Models for Business and Operations Management**, John Wiley & Sons

Robert Johnston & Graham Clark, **Service Operations Management**, Improving Service Delivery, Prentice Hall

Jay Heizer & Barry Render, **Operations Management** (Flexible Version), Prentice Hall

## Session Plan

Topic	Session No.	Reading
Introduction to Operations Management <ul style="list-style-type: none"> <li>• Definition and scope</li> <li>• Operations Management as a system</li> <li>• Product vs. services systems</li> <li>• Components of Operations strategy</li> <li>• Competitive priorities</li> </ul>	1,2	Chapter 1 and 2
<ul style="list-style-type: none"> <li>• Case study discussion</li> </ul>	3	<ul style="list-style-type: none"> <li>• <i>Case: Wal-Mart China : Sustainable Operations Strategy</i></li> <li>• <i>Case: McDonald's Environment Strategy</i></li> </ul>
Product design and development <ul style="list-style-type: none"> <li>• Product life cycle</li> <li>• Product development process</li> <li>• Concurrent engineering</li> <li>• Reliability</li> <li>• Designing for Manufacturability</li> <li>• Value engineering</li> </ul>	4	Chapter 4
<ul style="list-style-type: none"> <li>• Case study discussion</li> </ul>	5	<ul style="list-style-type: none"> <li>• <i>Case : De Lorean Motor Company</i></li> <li>• <i>Case : BMW AG Digital Car Project (A)</i></li> </ul>
Process management <ul style="list-style-type: none"> <li>• Importance of processes</li> <li>• Generic Processes and their choice</li> <li>• Process analysis and improvement</li> </ul>	6	Chapter 7 and 6
<ul style="list-style-type: none"> <li>• Case study discussion</li> </ul>	7	<ul style="list-style-type: none"> <li>• <i>Case : Custom Moulds Inc.</i></li> </ul>
Facility location <ul style="list-style-type: none"> <li>• Factors affecting location decisions</li> <li>• Techniques for deciding on facility location: Weighted Score Model, Load distance method, Center of gravity method, Break even analysis</li> </ul>	8	Chapter 11
Service operations management: guest lecture	9	
Facility layout <ul style="list-style-type: none"> <li>• Types of facility layouts: Process layout, Product layout, Cellular layout, Project layout</li> <li>• Design of layouts</li> </ul>	10	Chapter 7A <i>Problem 10 from pp. 292-293 of Textbook</i>

Topic	Session No.	Reading
Facility layout – Product Layout <ul style="list-style-type: none"> <li>• Assembly Line Balancing</li> </ul>	11	Chapter 7A <ul style="list-style-type: none"> <li>• Case: <i>Assembly Line Balancing: Helgeson-Bernie Rank Positional Weight (RPW) Technique</i></li> </ul>
Capacity Planning <ul style="list-style-type: none"> <li>• Importance of capacity decisions</li> <li>• Types of capacities</li> <li>• Measuring capacity</li> <li>• Economies of scale and Learning Curve</li> <li>• Determining capacity requirements</li> </ul>	12	Chapter 5
Facilities Planning	13	Guest lecture
Forecasting for Operations <ul style="list-style-type: none"> <li>• Types of Forecasting</li> <li>• Qualitative and Quantitative Forecasting methods</li> <li>• Time Series Analysis</li> <li>• Exponential smoothing</li> </ul>	14	Chapter 15
Developing a Forecasting Model	15	<ul style="list-style-type: none"> <li>• Case: <i>North Western Hospital Supply, Inc.</i></li> </ul>
Project Management <ul style="list-style-type: none"> <li>• What is Project Management</li> <li>• Work Breakdown Structure</li> <li>• Project S Curves</li> <li>• Network Planning Models</li> </ul>	16	Chapter 3
Time Analysis of a project	17	<ul style="list-style-type: none"> <li>• Case: <i>Cell Phone Design Project (pp. 105-106 of Textbook)</i></li> </ul>
Managing Complex Projects	18	Guest Lecture
Project presentations	19, 20	