

**Name of Institute: Indus Institute of Management Studies (IIMS)**

**Name of Faculty: Dr. Tejal Shah**

**Course code: MB0204**

**Course name: OPERATIONS MANAGEMENT**

Pre-requisites: Graduation

Credit points: 4 Credits

Offered Semester: II

**Course Lecturer (weeks 01 – 15)**

Full name: Dr. Tejal Shah

Department with siting location: Management

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Consultation times: 2.00 PM to 4.00 PM

Students will be contacted throughout the Session via Mail with important information relating to this Course.

### **Course Objectives**

To acquaint the students with decision making in Planning, scheduling and control operation functions in both manufacturing and services; Effective and efficient flow, replenishment and control of materials with reference to an organization.

### **Course Outcomes (CO)**

On successful completion of this course students will be able to:

1. To familiarize the students with the concepts of operations management systems.
2. To drive the concepts of Operations Management such as Inventory management, Project management, Supply Chain Management, Total Quality Management for effective utilization of resources and meeting the customer expectations.
3. To understand the Operations strategies for ensuring competitiveness and being globally competitive.
4. Able to recognize different practices for handling and allocation of resources.
5. Able to linkage and understand the importance of operations research and operations management tools for improving the efficiency of the organization.
6. Able to evaluate different project management techniques such as PERT and CPM for smooth operations of the project.

### **Course Outline**

#### **UNIT-I**

Introduction to the field, Product and service design, process analysis, manufacturing processes, facility layout, service processes, logistics and facility location, Demand management and forecasting, inventory control methods/models.

### UNIT-II

Material requirements planning, aggregate sales and operations planning. Project management and operations scheduling (Gantt chart, CPM and PERT methods), Project crashing.

### UNIT-III

Waiting line analysis, Operation strategy, Supply chain strategy, , Six-sigma Quality, process capability and SPC, Lean manufacturing systems, TQM, ISO 9000 and other ISO series.

### UNIT-IV

Operation Management Tools: Introduction to Linear Programming Problems - Two Variable LPP Model, Graphical LPP Model. Introduction to Simplex Method.

### UNIT-V

Duality Problem- Primal Dual Relationships. Economic Interpretation of Dual Variables. Queuing Theory.

### Method of delivery

Lectures, PPT, case studies, experiential exercises, Active Learning Techniques.

### Study time

Four hours per week

### CO-PO Mapping (PO: Program Outcomes)

	PO1	PO2	PO3	PO4	PO5	PO6
<b>CO 1</b>	<b>3</b>	<b>-</b>	<b>2</b>	<b>1</b>	<b>-</b>	<b>-</b>
<b>CO 2</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>-</b>
<b>CO 3</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>1</b>
<b>CO 4</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>-</b>	<b>1</b>
<b>CO 5</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>-</b>	<b>1</b>
<b>CO 6</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>-</b>	<b>1</b>

### Blooms Taxonomy and Knowledge retention (For reference)

(Blooms taxonomy has been given for reference)

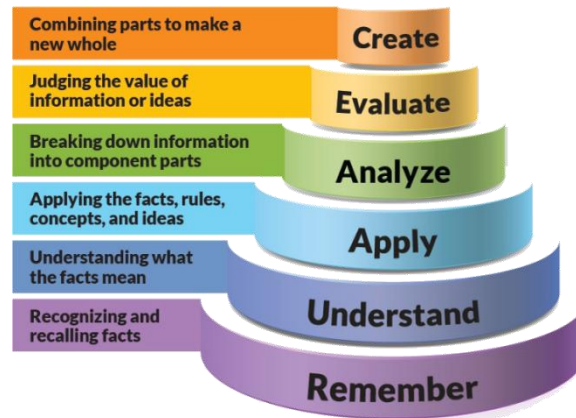


Figure 1: Blooms Taxonomy

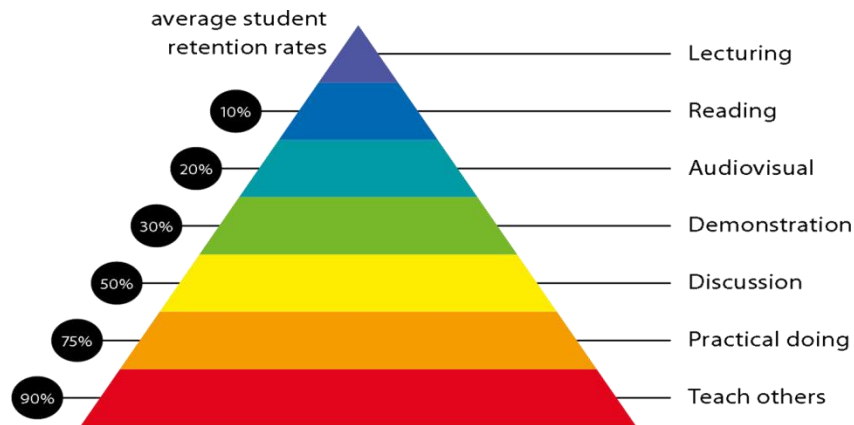


Figure 2: Knowledge retention

## Graduate Qualities and Capabilities covered

(Qualities graduates harness crediting this Course)

General Graduate Qualities	Specific Department of _____ Graduate Capabilities
<p><b>Informed</b> Have a sound knowledge of an area of study or profession and understand its current issues, locally and internationally. Know how to apply this knowledge. Understand how an area of study has developed and how it relates to other areas.</p>	<p><b>1 Professional knowledge, grounding &amp; awareness</b></p>
<p><b>Independent learners</b> Engage with new ideas and ways of thinking and critically analyze issues. Seek to extend knowledge through ongoing research, enquiry and reflection. Find and evaluate information, using a variety of sources and technologies. Acknowledge the work and ideas of others.</p>	<p><b>2 Information literacy, gathering &amp; processing</b></p>
<p><b>Problem solvers</b> Take on challenges and opportunities. Apply creative, logical and critical thinking skills to respond effectively. Make and implement</p>	<p><b>4 Problem solving skills</b></p>

decisions. Be flexible, thorough, innovative and aim for high standards.	
<b>Effective communicators</b> Articulate ideas and convey them effectively using a range of media. Work collaboratively and engage with people in different settings. Recognize how culture can shape communication.	<b>5 Written communication</b>
	<b>6 Oral communication</b>
	<b>7 Teamwork</b>
<b>Responsible</b> Understand how decisions can affect others and make ethically informed choices. Appreciate and respect diversity. Act with integrity as part of local, national, global and professional communities.	<b>10 Sustainability, societal &amp; environmental impact</b>

### Practical work:

1. ASSIGNMENT -1 Theory questions from unit 1
2. ASSIGNMENT -2 Sums from unit 2
3. ASSIGNMENT -3 Problem-solving
4. ASSIGNMENT -4 Practical Problems

### Lecture/tutorial times

4 hours per week

### Attendance Requirements

The University norms states that it is the responsibility of students to attend all lectures, tutorials, seminars and practical work as stipulated in the Course outline. Minimum attendance requirement as per university norms is compulsory for being eligible for mid and end semester examinations.

### Details of referencing system to be used in written work

#### Text books

1. Operations Management for Competitive Advantage by Chase R. B., Jacobs, F. R., Aquilano, N.J. and Agarwal N. K. Tata McGraw- Hill
2. Operations Management Along the Supply Chain Russell, Roberta S. and Taylor, Bernard W John John Wiley and Sons (Wiley India)

### Additional Materials (Reference Books)

1. Production and Operations Management by Kachru Upendra Excel Books
2. Production and Operation Management by Kanishka Bedi Oxford University press
3. Production and Operation Management by S. A. Chunawala, Dr. Patel Himalaya Publications

4. Production and Operations Management by K. Aswathappa and K. Shridhara  
Bhat Himalaya Publications
5. Introduction to Operational Research, Hiller and Lieberman
6. Operations Research, Hamdy Taha
7. Operations Research, Anand Sharma
8. Operations Research, Sharma J K

## ASSESSMENT GUIDELINES

Your final course mark will be calculated from the following:

Example:		
Assignment	5% (week 4)	Objective (1-3)
Quiz	10% (week 8)	Objective (1-4)
Assignment _II	5% (week 8)	Objective (1-4)
Mid semester	40% (due week 10)	Objectives (2-5)
Final exam ( <i>closed book</i> )	40%	Objectives (1-5)

## SUPPLEMENTARY ASSESSMENT

Students who receive an overall mark less than 40% in mid semester or end semester will be considered for supplementary assessment in the respective components (i.e mid semester or end semester) of semester concerned. Students must make themselves available during the supplementary examination period to take up the respective components (mid semester or end semester) and need to obtain the required minimum 40% marks to clear the concerned components.

### Late Work

Late assignments will not be accepted without supporting documentation. Late submission of the reports will result in a deduction of -% of the maximum mark per calendar day

### Format

All assignments must be presented in a neat, legible format with all information sources correctly referenced. **Assignment material handed in throughout the session that is not neat and legible will not be marked and will be returned to the student.**

### Retention of Written Work

Written assessment work will be retained by the Course coordinator/lecturer for two weeks after marking to be collected by the students.

### University and Faculty Policies

Students should make themselves aware of the University and/or Faculty Policies regarding plagiarism, special consideration, supplementary examinations and other educational issues and student matters.

**Plagiarism** - Plagiarism is not acceptable and may result in the imposition of severe penalties. Plagiarism is the use of another person's work, or idea, as if it is his or her own - if you have any doubts at all on what constitutes plagiarism, please consult your Course coordinator or lecturer. Plagiarism will be penalized severely.

*Do not copy the work of other students.*

*Do not share your work with other students (except where required for a group activity or assessment).*

### Course schedule(subject to change)

(Mention quiz, assignment submission, breaksetcas well in the table under the Teaching Learning Activity Column)

Week #	Topic & contents	CO Addressed	Teaching Learning Activity (TLA)
Weeks 1	Introduction to the field, Product and service design, process analysis,	CO1 & CO2	Lecture
Weeks 2	Manufacturing processes, facility layout, service processes,	CO1, CO2 & CO4	Lecture
Week 3	logistics and facility location, Demand management and forecasting, inventory control methods/models	CO1, CO2 & CO3	Lecture
Week 4	Material requirements planning, aggregate sales and operations planning. Project management	CO2, CO5 & CO6	Lecture
Week 5	operations scheduling (Gantt chart, CPM and PERT methods), Project crashing.	CO2 & CO3	Lecture
Week 6	Waiting line analysis, Operation strategy, Supply chain strategy, , Six-sigma Quality	CO2, CO3 & CO4	Lecture
Week 7	process capability and SPC, Lean manufacturing systems,	CO2 & CO5	Lecture
Week 8	TQM, ISO 9000 and other ISO series	CO2	Lecture
Week 9	Operation Management Tools: Introduction to Linear Programming Problems	CO5	Lecture

Week 10	Two Variable LPP Model	CO4& CO5	Lecture
Week 11	Mid Sem	N.A	N.A
Week 12	Graphical LPP Model	CO4& CO5	Lecture
Week 13	Introduction to Simplex Method	CO5	Lecture
Week 14	Duality Problem- Primal Dual Relationships. Economic Interpretation of Dual Variables.	CO3& CO5	Lecture
Week 15	Queuing Theory	CO1 & CO5	Lecture