



# Course Specifications

<b>Course Title:</b>	<b>Industrial Operations Management</b>
<b>Course Code:</b>	<b>ME 476</b>
<b>Program:</b>	<b>Mechanical Engineering (UG)</b>
<b>Department:</b>	<b>Mechanical &amp; Industrial Engineering</b>
<b>College:</b>	<b>College of Engineering</b>
<b>Institution:</b>	<b>Majmaah University</b>

## Table of Contents

<b>A. Course Identification</b> .....	<b>3</b>
6. Mode of Instruction (mark all that apply) .....	3
<b>B. Course Objectives and Learning Outcomes</b> .....	<b>4</b>
1. Course Description .....	4
2. Course Main Objective.....	4
3. Course Learning Outcomes .....	4
<b>C. Course Content</b> .....	<b>4</b>
<b>D. Teaching and Assessment</b> .....	<b>5</b>
1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods .....	5
2. Assessment Tasks for Students .....	5
<b>E. Student Academic Counseling and Support</b> .....	<b>5</b>
<b>F. Learning Resources and Facilities</b> .....	<b>6</b>
1. Learning Resources .....	6
2. Facilities Required.....	6
<b>G. Course Quality Evaluation</b> .....	<b>6</b>
<b>H. Specification Approval Data</b> .....	<b>6</b>

## A. Course Identification

<b>1. Credit hours:03</b>	<b>(3-1-0)</b>
<b>2. Course type</b>	
a. University <input type="checkbox"/>	College <input type="checkbox"/>
Department <input checked="" type="checkbox"/>	Others <input type="checkbox"/>
b. Required <input type="checkbox"/>	Elective <input checked="" type="checkbox"/>
<b>3. Level/year at which this course is offered: 10</b>	
<b>4. Pre-requisites for this course (if any): MATH 107</b>	
<b>5. Co-requisites for this course (if any): None</b>	

### 6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	80
2	Blended	0	0
3	E-learning	0	0
4	Correspondence	0	0
5	Other	0	0

### 7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
<b>Contact Hours</b>		
1	Lecture	45
2	Laboratory/Studio	0
3	Tutorial	15
4	Others (specify)	0
	<b>Total</b>	<b>60</b>
<b>Other Learning Hours*</b>		
1	Study	30
2	Assignments	10
3	Library	10
4	Projects/Research Essays/Theses	05
5	Others (specify)	--
	<b>Total</b>	<b>55</b>

\* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

## B. Course Objectives and Learning Outcomes

<p><b>1. Course Description</b> Basic concepts of Production and Operations Management (POM). Design of products and services. Processes and technologies, Inventory management. Forecasting. Material Requirements Planning (MRP). Scheduling. Supply-Chain management. Just-in-time and lean production, Introduction to Enterprise Requirement Planning (ERP). Capacity and Aggregate planning.</p>
<p><b>2. Course Main Objective</b></p>
<p>1. To understand the overall decision making process associated with the field, be able to apply decision making techniques and to understand the strategic implications of decision regarding product, process and site location,</p>
<p>2. To be able to: forecast demand, apply aggregate planning and master production scheduling techniques, apply basic inventory control, material requirements planning and scheduling models in an operations environment,</p>
<p>3. To be able to understand the difference between supply chain management and traditional purchasing</p>

### 3. Course Learning Outcomes

CLOs		Aligned PLOs
<b>1</b>	<b>Knowledge:</b>	
1.1	Ability to recognize need to identify and assess criticality of operations and their management	a
1.2	Ability to design lean systems	a
<b>2</b>	<b>Skills :</b>	
2.1	Ability to model material requirement planning and manage their inventories	e
2.2	An ability to explain and apply design concepts in solving problems related to inventory and optimization	e
<b>3</b>	<b>Competence:</b>	
3.1	Ability to involve group based assignment, to demonstrate so that they share with classmates and teachers, help of internet for solving it.	k
3.2	Capability to work with teams during case studies	k

## C. Course Content

No	List of Topics	Contact Hours
1	Operations Management Concepts	08
2	Inventory management and Forecasting	16
3	Facility Location and Layout	12
4	Scheduling and control of Production activities, Capacity and Aggregate planning.	12
5	Introduction to SCM and ERP	12
<b>Total</b>		<b>60</b>

## D. Teaching and Assessment

### 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
<b>1.0</b>	<b>Knowledge</b>		
1.1	Ability to recognize need to identify and assess criticality of operations and their management	Formal face to face lectures to focus on to operations management concepts	Mid Term1
1.2	Ability to design lean systems	Explaining lean systems and design	
<b>2.0</b>	<b>Skills</b>		
2.1	Ability to model material requirement planning and manage their inventories	Asking them formulae, equations used and how can they apply their skills for a specific type of problem and mending the mistakes with explanation	Mid Term2
2.2	An ability to explain and apply design concepts in solving problems related to inventory and optimization	Allowing students to calculate optimal inventories, policies price discounts, multi-item optimization.	
<b>3.0</b>	<b>Competence</b>		
3.1	Ability to involve group based assignment, to demonstrate so that they share with classmates and teachers, help of internet for solving it.	Making teaching learning two-way communication. Getting students involved to solve problems and asking students did they understand the stability concept clearly.	Final Exam
3.2	Capability to work with teams during case studies	A seminar component related to topic may be considered. Consultations with the lecturer outside of class hours, according to the scheduled time	

### 2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz 1	03	05
2	Assignment/Homework	05	05
3	Mid Term 1	07	20
4	Quiz 2	10	05
5	Mid Term 2	11	20
6	Assignment/Home work	12	05
7	Final Exam	15	40
	Total	--	100

\*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

## E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

Lecture hours as given in Time Tables : Monday 8-8:50 AM , 9-9:50 AM, Tuesday 10-10:50

Tutorial Tuesday 11-11:50  
 (Class Rooms E 1 and E 3)  
 Office hours : Every day from 10 AM -11 AM  
 (Office location 044-02-17)

## F. Learning Resources and Facilities

### 1. Learning Resources

<b>Required Textbooks</b>	Operations Management, Heizer J. and Render B. Pearson Prentice Hall, 8e, 2007
<b>Essential References Materials</b>	Operations Management, Russell R. Taylor III, B.W. Pearson Prentice Hall, 4e, 2003
<b>Electronic Materials</b>	---
<b>Other Learning Materials</b>	Course related material is provided in Black Board

### 2. Facilities Required

Item	Resources
<b>Accommodation</b> (Classrooms, laboratories, demonstration rooms/labs, etc.)	Class Rooms
<b>Technology Resources</b> (AV, data show, Smart Board, software, etc.)	Smart board is provided
<b>Other Resources</b> (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	-----

## G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Indirect Assessment
CLOs achievement	Faculty	Direct/Indirect Assessments
Learning Resources	Students	Indirect Assessment
Course Contents	Students	Indirect Assessment

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)

## H. Specification Approval Data

<b>Council / Committee</b>	Department Council
<b>Reference No.</b>	<b>1/34/9767</b>
<b>Date</b>	<b>25/02/1432 H</b>