Course Handout (Part-II)

Date: 2/1/2016

In addition to Part I (General Handout for all courses appended to the Time Table), this portion gives further specific details regarding the **course.**

Course No. : MBA C419
Course Title : Production and Operations Management
Instructor-in-Charge : Dr. Rajesh Matai

Course Description
Generalized model of production systems, Types of production flows, Life cycle concepts, Facilities location and layout planning, Aggregate and batch production planning, Inventory systems, Materials requirements planning, Elements of monitoring and production control.

Course Outline
This course deals with the planning, design, analysis, control, and management of the processes that converts input (in the form of people, equipment, facilities, materials, etc.), into products and services, desired by the customers. Under today's global environment, the efficient design and management of the conversion process that utilize these resources is important for developing and maintaining competitive advantage in business.
This course should be of particular interest to people aspiring for a career in designing and managing business processes, either directly (e.g., managers of operations function) or indirectly (e.g. management consultants). It should also be of interest to people who manage interfaces between operations and other business functions such as finance, marketing, managerial accounting and human resources.

Scope
The course is designed to provide students with a comprehensive understanding on

- theoretical and practical knowledge of operations as a critical business function
- relationship and integration among operations and other functional areas inside an organization
- decision-making for a business production system within the strategic aims of both the manufacturing and service sectors
- analytical skills in handling questions of scheduling, inventory and resource management
- the future trends in manufacturing and the influence and effect of world-class production philosophies on Indian industries

Objectives
At the end of this course, the student will be able to

- Understand the decision making process in design, planning and operation of production systems.
- Apply the analytical skills for decision-making in production management.

- Analyze an existing production system, and how changes in one attributes performance can change the performance of the entire system

Text Book:

T1. Heizer, J.; Render, B. and Rajashekhar, J., Operations Management, Pearson Education, India, 9th Edition, 2009.

Reference Books:

R1. Russel and Taylor, Operations Management along the Supply Chain, Wiley Student Edition, India, 6th Edition, 2009.

R2. Chase, Jacobs, Aquilano and Agarwal, Operations Management for Competitive Advantage, TMH, India, 11th Edition, 2006

R3. Roger G. Schroeder, Operations Management: Contemporary Concepts and Cases, TMH, India, 3rd Edition, 2009.

R4. Mahadevan, Operations Management: theory and Practice, Pearson Publication, India, 2nd Edition , 2010.

Additional Reading Books:

B1. Eliyhau M. Goldratt, "The Goal: A Process of Ongoing Improvement".

B2. Masaaki Imai, "Kaizen: The Key to Japan's Competitive Success".

B3. James P. Womack, Daniel T. Jones, Daniel Roos, "The Machine that Changed the World: the story of lean production".

Course Plan:

*Lecture No.	Learning Objectives	Topics to be covered	Reference Chap / see (Book)
1-3	Operation management (OM), Operation management in service, Operations strategy, Achieving competitive advantage through operations, Ten strategic OM decisions.	Strategic importance of Operations	Chapter 1,2 (T1)
4-8	Forecasting in OM, Strategic importance of forecasting, Time series forecasting, Associative forecasting methods.	Forecasting	Chapter 3 (T1)
9-11	Purpose, Life cycle and evaluation of product, New product development.	Product planning	Chapter 4 (T1)
12-13	Quality concepts, Evolution of quality management, TQM, Other quality tools, Six sigma.	Management of Quality	Chapter 5 (T1) *(Except International quality Standards)*
14-15	Understand Inspection , SPC , Process capability & process control, process improvement	Statistical Process Control	Supplement Chapter 5 (T1) *(Except Acceptance*

*Lecture No.	Learning Objectives	Topics to be covered	Reference Chap / see (Book)
			Sampling)
16-18	Four process strategies, Process analysis and design, Processes in the service sector.	Process Strategy	Chapter 6 (T1)
19-22	Introduction, Selecting the geographic region, Costing alternative locations, Scoring models, Geometric models, Locating multiple facilities, Location of facilities on networks	Facilities location	Chapter 7 (T1)
23-27	Facility layout planning, process, product, hybrid, fixed-position, cellular and specialized layouts.	Layout planning	Chapter 8 (T1)
28-29	Capacity, Capacity planning, Break even analysis.	Capacity planning	Supplement Chapter 6 (T1)
30-35	Hierarchy of planning decision, Planning process, Aggregate planning, Master schedule, Short-term schedules, Scheduling Issues, Loading jobs, Sequencing jobs, Theory of Constraints (TOC) (bottlenecks, drum, rope, buffer), Scheduling services.	Production scheduling	Chapter 12, 14(T1)
36-38	Dependent demand, Dependent Inventory model requirements, MRP structure and management, Lot sizing techniques.	MRP	Chapter 13 (T1)
39-41	Classic analysis of inventory control, Inventory control for production systems, Probabilistic demand, Periodic review systems, Single period models, ABC analysis.	Inventory Management	Chapter 11 (T1)
42-43	Introduction to Just in Time Management, TPS	JIT and Lean Operations	Chapter 15 (T1)

* Designed for 50 min lecture slots.

Evaluation Scheme:

S. No.	Evaluation Component	Duration	Weightage	Date & Time	Remarks
1	Mid-Term	50 min	20%	**15/3 4:00-5:30 PM**	Closed book
2	Surprise Quizzes	10 min	5%		Total 4-5 quizzes will be taken out of which best three will be taken for evaluation of individual student. (Close book).
3	Case Analysis		20%		Students will read, analyze cases and

					participate in class discussions and give presentations in groups. (Open book)
4	Mini Project		15%		Open book
5	Class Attendance		5%		Above 80% attendance- 5% M 70-80% attendance- 4% M 60-70% attendance- 3% M Below 60% attendance-0 M
6	Comprehensive Examination	3 hrs	35%	**6/5 AN**	Close book

Mini Project: Students will take any real Operations management campus based problem and do projects in groups. At the end of semester all groups will give presentation and submit report.

Case Analysis: Cases will be assigned time to time. Few Harvard case studies will be also taken in course. Students must read the case assigned and come fully prepared for discussions in class. It is highly required that students must attend all classes and contribute in case discussions.

Chamber Consultation Hour: To be announced in class.

Notices: All notices of this course will be displayed on the Department of Management Notice Board.

Make-up Policy: Make-ups may be allowed only in genuine cases with prior permission of I/C.

Instructor-in-Charge
MBA C419