Course Plan

MGT 510 – Operations Management

Program	**MBA**
Semester	Fall 2024
Faculty/Instructor	Dr. Mohammad Kamran Mumtaz
Course Site	kaydrive.com/om-km
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Office Location	107, Aman CED, IBA Main Campus
Counselling Hours	By appointment through e-mail

Course Specifications	
Credits	3 Credit Hours
Pre-requisites	-
Number of Sessions	28
Duration of Session	2 Hours
Session Days	Friday – Saturday
Class Location	MCS-5
Class Timing	6:30 – 8:30 pm

Course Description

The field of Operations Management is concerned with the design, management, and improvement of operating systems and processes. As we seek to understand the challenges confronting firms competing in today's demanding environment, the focus of our work has broadened to include the multiple activities comprising a firm's "operating core":

- the multi-function, multi-firm system that includes basic research, design, engineering, product and process development and production of goods and services within individual operating units;
- the networks of information and material flows that tie operating units together and the systems that support these networks;
- the distribution and delivery of goods and services to customers.

This excerpt comes from the description of the field of Technology and Operations Management by Harvard Business School, USA (Link: http://www.hbs.edu/faculty/units/tom/Pages/default.aspx).

MBA Program Learning Competencies (PLCs)
PLC 1. Knowledge of Business and Management Students develop the capability to evaluate the functions of enterprise and their interactions with the local and global environments.
PLC 2. Analytical Decision Making Students develop competence in the analysis of management problems and creation of effective and efficient solutions.
PLC 3. Ethical Leadership and Teamwork Students develop the ability to work with and positively influence others, keeping in view the ethical and social implications of their decisions and actions.
PLC 4. Effective Communication Students develop the ability to effectively present their ideas in oral and written communication.
PLC 5. Technology in Management Students develop competence in the application of technology in various functions of management.

MBA Program Learning Objectives (PLOs) Embedded in this Course	
PLO 103	Evaluate the performance of enterprise and its components. (Enhance)
PLO 201	Analyze decision situations using a systematic approach and logical reasoning. (Enhance)
PLO 202	Devise plans to collect relevant data and create evidence-based alternatives to make rational choices. (Reinforce)
PLO 203*	Devise plans to implement the decisions. (Enhance)
PLO 402	Design and deliver effective business documents and presentations. (Reinforce)
PLO 501	Apply modern information and communication technologies effectively. (Reinforce)

Course Learning Objectives (CLOs)	
	Upon completion of the course, students will be able to:
CLO 1	Understand and apply terms, tools and concepts in Operations Management (process flow, cycle time, throughput time, efficiency, utilization, OEE, Bottleneck, Product-Process Matrix, Inventory models, quality principles, forecasting, planning). Topics to be covered include Operations Strategy, Process Analysis and Design, Forecasting, Planning, Inventory and Quality, relevant technologies for each functional domain
CLO 2	Analyze, evaluate operational problems using CLO1

	(PLO 103) – Weightage: 5
CLO 3	Propose and defend solutions considering Organizational, Contextual and Societal aspects (PLO 203) - Weightage: 3
CLO 4	Design processes, solutions, operating systems with respect to structure and infrastructure (PLO 203) – Weightage: 3
CLO 5	Team working, communication, problem solving, analytical and decision-making skills (students would be able to analyze real world operations problems in the context that they exist and solve them considering the challenges and constraints faced in real life situations) (PLO 401) – Weightage: 3

		Linkages among CLOs and PLOs				
	PLO 103	**PLO 201**	**PLO 202**	**PLO 203**	**PLO 402**	**PLO 501**
CLO 1						
CLO 2	✓	✓	✓			
CLO 3				✓		
CLO 4			✓			
CLO 5					✓	✓

AOL Assessment Mapping
PLO mapped: AOL assessment will take place for PLO 203. **Assessment Tool**: Simulation Exercise.

Method of Teaching and Learning
This is a case based course. However, I have dedicated 1-2 sessions at the start of each module to discussion of theory and concepts that will be required to analyze the cases in the module. We may have guest speaker session where we expect the speaker to highlight operational issues in Pakistani industries. We have also planned some class activities to explain the concepts in operations management. Especially at the beginning of the course we watch an operations video to illustrate basic concepts in operations management such as process lead time, inventory, etc. Towards the end we have a supply chain simulation where students practice concepts related to design, forecasting and planning.

Performance Evaluation Instruments and Marks Distribution		
Evaluation Components/Instruments	**Marks**	**Remarks**
Class Participation (CP)	25	CP involves active listening and contributing insights to the discussion. CP will be evaluated on the basis of quality rather than qanatity. Students will be graded out of 10 pre mid and out of 15 post mid.
Project	20	The project requires exploration of an operational problem from a local organization. The project will be done in groups of max 5 students. 15 marks are for group submission and 5 marks for individual contribution.
Mid Term Exam	15	Midterm exam will be individual and based on cases and readings till the date of the exam. There will be no make up for this exam.
Written Analysis of Case (WAC)	10	A case from the course outline will be assigned for individual WAC to be submitted before the class in which the case is to be discussed.
Final Exam	30	Final exam will be individual and case based. The case will be given one day in advance for preparation.
Total	**100**	

Final Grade for the Course:
Grading on each instrument will be based on normal curve. The final grade for the course will be assigned to each participant based on the aggregate of normal curves of all instruments. Any student who falls in the bottom 20% of the class on all the instruments will be assigned an 'F' grade.

Performance Evaluation Policy

Plagiarism and use of AI is strictly prohibited in the assignments and will be dealt with in accordance with university policy.

Readings

The readings are noted with each session in the Sessions Plan at the end of this document.

For a more structured understanding of the field of operations management, you may find the following books useful:

1. "Operations Management", by William J. Stevenson, 8th edition, McGraw-Hill 2005.
2. "Operations Management", Jay Heizer, Barry Render & Jagadeesh Rajashekhar 9th edition, Prentice Hall 2009.
3. "Operations Strategy: Competing in the 21st Century", Sara Beckman & Donald Rosenfield, International Edition, McGraw-Hill 2008.
4. "Operations Management – Focusing on Quality & Competitiveness", by Roberta Russell & Bernard Taylor, 4th edition, Prentice Hall 2005.

5. "Matching Supply with Demand: An Introduction to Operations Management", by Gerard Cachon & Christian Terwiesch, 2nd edition, McGraw-Hill 2009.
6. "Toyota Production System: An Integrated approach to Just-In-Time", by Yasuhiro Monden, 3rd edition, Engineering & Management Press.
7. *Strategic Management of Technology and Innovation*, by R Burgelman, C Christensen, & S Wheelwright, 5th Esition, McGraw-Hill/Irwin, 2008.
8. http://www.poms.org/ http://www.decisionsciences.org/
http://www.euroma-online.org
www.apics.org
www.hbr.org
http://www.ism.ws/
http://supply-chain.org/

Technology & Innovation

Students may be required to bring laptops in some sessions. If they will be required to bring laptop in a particular class they will be informed in advance.

High speed internet connection is required for playing the simulation. Projector with sound may be required for certain classes.

Students will be communicated case questions, class participation marks and results through email. The compiled results would be shared after the mid-term exam and before the final exam.

The course outline and links for the cases are shared on SAKAI.

Experiential Learning Exposure(s)

There will be course project with discussion and feedback. Moreover, the students will evaluate real world case studies to make decisions.

Social Contribution / Impact

University Policies and Rules

Students are required to abide by all the policies and rules of the school and the university. Students are particularly encouraged to be fully aware of the following policies of the university:

- Attendance
- Withrawal
- Academic conduct
- Plagiarism

All other policies of IBA are applicable.

Other Instructions / Guidelines / Information

Ensuring an appropriate learning environment in the class is the responsibility of instructor as well as the students. Each student is expected to be mindful of the following rules:

Regularity: Unless there exist truly exceptional circumstances, being absent from the class in more than three sessions during the course will be deemed as withdrawal from the course.

Punctuality: You are expected to be seated in the class no later than 5 minutes before the start of the class time and be ready to start the class exactly at the assigned time for the session. If you are not present at the start time of the class, you will not be considered as present and your CP for the session will not be considered.

Electronic Devices: Any activity on electronic devices including cell phones, tablets, laptops, etc. in the class is strictly prohibited and will be considered as serious violation of class discipline. Please put your mobile phones on silent mode (without vibration) and out of your sight. If you are found in violation of this policy, your CP will be considered as zero and disciplinary action may be taken.

Eating and drinking in the class is strictly prohibited. Water is allowed.

Class Participation

Participation in the class by attentively listening and constructively extending the discussion will be credited.
-1 or -2 Engaged in cross-talking or whispering during the session
0 Late, no participation, or unprepared for the session
0.5 A few case facts only
1.5 Preparation + Active listening (challenge someone's analysis)
2.5 Prepation + Active listening + Explained concept(s) well
3.5 Added to my learning

Assignments

Written Analysis of Case (WAC) – Individual Assignment

You are required to write an analysis of the case in one of the classes.

The WAC must include the case synopsis followed by Analysis (process, problem identification, evaluating options, supporting calculations) and finally the recommendations and action plan. Please note that all supporting data such as graphs, charts, sales data, and financials should be attached as exhibits or annexure at the end of the WAC.

Length	3-5 pages of A4 size, excluding exhibits and annexure
Font size	11
Line Spacing	1.5

Project – Group Assignment (Maximum Group size of 5)

Theme: Technology in Operations

Q 1. What technologies are being used in the various operational processes in your organization?

Q2. What issues has the technology solved?

Q3. What were the implementation challenges and how the company resolved these challenges?

Q4. How is the technology being used?

Q5. What capabilities have become obsolete? What new capabilities were required?

Q6. What KPIs have improved with the use of technology and by what percentage?

Each group would conduct 4-5 interviews in 2 companies that have done technology implementation in operations. Interviews would be conducted from people engaged in the operations technology implementation process. At least 2 group members must be present at the time of an interview. Collect data to verify and support the answers you are getting from the interviews. For example, if we are trying to assess capabilities, we try to identify the kind of training programs that were initiated, the resources that were acquired, the budget that was allocated for this, etc.

Grading Criteria:

The project report will be evaluated in terms of:

1. complexity and challenge (which does not necessarily imply breadth of scope or the magnitude of stakes) of the selected issue,
2. rigor and logic of analysis,
3. extent of innovation and insight in addressing the selected problem,
4. learning of the group and the readers from the project, and
5. project report presentation.

In addition, the evaluation would cover your thought process, depth of interviews, comprehensiveness of the answers, best practices identified, insights generated, usefulness of these insights for operations academics and managers, and implications derived from these insights.

Important Deadlines for the Group Project		
3rd Session	Group Formation	Students will be divided in equal size groups
7th Session	Company writeup and Problem identification	Identify the company and people you would be talking to, have a small chat with someone in the organization. As a result, you should be able to present a brief introduction of the company and its operating system (analysis of the operating system should identify important digital transformation KPIs, how the various groups/processes are aligned together and working towards a common objective, critique of the system). Have your initial interview protocols ready, type of questions you would ask and problems you would try to

		identify. Include any supporting data that might be necessary to understand the situation better such as Stakeholders, Financials, KPIs, etc. (1-2 pages)
15th Session	Review and Feedback	Discussion with the instructor, results of 1-2 interviews, roadblocks, feedback, and guidance on way forward. (4-5 slides)
26th Session	Final Presentation & Report	Key items to be included in presentation and report. Background of the organization (age, type, size, org. structure, culture), answers to each of the five questions, sense making and analysis of the overall digital transformation process (reasoning for why things are the way they are, you may want to include one of the frameworks studied in class to improve the explanation), comparison with broader digital transformation process (how technology in operations is different and why), implications for theory and practice, statement of contribution, Appendix (transcription of all the interviews), information about the interviewees. Report can take the form of a ppt (15-25 slides).

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SESSIONS PLAN

S. No.	Session Title/Topic	Session Learning Objectives (SLOs)	Cases, Readings, and Notes/Remarks	Questions
		MODULE 1 **Introduction to Operations Management**		
1	**Introduction**	CLO 1 • Learn the rules of the class, expectations from the course and basic framework for solving operational cases. • Understand the key operational decision areas, the kind of problems an operations manager has to deal with.	**Case:** • No case **Reading(s):** • Note on How to Approach POM Cases. HBS. • A Glossary of TOM Terms. • A Note on Process Analysis. **Note/Remarks:** Please bring hard copy of the course outline.	1. What process would you follow in solving operational problems?
2	**Fundamentals of Process Analysis**	• Learn the important operational KPIs, terms and process analysis fundamentals	**Reading(s):** • A Glossary of TOM Terms. • A Note on Process Analysis.	1. Draw process flow diagrams. 2. Calculate throughput time, cycle time, capacity, productivity, efficiency and utilization.
		MODULE 2 **Operations Strategy**		
3-4	**Operations Strategy**	CLOs 1-5 • Learn how to set operational priorities. • Be able to align an operating system's structure and infrastructure with operational priorities and vision/mission of the organization.	**Case:** • Benihana of Tokyo **Reading(s):** • Operations Strategy by Marco Iansiti and Alain Serels • Manufacturing - Missing Link in Corporate Strategy by Wickham Skinner	**Case Questions:** 1. What are the differences between the Benihana production process and that of a typical restaurant? 2. Examine the production system in detail. 3. What are the major design choices for Benihana?

			• Beyond World-Class: The New Manufacturing Strategy by Hayes and Pisano	
5	**Competitive Benchmarking**	• Understand the factors influencing process design & how good operating systems are designed. • How to do operationl competitive benchmarking.	**Case:** • American Connector Company **Reading(s):** • Manufacturing - Missing Link in Corporate Strategy by Wickham Skinner • Beyond World-Class: The New Manufacturing Strategy by Hayes and Pisano	**Case Question(s):** 1. How serious is the threat from DJC? 2. How big are the cost differences from ACC and DJC? 3. What accounts for these differences? 4. What should ACC do?
6	**Strategic Alignment**	• Understand the importance of market dynamics in shaping operations strategy • Practice aligning strategy and structure • Learn the importance of stakeholder management • Importance of data and trends in operational decision making	**Case:** • **McDonald's Corporation (Abridged)** **Reading(s):** • Truth Number 1: You can't be good at everything – How to make the right trade-offs to deliver exceptional customer service (optional)	1. What elements of the McDonald's operating system have been most important in building and sustaining its success? 2. What are the new challenges McDonald's is facing in 1990s? 3. How should McDonald's shape its operations strategy for continued growth?
MODULE 3 **Process Analysis and Design**				
7	**Designin, Managing and Improving Operations**	• Process types, challenges and management priorities • Product-process matrix • Practice process analysis and operating system design • Learn the differences between the various process types, when	**Case:** • No case. **Reading(s):** • Process Fundamentals	1. What are the different types of processes? 2. What are the challenges of each process type? How to handle the challenges?

		and how a particular process type should be adopted	• Designing, Managing and Improving Operations by R. D. Shapiro. HBS Note. • A Note on Process Analysis. • When should a process be art, not science?	
8	**Process Analysis**	• How to analyze a process • Process improvement considerations • Scenario analysis in process design • Alignment of design with ops strategy and internal processes	**Case:** • Kristen's Cookie Company **Reading(s):** • A Note on Process Analysis	1. How long will it take you to fill a rush order? 2. How many orders can you fill in a night, assuming you are open four hours each night? 3. How much of your own and your roommate's valuable time will it take to fill each order? 4. Because your baking trays can hold exactly one dozen cookies, you will produce and sell cookies by the dozen. Should you give any discount for people who order two dozen cookies, three dozen cookies, or more? If so, how much? Will it take you any longer to fill a two-dozen cookie order than a one-dozen cookie order? 5. How many electric mixers and baking trays will you need? 6. How can you make the overall system efficient?
9	**Process Design**	• Understanding and applying process design fundamentals to the case of a restaurant	**Simulation:** Operations Management Simulation: Benihana (V2) **Reading(s):** • Process Design	Examine the challenges at Benihana and design a strategy to maximize profit.

			Note/Remarks: • Each group coordinator is required to bring the laptop.	
10-12	**Product Design**	• Product Design Fundamentals • Introduction to Design Thinking	**Class Exercise:** • Design Thinking Activity **Reading(s):** • Design Thinking by Tim Brown **Note/Remarks:** Go through the key concepts in the reading.	1. What are some of the important considerations in product design? 2. What are the steps in the design thinking process? How can these be used to solve product design problems?
MODULE 3 **Inventory Management**				
13-14	**Inventory Management**	CLOs 1,2,4 • Types of Inventory • Purpose of Inventory • Inventory Management Challenges • Inventory Management Models: Single period vs multi-period inventory models • Inventory trade-offs • Inventory KPIs • Cost of inventory	**Case:** • Stock-up vs Stock-out: The Inventory Management Dilemma at a Mobile Clinic **Reading(s):** • Note on Inventory Management. HBS. **Note/Remarks:** Go through the key concepts in the reading.	1. How much Panadol should the clinic order? 2. Determine the re-order quantity, re-order point, and order-up-to level. 3. Would continuous or periodic review be better for the Mobile Clinic.
15-16	**Mid Assessment & Feedback**	• Reinforcement of concepts covered till the mid of the course	Course and Project Feedback	
MODULE 4 **Quality Management**				
17-18	**Quality Management, TPS and Lean Principles**	CLOs 1,2,4 • Concept of Quality, quality attributes, TQM, Six Sigma • Cost of Quality	**Case(s):** • Six Sigma Quality at Flyrock Tires • Toyota Motor Manufacturing	1. What is TPS? What are the principles of Lean Manufacturing and Six Sigma? 2. What is QMS?

		• Quality Gurus, QMS, Quality standards • Toyota (TPS) and Lean Principles • Tools of Quality	**Reading(s):** • Managing Quality with Process Control by R. D. Shapiro • Six Sigma: A Basic Overview.	3. What are the 7 tools of quality? When are these used? 4. What are the various cost of quality?
19	**Quality Improvement**	• Executing a quality improvement exercise	**Case:** • Florida Power and Light Quality Improvement (Q1) Story Exercise	1. How would you resolve quality issues at Florida Power? 2. What quality tools would you use? Show your implementation plan.
20	**Guest Speaker Session**	• Local implementation of operations principles	**Note/Remarks:** Analyze how principles studied in class apply to local settings. Be ready to ask questions from the guest speaker accordingly.	1. How are the principles studied in class being applied at a local organization? 2. How would you improve the operations based on your learning so far?
MODULE 5 Supply Chain Management and Operations Planning				
21	**Supply Chain Management**	CLOs 1,2,4 • Supply Chain Fundamentals: steps in supply chain, delayed differentiation, bullwhip effect, etc. • Functional vs responsive supply chains	**Case:** • No case. **Reading(s):** • Supply Chain Management by Vishal Gaur	What is delayed differentiation? What are its advantages? When to implement? What is bullwhip effect? What are its challenges? How to manage bullwhip effect? What is the difference between functional and responsive supply chains? How to manage these differently?
22	**Designing and managing crowd-based business models**	• Understand operational capabilities required to meet customer demand and keep up with the promise	**Case:** • TCS: 'Hazir SubKuch' – Making Everything Present **Reading(s):** • Tauscher, K. (2017). Leveraging collective intelligence: How to design and manage	1. Should TCS enter into the business of HSK? 2. What is HSK and what promise are we making with our customers? 3a. What resources would TCS need to offer HSK? 3b. Does TCS have the needed resources?

			crowd-based business models. Business Horizons, 60(2), 237-245.	4. What is TCS' approach of taking such decisions? How TCS has developed these capabilities overtime? 5. Who is TCS competing with? Is it important to jump into this business now?
23	**Forecasting and Planning**	• Get an understanding of forecasting processes & methods being followed in the industry for functional and responsive products. • Understand how to match capacity to demand • Learn how the planning process works for functional/ responsive products.	**Case:** • Sports Obermeyer **Reading(s):** • Making Supply Meet Demand in an Uncertain World by Fisher, Hammond, Obermeyer and Raman, • Match Supply and Demand in Service Industries by Earl Sasser	1. Using the sample data given in exhibit 10, make a recommendation for how many units of each style Wally Obermeyer should order during the initial phase of production. Assume that all ten styles in the sample problem are made in Hong Kong, and that Obermeyer's initial production commitment must be at least 10,000 units (Ignore price differences among styles in your initial analysis). 2. What operational changes would you recommend to Wally to improve performance? 3. How should Obermeyer management think (both short- term and long-term) about sourcing in Hong Kong versus China?
24-25	**Design, Forecasting and Planning Practice**	• Selecting product features • Foreacasting demand • Planning sourcing and production	**Simulation:** • Supply Chain Management Simulation **Note/Remarks:** • Each group coordinator is required to bring the laptop.	
26-28	**Course Wrap-up and Project Presentations**	• Operational issues in local organizations • Revision of important concepts		

NOTE: Where not specifically mentioned, the sessions cover CLOs 1-4. All case sessions are expected to enhance team working, problem solving, decision making, listening and speaking skills.