

Course Title: Operations Management				
Course code: UBA 203	No. of credits: 4	L-T-P: 45-15-00	Learning hours: 60	
Pre-requisite course code and title (if any):				
Department: Policy and Management Studies				
Course coordinator: Dr Moumita Acharyya		Course instructor: Dr. Anand Jaiswal		
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Course type: Core		Course offered in: Semester 4		
Course description: This course provides an overview of the principles and practices of operations management within the context of business organizations. Students will explore various topics such as process design, quality management, supply chain management, and operations strategy. The course emphasizes the role of operations management in enhancing efficiency, productivity, sustainability and competitiveness in businesses.				
Course objectives:				
<ul style="list-style-type: none"> • To understand the fundamental concepts and principles of operations management. • To assess operations management processes to handle real-world issues and challenges. • To explore the role of operations management verticals in achieving organizational goals and competitive advantage. • To analyse different strategies for managing operations effectively. • To understand the sustainable operations management practices 				
Course Content				
Module	Topic	L	T	P
1	Introduction to Operations Management: Operations Management Overview, Scope in Manufacturing, Services, and Supply Chain Management, Key Functions, Historical Development, Recent Trends, Role in Organizations, Integration with Other Functional Areas, Impact on Competitiveness, Efficiency, and Customer Satisfaction, Sustainable Operations Management	5	1	0
2	Operations Processes: Production and manufacturing operation, Process Selection and Classification, Manufacturing vs. Service Operations, Modern Manufacturing Characteristics, Process Types and Flow Analysis, Improvement Techniques and Metrics, Product Development Life Cycle, Forecasting in Operations	6	2	0
3	Core Operations Management Verticals: <ul style="list-style-type: none"> • Location and layout operations: Location theories & decision factors, Layout scope & types, Layout planning, Layout tools and techniques. • Materials Management and Scheduling: Materials management functions & operations, Materials planning, BOM, MRP I & II, Master production scheduling, Scheduling strategies. • Quality Management: Purpose & importance of Quality, TQM, Quality policy, ISO standards, Quality Tools and Techniques, Quality improvement methods (PDCA, Six Sigma, Kaizen, 5S and others) 25 10 0 • Supply Chain Management: Introduction and significance of Supply Chain Management, Strategies for supplier selection & Relationship Management, Flows in the Supply Chain, Role of Supply Chain Analytics • Inventory and Logistics Management: Introduction, significance and roles, Inventory Turnover and Holding Costs, Inventory management techniques (EOQ, EPQ ABC), 	25	10	0

	Warehouse Management Systems, Logistics and Transportation Management, Types of logistical deliveries, Reverse logistics, VMI			
4	Operations Strategy Formulation and Implementation: Operations Strategy Formulation: Strategies for formulating operations strategies aligned with organizational goals and objectives. Practical approaches to implementing operations strategies effectively, discussion on challenges and best practices in operations strategy implementation.	5	1	0
5	Sustainable Operations Management: Sustainability in operations management, Importance, Triple bottom line approach (economic, social, environmental), Overview and application of LCA methodology, Green Product Design and Development, Waste Management and Recycling, Role in circular economy.	4	1	0
6	Total	45	15	0
<p>Evaluation criteria:</p> <ol style="list-style-type: none"> 1. Minor 1 Exam (Activity/ Case Analysis/Assignment/Presentation) – 30% 2. Minor 2 Exam (Case Analysis/Assignment/Presentation/Written) – 30% 3. Major Exam – 40% <p>Minor 1 Exam (Based on Module 1 and 2) Structure: The Minor 1 Exam, based on Modules 1 and 2, will evaluate students through activity-based presentations or assignments. It focuses on assessing their understanding and application of operations management concepts, including scope, functions, historical context, and recent trends. Students will also be evaluated on their analysis of operations processes and their ability to integrate sustainable practices through the modes of Activity and/or Assignment</p> <p>Minor 2 Exam (Based on Module 3) Structure: It will evaluate students through written paper or case studies on core operations management topics. It will include assessment on location and layout operations, materials management, scheduling, quality management, supply chain management, and inventory and logistics management. The exam will assess students' practical understanding of these concepts.</p> <p>Major Exam (End-Term Exam; at the end of all modules) This will be a written test exam based on all the modules covered in the class.</p>				
<p>Learning outcomes:</p> <ul style="list-style-type: none"> • Analyse fundamental concepts and theories in operations management. • Evaluate operations management processes to address real-world issues and challenges effectively. • Demonstrate how operations management verticals contribute to achieving organizational goals and competitive advantage. • Analyse various strategies for managing operations effectively to improve organizational performance. • Explain sustainable operations management practices and their significance for organizational sustainability and performance. 				
<p>Pedagogical approach:</p> <ul style="list-style-type: none"> • Classroom activity-based learning • Problem solving using Ms Excel • Case study method • Flip-classroom based learning (For few concepts) 				
<p>Materials: Suggested Readings: For Module 1 to 4:</p> <ul style="list-style-type: none"> • Chary, S. Theory and Problems in Production and Operations Management. McGraw Hill. <p>For Module 5:</p>				

- Heizer, J., Render, B., Munson, C., Sachan, A. (12th Ed.). Operations Management: Sustainability and Supply Chain Management. Pearson.

Additional Readings:

- Krajewski, L. J., Malhotra, M. K., Ritzman, L. P. Operations Management: Processes and Supply Chains. Pearson.
- Bozarth, C. B., Handfield, R. B. Introduction to Operations and Supply Chain Management.
- Reid, R. D., Sanders, N. R. Operations Management: An Integrated Approach. Wiley.

Additional information (if any):

Student responsibilities:

Students will be involved in continuous assessments using

- Quizzes
- Assignments
- Viva
- classroom activities
- group presentation
- written exam

Prepared by: Dr. Anand Jaiswal

Course reviewer(s):

1. Dr. Cherian Samuel, Associate Professor, Industrial Management, IIT (BHU)
2. Dr. Vinaytosh Mishra, Director, Thumbay Institute for AI in Healthcare, Gulf Medical University, UAE