

Elective Course 3: Lean Management

Course Type:	PS: Program Specialisation	Course Credits:	2
Course Code:	O4PE536	Course Duration:	30 Hours

Course Objective:

- To introduce foundational concepts, principles, and tools of lean management.
- To equip students with practical skills in implementing lean practices and continuous improvement initiatives.
- To develop analytical capabilities to identify waste, enhance efficiency, and streamline processes.
- To foster understanding of lean philosophy, methodologies, and organizational culture change.
- To cultivate strategic insights into contemporary trends, challenges, and successes in lean implementation.

Course Outcomes:

- CO1: Define and recall fundamental concepts of Lean Management.
- CO2: Explain key principles and philosophies of Lean.
- CO3: Utilize Lean tools and techniques in practical scenarios.
- CO4: Examine waste reduction strategies and process improvements.
- CO5: Assess Lean implementation effectiveness in organizations.
- CO6: Develop Lean-based solutions for operational efficiency.

Unit / Module	Content	CO Mapping	Hours Assigned
1	Introduction to Lean Management: History, Principles, and Benefits The Five Lean Principles: Value, Value Stream, Flow, Pull, Perfection	CO1, CO2, CO3	3
2	The Toyota Production System (TPS) Types of Waste (Muda, Mura, Muri) and Waste Elimination Techniques	CO1, CO2, CO3, CO4	3
3	Lean Tools: 5S, Kaizen, Kanban, Andon, Heijunka Value Stream Mapping (VSM) and Process Flow Analysis	CO3, CO4	3

4	Lean Metrics and Performance Measurement Lean in Manufacturing vs. Lean in Services	CO2, CO4, CO5	3
5	Just-in-Time (JIT) Production and Inventory Management Lean and Six Sigma Integration	CO3, CO4, CO5	3
6	Gemba Walks and Continuous Improvement (PDCA Cycle) Lean Leadership and Organizational Culture	CO3, CO4, CO5	3
7	Lean Implementation Challenges and Case Studies Lean in Supply Chain and Logistics	CO3, CO4, CO5	3
8	Lean Startups and Lean Thinking in Business Digital Transformation and Lean 4.0	CO3, CO4, CO5	3
9	Sustainability and Green Lean, Lean in Healthcare and Service Industries	CO4, CO5	3
10	Lean Project Management Agile Methodologies, Future of Lean Management and Emerging Trends	CO3, CO5, CO6	3

Textbooks:

1. Liker, J. K. (2004). The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer (1st ed.). McGraw-Hill.
2. Womack, J. P., & Jones, D. T. (2003). Lean Thinking: Banish Waste and Create Wealth in Your Corporation (2nd ed.). Free Press.
3. Rother, M., & Shook, J. (1999). Learning to See: Value Stream Mapping to Add Value and Eliminate MUDA (1st ed.). Lean Enterprise Institute.

Reference Books:

1. Dennis, P. (2007). Lean Production Simplified: A Plain-Language Guide to the World's Most Powerful Production System (2nd ed.). CRC Press.
2. Modig, N., & Åhlström, P. (2012). This Is Lean: Resolving the Efficiency Paradox (1st ed.). Rheologica Publishing.