Elective Course 8: Logistics management

Course Type:	PS: Program Specialisation	Course Credits:	2
Course Code:	O3SE516	Course Duration:	30 Hours

Course Objectives:

- To introduce foundational concepts, principles, and strategies in logistics management.
- To equip students with practical skills in transportation management, warehousing, and inventory control.
- To enable analytical evaluation of logistics performance, including cost analysis and service quality metrics.
- To develop understanding of logistics network design, routing optimization, and distribution strategies.
- To cultivate strategic insight into managing contemporary logistics issues, including sustainability and digitalization.

Course Outcomes:

- CO1: Remember / Recall fundamental concepts of logistics, transportation, warehousing and supply chain management
- CO2: Understand logistics strategies, distribution models and cost structures in supply chains
- CO3: Apply the principles of transportation, warehousing and inventory management in real-world scenarios
- CO4: Analyse logistics performance metrics and evaluate cost-effectiveness
- CO5: Evaluate risk, sustainability and technology integration in logistics
- CO6: Create an effective logistics plan, incorporating modern technologies and best practices for efficient movement of inventory

Unit / Module	Content	CO Mapping	Hours Assigned
1	Introduction to Logistics Management: Definition & Scope of Logistics, Evolution of Logistics & Supply Chain, Key Logistics Functions & Objectives,	CO1, CO2	3

	Role of Logistics in Business Performance		
2	Logistics & Supply Chain Strategy: Strategic Logistics Planning, Supply Chain Drivers & Metrics, Competitive Advantage through Logistics	CO2, CO3	3
3	Transportation & Distribution Management: Modes of Transport: Road, Rail, Air & Sea, Freight Management & Carrier Selection, Transportation Costing Models	CO3, CO4	3
4	Warehousing & Inventory Management: Warehouse Design & Layout, Inventory Planning & Demand Forecasting, Just-in-Time (JIT) & Lean Warehousing	CO3, CO4	3
5	Logistics Costing & Performance Measurement: Cost Drivers in Logistics, Activity-Based Costing (ABC), Logistics Performance Metrics & Benchmarking (Suggested Case Study: Logistics Costing & Performance Measurement at Flipkart)	CO4, CO5	3
6	Supply Chain Technology & Automation: Role of IT in Logistics, ERP & Digital Supply Chains, AI, IoT & Blockchain in Logistics (Suggested Case Study: Reliance Retail's Digital Transformation in Supply Chain)	CO3, CO5	3

7	Global Logistics & International Trade: Global Trade Regulations & Incoterms, International Logistics Network Design, Customs & Documentation (Suggested Case Study: Tata Motors' Global Logistics Strategy)	CO3, CO4, CO4	3
8	Risk Management in Logistics: Identifying & Mitigating Supply Chain Risks, Logistics Security & Compliance, Disaster Recovery Planning in Logistics (Suggested Case Study: Risk Management in Logistics – Maruti Suzuki's Supply Chain Resilience)	CO3, CO5	3
9	Sustainable & Reverse Logistics: Green Logistics & Sustainable Practices, Reverse Logistics Models, Carbon Footprint Reduction in Logistics (Suggested Case Study: Dabur India's Sustainable & Reverse Logistics Strategy)	CO4, CO5	3
10	Future Trends & Innovations in Logistics: Digital Supply Chains & Smart Logistics, Predictive Analytics & AI-driven Logistics, Role of 3D Printing & Automation in Logistics (Suggested Case Study: Mahindra Logistics' Smart & AI-Driven Supply Chain Transformation)	CO4, CO5	3

Text Books:

1. "Logistics & Supply Chain Management" by D.K. Agrawal.
2. "Blockchain in Supply Chain Management" by Babita Bhatt.

Reference Books

1. "International Logistics & Supply Chain Management" by R. Panneerselvam.
2. "Managing Supply Chain Risk & Vulnerability" by Teresa Wu & Jennifer Blackhurst
3. "Cost and Management Accounting" by M.Y. Khan & P.K. Jain