Course title: Advanced Logistics & Supply Chain Management	

Course code: BS 155	**No. of credits:** 2	**L-T-P distribution:** 24-4-4	**Learning hours:** 28

Pre-requisite course code and title (if any):
BS 138: Logistics and Supply Chain Management

Department: Department of Business Sustainability

Course coordinator (s): Mr Shri Prakash	**Course instructor (s):** Mr. Sanjeev Shivesh
Contact details: shri.prakash@terisas.ac.in	

Course type	Core	**Course offered in:** Semester 3

Course description

This course develops upon the basic foundations of logistics and supply chain concepts to provide deeper understanding concepts, frameworks and tools for advanced analysis of logistics and supply chain design and deployment in complex organizations. The key areas where the course delves into deeper details are:
- Inventory Planning
- Demand Forecasting
- Facility Planning and Network Design
- Logistics and Supply Chain Strategy

The course provides for a Capstone Consultancy Project, where students shall work with real organizations to work of their business problems using the concepts learnt in this course.

Course objectives
- Understand and appreciate advanced concepts of logistics and supply chain management
- Learn the art of inventory management and demand forecasting
- Gain ability to design logistics networks and fulfilment centres
- Display competence of solving real-life problems of logistics and supply chain

Course content

Module	Topic	L	T	P
1.	**Module 1: Advanced Concepts in Logistics and Supply Chain** Overview of Logistics and Supply Chain Concepts, SCOR Model and Integrated Supply Chain, Supply Chain and Shareholder Value, Ecommerce Supply Chains,	3	0	0
2.	**Module 2: Inventory Planning** Inventory Planning and Control Concepts such as Safety Stock, Reorder level, Economic Order Quantity, Economic Batch Quantity, Impact of multi-echelon supply chain on EOQ – Forrester Effect, Burbidge Effect, Flywheel Effect, Demand amplification and Bullwhip Effect, Service Level and Inventory Optimization	6	0	0
3.	**Module 3: Demand Planning and Forecasting** Introduction to Demand Planning, Structured forecasting methods, Top Down and Bottom Up, Forecasting Bias, Time Series Analysis, Smoothening, Causal Analysis, Challenge of Organization setup in forecasting, Collaborative Planning, Forecasting and Replenishment (CPFR) Case Study – Forecasting a New Project in a dynamic environment	6		
4.	**Module 4: Facility Planning for Logistics** Depots, Warehouse, Fulfilment and Distribution Centres in Logistics, Designing the fulfilment centre operations, Designing the distribution centre operations, Locating the Fulfilment and Distribution Centres, Managing transhipment, Material handling equipment at Logistics Parks, Planning the Logistic Park Operations, Visit to Multimodal Logistics Park	3		4
5.	**Module 5: Supply Chain Network Modelling** Designing the supply chain network plan, Time-Resource Plan, Control Charts for Logistics Operations, Volume-Variety – Variability Challenge	3		
6.	**Module 6: Developing the Logistics and Supply Chain Strategy** Strategic Frameworks for Logistics and Supply Chain, SCOR Model and its	2		

	linkage to Business Strategy, Reverse Logistics, Situation Assessment and Gap Analysis			
7.	Consultancy Project on Logistics and Supply Chain (includes Approaches to solving supply chain challenges, Interviewing Top Management for understanding strategic issues and Project Presentations	3	4	
	Total	**24**	**4**	**4**

Evaluation criteria
- Mid-Term Examination   30%
- Simulation Report   20%
- End-term Examination   50%

Learning Outcomes:
- The student fully understands the concepts of different aspects of logistics management namely inventory planning, planning and working of demand and supply management, planning of various facilitates for logistics etc.
- The student is confident to working independently in a working position in a Logistics and Supply Chain organisation after a short duration on job earning

Pedagogical approach
A combination of class-room interactions and assignments with special emphasis on case studies and real life examples.

Materials
1. Learning Case Pack by the Instructor

Additional information (if any)

Student responsibilities,
Attendance, feedback, discipline, guest faculty etc.

Course reviewers:
1. Dr. Ashwani Kumar , General Manager, Centre for Railway Information System (CRIS), New Delhi
2. Mr. S Sundar, Distinguished Fellow, The Energy and Resources Institute (TERI), New Delhi

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