

GUJARAT TECHNOLOGICAL UNIVERSITY

BRANCH NAME: INDUSTRIAL ENGINEERING (15)
SUBJECT NAME: LOGISTICS AND SUPPLY CHAIN MANAGEMENT
SUBJECT CODE: 2171505
B.E. 7th SEMESTER

Type of course: Department Elective

Prerequisite: No specific prerequisites, students should have necessary quantitative background.

Rationale: Supply chain management (SCM), a term which denotes the integration of key business processes from end user through original suppliers for the purpose of adding value for the firm, its key supply chain members, to include customers and other stakeholders. This course approaches Logistics & SCM from a managerial perspective and introduces concepts in a format useful for management decision making. Basic terms, concepts, and principles are examined in light of how they interrelate and interface within the firm and across the supply chain.

Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks						Total Marks
L	T	P		Theory Marks			Practical Marks			
			ESE (E)	PA (M)		ESE (V)		PA (I)		
				PA	ALA	ESE	OEP			
4	0	2	6	70	20	10	20	10	20	150

Content:

Sr. No.	Content	Total Hrs	% Weight age
1	Logistics management: Introduction, Logistics system design, Demand planning, Multiple channel distribution, Multi-echlon system, Model development, Concept of warehousing, Methods of storage, Primary and secondary transportation, Logistics information system, Logistics costing	16	25
2	Supply chain management: Overview, Supply chain basics, Decision phases in a supply chain, Planning and operations, Importance of supply chain process, Functional and organizational scope of SCM, Management of Demand and supply in SCM, Capacity, Inventory, market segments, Supply chain forecasting, Supply chain forecasting management performance (SCFMP). Collaborative planning forecasting and replenishment (CPFR).	32	50

3	Drivers of outsourcing: Procurement approaches to SCM, Operational, strategic and global outsourcing, Production supply chain model, Intrafirm production, Build to order production, Lean, JIT, Dispersed production Relevance and role of supply chain coordination,	8	13
4	Bull whip effect: Modeling the impact of information on inventories, Role of Marketing, sales and R& D in SCM, Information systems and technology in supply chain, E-Business models: B to B, B to C. Managing service.	8	12

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
35	30	10	15	5	5

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Books:

1. Blanchard, B.S., Logistics Engineering & management, Prentice Hall, New Jersey, 1997
2. Lambert, D.M., Stock J.R., Fundamentals of Logistics management, Irwing McGraw Hill, 1998
3. Sunil Chopra and Peter Menidl, Prentice Hall, 2001, Supply chain management- Stretagy planning and operations.
4. Manish Govil and Jean Marie Prop, Supply chain design and management: Statistical and Tactical perspectives, Academic press, San Diego.
5. Sridhar Tayur, Ram Ganeshan and Micheal Magazine, Quantitative models for supply chain management, Kluwer Academic publishers, 2002

Course Outcome:

After learning the course the students should be able to:

- Demonstrate knowledge of the functions of logistics and supply chain management.
- Apply concepts and activities of the supply chain to actual organizations.
- Explain the sequential nature of logistics and supply chain management.
- Examine the elements leading to effective partnering and strategic sourcing relationships.
- develop mathematical modeling and solution tools for logistics and supply chain management.
- Produce cases of effective supply chain management and logistics implementation.

List of Experiments:

The T.W. will be based on the above syllabus.

Design based Problems (DP)/Open Ended Problem: None**Major Equipment: None****List of Open Source Software/learning website: [www. nptel.ac.in](http://www.nptel.ac.in)**

ACTIVE LEARNING ASSIGNMENTS: Preparation of power-point slides, which include videos, animations, pictures, graphics for better understanding theory and practical work – The faculty will allocate chapters/ parts of chapters to groups of students so that the entire syllabus to be covered. The power-point slides should be put up on the web-site of the College/ Institute, along with the names of the students of the group, the name of the faculty, Department and College on the first slide. The best three works should submit to GTU.