Gyanmanjari Innovative University

Course Syllabus
Gyanmanjari Institute of Technology
Semester-1

Subject : Supply Chain Management - METCP11507

Type of course: Minor Stream

Prerequisite: NIL

Rationale: Supply chain management (SCM) is critical in the construction industry for ensuring the timely and cost-effective delivery of materials, equipment, and services required for projects. Effective SCM involves coordinating and integrating all activities from procurement to delivery, ensuring that materials meet quality standards and are available when needed, which helps prevent project delays and cost overruns.

A well-managed supply chain enhances transparency and communication among suppliers, contractors, and clients, fostering collaboration and reducing risks associated with supply disruptions. By optimizing inventory levels, SCM reduces waste and storage costs, contributing to more sustainable and efficient project execution.

Additionally, SCM enables better forecasting and demand planning, ensuring that resources are allocated efficiently and potential issues are identified and addressed proactively. This strategic approach to managing the supply chain ensures a smoother workflow, enhances project reliability, and improves overall profitability and competitiveness in the construction industry.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
				Theory Marks		Practical Marks		CA	
CI	T	P	C	ESE	MSE	V	P	ALA	
4	0	2	5	60	30	10	20	30	150

Legends: CI-Class Room Instructions; T – Tutorial; P - Practical; C – Credit; ESE - End Semester Examination; MSE- Mid Semester Examination; V – Viva; CA - Continuous Assessment; ALA- Active Learning Activities.

Continuous Assessment:

Sr. No	Active Learning Activities	Marks
1	**Distribution Network** Prepare the Material Supply network. And upload on GMIU Web Portal.	10
2	**SOR** Prepare the detail SOR of the construction materials and upload on GMIU Web Portal.	10
3	**E-Business** Prepare the E-Business platform for construction material supply. And upload on GMIU Web Portal.	10
Total		**30**

Course Content:

Sr. No	Course content	Hrs	% Weightage
1	**Introduction** Supply chain stages and decision phases process view of a supply chain- Supply chain flows- Examples - Competitive and supply chain strategies -supply chain performance - Framework for structuring drivers - Obstacles to achieving fit - Case discussions. **Designing** Distribution Networking - Role, Design, Supply Chain Network - Role, Factors, Framework for Design Decisions - Models for facility location and capacity allocation -Discounted cash flow analysis - Evaluating network design -Decision trees.	16	27%
2	**Sourcing** Role of sourcing, supplier – scoring and assessment, selection and contracts, Design collaboration, Case Studies. **Transportation** Role of transportation - Factors affecting transportation decisions - Modes of transportation and their performance characteristics - Designing transportation network - Trade-off in transportation design. Routing and scheduling in transportation - International transportation – Analytical problems.	16	27%
3	**Pricing** Role Revenue Management in the supply chain, Revenue management for: Multiple customer segments, perishable assets, seasonal demand, bulk and spot contracts. **Coordination and Technology** Co-ordination in a supply chain: Bullwhip effect - Obstacles to	16	28%

	coordination - Managerial levels to achieve co-ordination - Building strategic partnerships - Supply Chain IT framework - The role of E-business in a supply chain - The E-business framework - E-business in practice – Case discussion.		
4	**Emerging Concepts** Global Logistics -Reverse Logistics - Reasons, Activities, Role - Ware house Management- Components, applications, implementation - Lean supply Chains-Sustainable supply Chains	11	18%
	Total	**60**	**100**

Suggested Specification table with Marks (Theory):60

Distribution of Theory Marks **(Revised Bloom's Taxonomy)**						
Level	Remembrance (R)	Understanding (U)	Application (A)	Analyze (N)	Evaluate (E)	Create (C)
Weightage	NA	NA	NA	NA	NA	NA

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.

Course Outcome:

After learning the course, the students should be able to:	
CO1	Connect recognized concepts of Supply Chain Management
CO2	Design Supply chain networks using recognized frameworks
CO3	Identify bottle necks in a supply chain.
CO4	Design cost effective and technical feasible Supply chains that are sustainable and is socially responsible
CO5	Calculate competitive prices for products delivered and add value to every aspect of the supply chain
CO6	Effectively be able to use ERP and other modern digital tools that industry uses

List of Assignment

Student will submit assignment base on above topics.

Instructional Method:

The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.

From the content 10% topics are suggested for flipped mode instruction.

Students will use supplementary resources such as online videos, NPTEL/SWAYAM videos, e-courses, Virtual Laboratory

The internal evaluation will be done on the basis of Active Learning Assignment

Practical/Viva examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Text Books:

1. Sunil Chopra, Peter Meindl and D V Kalra (2016), Supply Chain Management: Strategy, Planning, and operation, Pearson, New Delhi
2. Chitalend A. K. and Gupta R. C. (2014), Materials Management: A Supply Chain Perspective - Text and Cases, PHI India, New Delhi.

Reference Books:

1. Jeremy F.Shapiro (2006), Modeling the supply chain, Thomson Duxbury, 2nd Edition, Cengage Learning.
2. David Simchi-Levi, Philip Kaminsky, Edith Simchi-Levi and Ravi Shankar (2009), Designing and Managing the Supply Chain: Concept Startegies and Case Studies, McGraw Hill.
3. Saurabh Kumar Soni, (2014), Construction Management and Equipment, S.K. Kataria& Sons.