Course Title: Supply Chain Management

Course code: PPM 138	**No. of credits:** 2	**Total Lectures:** 24-06-0	**Learning hours:** 30

Pre-requisite course code and title (if any): The students should have undergone a course on Productions and Operations Management

Department: Policy and Management Studies

Course coordinator: Dr. Shruti Sharma	**Course instructor:** Dr. Anand Jaiswal

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

Course Description:

The course intends to provide a detailed understanding of the complete scope of supply chain management, ranging from supplying raw materials, through factories and warehouses, to meeting the demand in sales outlets. Supply Chain Management has emerged as a key element in providing a competitive advantage in the job markets. The course focuses on the bullwhip effect, types of supply chains, logistics management, distribution channels, green supply chain and modern tools.

Course objectives:

The objectives are to:

- Evaluate production and its operations from the perspective of supply chain management and logistics planning
- Analyze the tools and metrics associated with supply chain management and logistics
- Impart analytical and problem-solving skills necessary to develop solutions to supply chain conflicts
- Evaluate the need and techniques to 'Green' the supply chain and modern IoT tools for the supply chain.
- Develop the ability to design integrated supply chain strategies using modern tools for supply chain and logistics management.

Course Contents

Module	Topics	L	T	P
1.	**Introduction to Logistics and Supply chain management**: Understanding the Supply Chain, Issues and Challenges, Bullwhip Effect: Impact, Causes, Remedies, Risks in SCM, Demand Uncertainty in Supply Chain, Distribution channels and intermediaries, Principles of Logistics, Cooperation in channels and logistics, Beer distribution case demonstration.	6	0	0
2.	**Tools, Drivers, and Metrics for Supply Chain Management:** Tools/Drivers for supply chain and logistics management, Supply chain innovations, Organisation and Control in Supply Chain, Coordination in the supply chain, Dimensions of performance measures.	4	2	0
3.	**Designing the Supply Chain or Distribution Network:** Models for supply chain, Networks for locating plants and warehouses, Parameters to decide the suitable distribution, Supply chain and distribution-related business cases	4	4	0
4.	**Green supply chain management:** Sustainability and the Supply Chain. What it means to green the supply chain. Making a case for a sustainable supply chain, Metrics for green supply chain: GreenSCOR model. Sustainable warehousing and procurement. Reverse logistics	6	0	0
5.	**Digitilisation and application of modern tools for supply chain**: Modern Logistics Operations**,** Digital Transformation application and cases, Application and trends in the digital supply chain,	4	0	0

	Technology-embedded supply chain models and associated case studies. AI for Supply chain Management			
	Total	**24**	**6**	**0**

Evaluation criteria:

- Test 1 – Minor Examination – 30%
- Test 2 – Group Project – 20%
- Test 3 – Individual Project – 20%
- Test 3 – Major Examination – 30%

Learning outcomes:

By the end of the course, the students should be able to:

- Identify and appreciate the application of the right supply chain practices.
- Demonstrate the ability to solve supply chain conflicts and design better supply chains.
- Develop integrated supply chain strategies for businesses
- Implement green/sustainable aspects into supply chain management and practice the use of modern IOT and digital tools for supply chain management

Pedagogical approach:

The course will be primarily taught through class discussions, supply chain simulation, quizzes, case analyses and assignments, and presentations.

Materials

Suggested readings

1. Chopra, S. and Meindl, P. (2015) Supply Chain Management: Strategy, Planning, and Operation. 6th Edition, Pearson, London.
2. Designing and managing the Supply Chain: Concepts, Strategies, and Case Studies 2e, 2003, Irwin McGraw Hill, pp. 1-21
3. Purchasing in Supply Chain Management Robert Monczka, Robert Trent and Robert Handfield, 1998, South-Western College Publishing
4. Supply Chain, Strategic Supply Chain Management, Gattorna, J., Gower, 1998, pp. 425-445.
5. Gwynne Richards (2014) Warehouse Management: A Complete Guide to Improve Efficiency and Minimizing Cost in the Modern Warehouse. The Chartered Institute of Logistics and Transport, Kegan page limited.
6. David E. Mulchy & Joachim Sidon (2008) A Supply Chain Logistics Program for Warehouse Management. Auerbachian Publications

Additional Information: The course framework and modules were designed and conceptualized by Dr. Ann Francis

Student responsibilities:

Attendance, Participation in the class exercise and case discussions, to read relevant student material before attending the class.

Course Reviewer(s):

1. Dr. Rajeev Agrawal, Associate Professor, Department of Mechanical Engineering, MNIT, Jaipur
2. Dr. Vasanth Kamath, Associate Professor, Department of Management, TA Pai Management Institute
3. Vandana C Padmanabhan, Lead (Engg. & Technology), Community Design Agency, Mumbai