



ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

MINOR

Subject: Logistics and Supply Chain Management

w.e.f. AY 2023-24

COURSE STRUCTURE

Semester	Course Number	Course Name	No. of Hrs/Week	No. of Credits
II	1	Logistics Concepts and Planning	4	4
III	2	Transportation and Distribution Management	4	4
IV	3	International Trade Documentation Procedures	4	4
IV	4	Procurement, Storage and Warehouse Management	4	4
V	5	Supply Chain Information System	4	4
V	6	Supply Chain Software	4	4

SEMESTER-II

COURSE 1: LOGISTICS CONCEPTS AND PLANNING

Theory

Credits: 4

4 hrs/week

Course objectives:

- To get clear view about the concepts employed in the different logistical background
- To explain the process related the logistical industry
- To explain the different drivers of logistics.

Learning Outcomes: At the end of the course, the students will be able to:

- 1: Understand the scope of logistics and supply chain management in business.
- 2: Explain the core and support activities in logistics.
- 3: Examine logistical integration hierarchy& various issues in logistics integration.
- 4: Explain the logistical performance cycles, channel participants and supply chain relationships.
- 5: Analyze risks involved in logistics re-engineering.

Syllabus:

Unit 1: Introduction Logistics:

Introduction – Scope of logistics in business, Logistics and Supply Chain Management, Core and support activities of logistics; Logistical integration hierarchy; Integrated Logistics; Operating objectives; Barriers internal integration; Logistical performance cycles; Supply chain relationships– Channel participants, Channel structure, Basic functions, Risk, power and leadership.

Unit 2: Logistics System Design:

Logistics reengineering, Logistical environmental assessment, Time based logistics, Anticipatory and Response based strategies, Alternative strategies, Logistical operational arrangements, Time based control techniques; Integration theory – Location structure, Transportation economies, Inventory economies, Formulating logistics strategy.

Unit 3: Logistics Strategy and Planning:

Logistics planning triangle, Network appraisal; Guidelines for strategy formulation – total cost concept, Setting customer service level, Setting number of warehouses in logistics system, Setting safety stock levels, Differential distribution, Postponement, Consolidation, Selecting proper channel strategy.

Unit 4: Inventory and Purchasing:

Review – Inventory and purchasing decisions; Multi facility location problems – Exact method, Heuristic methods, other methods; Logistics planning and design – Feasibility analysis, Project planning, Assumptions and data collection, Analysis, Development of recommendation, Implementation.

Unit 5: Location Decisions:

Planning and design techniques – Logistics adhoc analysis, Location analysis, Inventory analysis, Transportation analysis.

Practical Component:

- Guest lectures and Seminars can be conducted by inviting subject experts.
- Can conduct a work shop on Overview of ERP modules.
- Can conduct class room seminars on future trends in ERP systems, web enabled, wireless technologies.
- Analyze data migration with the related case studies.

Text Books:

1. Pierre A. David International Logistics: the Management of International Trade Operations 5th Edition 2017.
2. R.H.Ballou, Business Logistics Management, Prentice-Hall, 2004

Reference Books:

1. Richard Lloyd Successful Integrated Planning for the Supply Chain: Key Organizational and Human Dynamics Kogan Page; 1 edition March 2018
2. John J. Coyle, Edward J. Bardi and C. John Langley Jr., The Management of Business Logistics - A supply chain Perspective, Thomson Business Information, 10th edition 2016.
3. Vinod V. Sople, Logistics Management, Pearson Education, 2nd edition 2009

SEMESTER-III

COURSE 2: TRANSPORTATION AND DISTRIBUTION MANAGEMENT

Theory

Credits: 4

4 hrs/week

Course objectives:

- To explore the fundamental concepts of transportation and distribution management
- To gain knowledge in network planning, routing and scheduling and application of IT in transportation and distribution management.

Learning Outcomes: At the end of the course, the students will be able to:

- 1: Understand distribution techniques and different distribution networks in the supply chain.
- 2: Develop the various distribution network models
- 3: Illustrate on the various modes of transportation and the selection decisions.
- 4: Examine vehicle routing and scheduling.
- 5: Identify the issues involved in international transportation.

Syllabus:

Unit 1: Distribution:

Role of Distribution in Supply chain, Distribution channels – Functions, resources, Operations in Distribution, Designing Distribution network models - its features - advantages and disadvantages.

Unit 2: Planning:

Distribution network planning, Distribution network decisions, Distribution requirement planning (DRP)

Unit 3: Transportation:

Role of Transportation in Logistics and Business, Principle and Participants-Scope and relationship with other business functions, Modes of Transportation - Mode and Carrier selection, Routing and scheduling.

Unit 4: International Transportation:

International transportation, Carrier, Freight and Fleet management, Transportation management systems-Administration, Rate negotiation, Trends in Transportation.

Unit 5: Information Technology (It):

Usage of IT applications -E commerce – ITMS, Communication systems-Automatic vehicle location systems, Geographic information Systems.

Practical Component:

- Guest lectures and Seminars can be conducted by inviting subject experts.
- Can conduct a work shop on Overview of ERP modules.
- Can conduct class room seminars on future trends in ERP systems, web enabled, wireless technologies.
- Analyze data migration with the related case studies.

Text Books:

1. David Lowe, Lowe's Transport Manager's and Operator's Handbook 2019
2. Janat Shah, Supply Chain Management, Pearson Education India, 2nd edition 2016
3. Raghuram and N. Rangaraj, Logistics and Supply chain Management – Leveraging Mathematical and Analytical Models: Cases and Concepts, New Delhi: Macmillan, 2000.

Reference Books:

1. Sunil Chopra, Peter Meindl, Supply Chain Management: Strategy, Planning, and Operation, Pearson, 6th edition 2014.
2. Michael B Stroh, Practical Guide to Transportation and Logistics, Logistics Network, 2006.
3. Alan Rushton, John Oxley, Handbook of Logistics & Distribution Management, KoganPage Publishers, 2006.

SEMESTER-IV

COURSE 3: INTERNATIONAL TRADE DOCUMENTATION PROCEDURES

Theory

Credits: 4

4 hrs/week

Course objectives

- To understand India's contribution in International Trade and Service
- To know the Export and Import Documents used in Global Trade
- To identify future opportunities and challenges of India's Foreign Trade

Learning Outcomes:

1. To identify future opportunities and challenges of India's Foreign Trade.
2. Students gain the knowledge of Export and Import Documents used in Global Trade.
3. To Explore knowledge in starting an export organization and related procedures.
4. Understand Finance and Insurance issues relating to Exports.
5. To gain knowledge in Import Procedures, Customs regulations and import clearance formalities etc.,

Syllabus:

Unit 1: International Trade:

Need and importance of International Trade – Recent Trends in World Trade – Leading players – India's Foreign Trade –Commodity composition and Destination – India's Export and Import position in World merchandise trade and services –Project Exports-Deemed Exports - India's Foreign Trade Policy – India Trade Agreements and tariff benefits

Unit 2: Starting an Export Organization:

Starting an export firm – Selection of an export product – Market selection –Buyer selection – Registration procedure with Sales Tax, Central Excise and various Boards and councils – Exim code number – Elements of export contract- Global rules as UCP 600 of ICC, INCOTERMS – Terms of payment and Letter of Credit – Payment settlement of exports and Imports

Unit 3: Export Documentation:

Types of documents – Primary Documents –Regulatory Documents - Transport, Negotiation and Insurance documents –E- Databases and Documents

Unit 4: Export Finance:

Sources of Finance - Role of commercial bank, EXIM Bank, ECGC SIDBI and others – Export promotion Schemes – Insurance for Export – Types – export credit insurance – Risk Management – Types of risks – mitigation methods.

Unit 5: Import Procedure and Documentation:

Global sourcing – Types of global procurement – Tender – Negotiation – Contract and others – Customs regulations and import clearance formalities – Types of import licenses -Export Promotion Capital Goods Scheme (EPCG) license- Duty exemption scheme –Import formalities for EOUs and SEZs –CEZ - Import Risk Management.

Practical Component:

- The students can identify international trades and opportunities with in global marketing environments.
- Analyze the prevalent trade environment in your home country and global country.
- Examine export and import documentation procedures.
- Analyze India Trade Agreements and tariff.
- Guest lecturers can be arranged by inviting the experts in the field.
- Assignments, class room seminars and group discussions.

Text Books:

1. Aseem Kumar (2007) “Export and Import Management”, Excel Books Publications, New Delhi
2. David Stewart (2008)” International Supply Chain Management”, Cengage publications,
3. Ram Singh (2008) “Export Management” Indian Institute of Foreign Trade, New Delhi

Reference Books:

1. P.K.Khurana (2010): Export Management, Galgotia Publication, New Delhi
2. Jeevanandam C(2002) “Foreign Exchange: Practices Concepts and control” Sultan Chand Publications
3. Foreign Trade Policy (2015-2020): Hand book of Export Procedure and Annual of the Ministry of Commerce, Government of India.

SEMESTER-IV

COURSE 4: PROCUREMENT, STORAGE AND WAREHOUSE MANAGEMENT

Theory

Credits: 4

4 hrs/week

Course objectives:

- Provides know-how required to operate an efficient and cost effective warehouse as also the role of inventory in warehouse management.
- It provides guidance on using the latest technology, reducing inventory, people management, location and design and manage uncertainty risks of customer markets
- Define the right structure of the supply network and inventory control and warehouse management system

Learning Outcomes:

1. To understand the procedure of procurement.
2. To provide knowledge on various warehousing operations.
3. To acquire knowledge on storage of materials, recognize the principles of warehouse or stores location and layout whilst applying proper stock flow, rotation and recording.
4. To provide knowledge on warehousing technologies.
5. To explore knowledge on Warehouse safety Material handling, Packaging, Labeling, waste management and fire safety mechanism.

Syllabus:

Unit 1: Procurement:

Objectives of Procurement System, Principles of Procurement, and history of procurement function: from administrative to strategic, value added role, Procurement Cycle, Procurement Planning, Purchasing Mix: Six Rights, Selecting the right supplier, Source of information and process, Supplier appraisal / vendor capability, Bidding process.

Unit 2: Introduction to Warehousing Concepts:

Role of warehouse-types of warehouse- warehouse location- Need for warehousing- Supply chain trends affecting warehouse –Warehouse functions- Role of warehouse manager- Warehouse process: e-commerce warehouse- Receiving and put away- Warehouse process – pick up preparation-Receiving - Pre-receipt -In- handling - Preparation - offloading - Checking - Cross-docking -Quality control - Put-away - Pick preparation - Pick area layout – Picking strategies and equipment -order picking methods - Warehouse processes-Replenishment to dispatch- Value adding services - Indirect activities -Security - Returns processing – Dispatch.

Unit 3: Storage Management system:

Storage Inventory Management –Functions of storage & Inventory - Classification of Inventory- Methods of Controlling Stock Levels- Always Better Control (ABC) Inventory system- Warehouse Management Systems (WMS) - choose a WMS-the process implementation-cloud computing- Warehouse layout-Data collection-space calculation-aisle width- finding additional space.

Unit 4: Storage and Warehousing Information system:

Storage Equipment: storage option - shuttle technology - very high bay warehouse -warehouse handling equipment - vertical and horizontal movement -Automated Storage/ Retrieval System (AS/RS)-specialized equipment-Technical advancements- Resourcing a warehouse- warehouse costs-Types of cost - Return on Investment (ROI) - Charging for shared-user warehouse service - Logistics charging methods Warehousing. Information System (WIS)- Performance management- outsourcing decisions.

Unit 5: Material Handling and Warehouse safety Material handling:

Product movement- concept- costs-product load activity—dispatch activity unload activity-control device-impact of the computer technology automatic identification-issues and trends in product transport—Packaging- Pallet - Stretch wraps - Cartons – Labeling- Health and safety- Risk assessment - Layout and design - Fire safety- Slips and trips – Manual handling - Working at height - Vehicles - Forklift trucks – Warehouse equipment legislation. Warehouse safety check list- Warehouse Environment- Energy production - Sustainable warehouse Management.

Practical Components:

- The students can select one warehouse and observe the method of material handling.
- Analyze the procedure of procurement of material in any selected industry and submit a report.
- Make a visit to one warehouse nearby and examine the inventory management systems.
- Observe different technologies used in warehouse management.
- Class room seminar can be conducted.
- All the students are divided into groups. Each group of students has to present a paper on each operation of warehouse.

Text Books:

1. 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.
2. David E. Mulchy & Joachim Sidon (2008) A Supply Chain Logistics Program for Warehouse Management, Auerbachian Publications

References

1. Bowersox, D.J., Closs, D.J., Cooper, M.B., & Bowersox, J.C. (2013). Supply Chain Logistics Management. (4 th ed.), McGraw Hill/Irwin.
2. Arnold, J.R., Chapman, S.N. (2012). The Introduction to Materials Management. (7thed.), Prentice-Hall. Coyle, J.J., Jr. Langley, C.J., Novack, R.A, & Gibson, B.J. (2013).Managing Supply Chains: A Logistics Approach. (9th ed.), McGraw Hill. Edward, F.(2002).
3. World-Class Warehousing and Material Handling. (International ed.), McGraw-Hill Muller, M. (2011). Essentials of Inventory Management. (2 nd ed.), American Management Association.

SEMESTER-V

COURSE 5: SUPPLY CHAIN INFORMATION SYSTEM

Theory

Credits: 4

4 hrs/week

Course objectives:

- To explain the various technological aspects that are described in the different logistical background
- To explain the real time description updated technologies in the logistics sector and supply chain industry.

Learning Outcomes: At the end of the course, the students will be able to:

- 1: Understand e-SCM, benefits and communication networks.
- 2: Explain about data security in communication networks.
- 3: Explain about the various enterprise information systems and their benefits.
- 4: Examine various information systems development methodologies & enterprise architectures
- 5: Explain the various information system deployment methods.

Syllabus:

Unit 1: Electronic SCM, Communication networks:

Introduction e-SCM –e-SCM framework - Key success factors for e-SCM - Benefits of e-SCM
Positioning information in Logistics - Strategic information linkage - Supply chain communication networks - Role of communication networks in supply chains - Overview of telecommunication networks –EDI - Data security in supply chain networks - Overview of internet able models.

Unit 2: Enterprise Information Systems:

Overview of enterprise information systems - Information functionality and principles - Introduction enterprise information systems -Classification of enterprise information systems - Information architecture - Framework for managing supply chain information - Describe **ion on** popular enterprise application packages -Benefits of enterprise information systems.

Unit 3: SCM Systems Development:

Stakeholders in supply chain information systems - Stakeholders in SCM - Stakeholders in supply chain information systems - Information systems development- Logistics information systems design- Defining enterprise architecture - Choosing appropriate system development methodologies- Adopting relevant systems development model.

Unit 4: Deployment and Management:

Information systems deployment - IT Operations and infrastructure management - Portfolio, programme and project management - Management of risk - Management of value.

Unit 5: Information Integration:

Enterprise application integration and supply chain visibility - Enterprise application integration -Supply chain visibility - Supply chain event management -Supply chain performance -Planning and design methodology - Problem definition and planning - Data collection and analysis - Recommendations and implementation -Decision support systems.

Practical Component:

- The students can identify Electronic SCM and communication networks.
- Information collected and analyze for decision support system.
- A group of students has to analyze Management of risks and value..
- All the students are divided into groups. Each group of students has to develop Supply Chain Management System.
- Guest Lectures can be arranged and Assignments given.

Text Books:

1. Donald Bowersox, David Closs ,& Bixby cooper Supply chain Logistical Management
2. R.H. Ballou, and Samir Business Logistics Management, 5th Edition 2014.

Reference Books:

1. Strauss, Alexa & Frost E-Marketing, Routledge; 8th New edition 2018
2. Statistics for Managers Using MS Excel, 8th Edition Levine & David Pearson Education 2017
3. David B. Grant & Chee Yew Wong Sustainable Logistics and Supply Chain Management: Principles and Practices for Sustainable Operations and Management Kogan Page; 2nd edition April 3, 2017

SEMESTER-V

COURSE 6: SUPPLY CHAIN SOFTWARES

Theory

Credits: 4

4 hrs/week

Course objectives:

- To familiarize the students with ERP, ERP Module, SCM and CRM and its application in business related decisions.

Learning Outcomes: At the end of the course, the students will be able to:

1. Understand ERP, ERP Module, SCM and CRM and its application in business related decisions.
2. Examine Business Process Management.
3. Explain ERP systems and its implementation.
4. Analyze Data migration.
5. Understand future trends in ERP systems

Syllabus:

Unit 1: Overview of enterprise systems:

Evolution - Risks and benefits -Fundamental technology - Issues to be consider in planning design and implementation of cross functional integrated ERP systems.

Unit 2: Overview of ERP software solutions:

Small medium and large enterprise vendor solutions, BPR, Business Engineering and best Business practices - Business process Management. Overview of ERP modules -sales and Marketing, Accounting, Finance, Materials and Production management etc

Unit 3: Evaluation and selection of ERP systems:

Planning Evaluation and selection of ERP systems-Implementation life cycle – ERP implementation, Methodology and Frame work-Training.

Unit 4: Data Migration.

People Organization in implementation-Consultants, Vendors and Employees-Case studies. Maintenance of ERP- Organizational and Industrial impact; Success

Unit 5: Extended ERP systems:

Extended ERP systems and ERP bolt –on -CRM, SCM, Business analytics etc-Future trends in ERP systems-web enabled, Wireless technologies so on-Case studies.

Practical Component:

- Guest lectures and Seminars can be conducted by inviting subject experts.
- Can conduct a work shop on Overview of ERP modules.
- Can conduct class room seminars on future trends in ERP systems, web enabled, wireless technologies.
- Analyze data migration with the related case studies.

Text Books:

1. Alexis Leon, Enterprise Resource Planning, second edition, Tata McGraw-Hill, 2008.
2. Alexis Leon, ERP demystified, second Edition Tata McGraw-Hill, 2006.
3. Jagan Nathan Vaman, ERP in Practice, Tata McGraw-Hill, 2008
4. Mahadeo Jaiswal and Ganesh Vanapalli, ERP Macmillan India, 2006.
5. Summer, ERP, Pearson Education, 2008.