SAGRADO
Universidad del Sagrado Corazón

SYLLABUS

TITLE: Supply Chain Concepts

CODE: ADM 210

PREREQUISITE: N/A

CREDITS: 3 credits | 45 contact hours | 1 term

DESCRIPTION

Discussion of the basic characteristics and concepts of the supply chain and its importance to businesses that mainly handle physical products. It includes everything related to the activities involved in the acquisition of raw materials until the product reaches its final destination. In this introductory course to supply chain concepts, its main areas will be covered including planning, sourcing, manufacturing, delivery, and logistics and return of goods. Through lectures, readings, and hands-on exercises, students will leave the course with a complete understanding of supply chain concepts in a company including transportation and distribution, inventory control, raw material purchasing, estimating processes, production management, and the impact of technology on supply in the distribution chain.

JUSTIFICATION

To customers and consumers, the supply chain is the most visible part of the business. The better and more effective a company's supply chain management is, the better it will protect its business reputation and long-term sustainability. Effective supply chain management systems minimize costs, waste, and time spent in the production cycle. The industry standard has become a *just-in-time* supply chain, in which retail sales are an automatic indication of replenishment orders for manufacturers. Retail shelves can be restocked almost in tandem with the sale of the product. While supply chains in the past focused on the availability, movement, and cost of physical assets, today's supply chains are focused on managing data, services, and products bundled into solutions. Modern supply chain management systems are not just limited to where and when. Supply chain management affects the quality of products and services, delivery, costs, customer experience, and

ultimately, profitability. Modern supply chains take advantage of the massive amounts of data generated by the chain process, which is subjected to the selection of analytical experts and data scientists. Future supply chain leaders and the enterprise resource planning (ERP) systems they manage will likely focus on optimizing the usefulness of this data, analyzing it in real-time with minimal latency. This course presents a good background on the concepts in the supply chain, knowledge of the basic areas with a very strong emphasis on the practice and application of these concepts. Investment in financial securities by organizations and independent investors takes place in a formal market. The goal of investing is to maximize wealth through the purchase of securities whose return potential is high.

COMPETENCES

The course develops the following competences in students:

- **Critical questioning**
- **Research and exploration**
- **Innovation and entrepreneurship**

OBJECTIVES

After completion of the course, students will be able to:

1. Define what a supply chain is in a company.
2. Identify the key elements, from obtaining the raw materials required for the manufacture of the product, to the supply to customers, in order to optimize operations and make them more profitable and efficient.
3. Define business strategies aligned with the supply chain.
4. Identify the functions, strategies, and controls in purchasing and supplies.
5. Know the basics of material handling in a company.
6. Know and apply analytics related to warehouse management and inventory control.
7. Know the strategies in the selection of transportation and distribution of goods, including the platforms or technology available in this task.

CONTENTS

I. Introduction to the Supply Chain
   A. Evolution
   B. Characterization and overview

C. Logistics
D. Functional organization in the company

II. Elements that make up the supply chain
A. Planning logistics
1. Strategic, tactical, and operational planning
2. Planning logistics technology and tools
3. Master Production Schedule (MPS)
4. Material Requirements Planning (MRP)
5. Capacity estimation
B. Purchasing & supply management
1. Comprehensive purchasing system
2. Purchasing goals
3. Procurement as a logistics function
4. Supplier selection, evaluation, and certification
5. Sales projections
C. Production management
1. Raw material to finished product conversion process
2. Load leveling
3. Bottlenecks
4. Quality in the process
D. Warehouse Management
1. Principles of storage
2. Storage & accommodation
3. Types of storage
4. Location, picking, and preparation of orders
5. Design and location of distribution centers
6. Distribution and allocation of spaces
7. Storage, material handling, and shelving systems
8. Reception, storage, and dispatch
E. Inventory management
1. Historical consideration of inventories (push-pull)
2. Interrelation of inventories with company systems
3. The concept of inventory

4. Functions and purpose of inventories
5. Importance of inventories
6. Volume it represents within the company's total assets
7. Inventory types and costs

F. Transportation & distribution
1. Characterization of cargo transport and distribution
2. Management of land, air, and sea freight transport
3. Setting rates
4. Planning and utilization of transport routes

III. Business Strategies Aligned to the Supply Chain
A. Strategic alignment through SMART/OGSM goals.
B. Time-based strategies
C. Strategies based on asset productivity
D. Strategies based on asset collaboration

IV. Technology in the Supply Chain
A. Information systems in logistics management
B. Electronic data interchange (EDI)
C. Barcode application
D. Radio frequency identification (R.F.I.D)
E. Transportation management system (TMS)
F. Global positioning system (GPS)

METHODOLOGY

The following strategies from the active learning methodology are recommended:

- Problem-based learning
- Case method
- Simulations
- Flipped classroom for topics with extensive information in digital media
- Field visits
- Quizzes

EVALUATION

Partial assignments	20%
Oral presentations	20%
Quizzes	30%
Final project or exam	30%
Total	100%

LEARNING ASSESSMENT

The institutional assessment rubric is applied to the course's core activity.

BIBLIOGRAPHY

Chapman, S. N., Gatewood, A. K., Arnold, J. R. T, & Clive, L. M. (2023). *Introduction to Materials Management* (9th ed.). Pearson.

For more information resources related to the course's topics, access the library's webpage http://biblioteca.sagrado.edu/

REASONABLE ACCOMMODATION

For detailed information on the process and required documentation you should visit the corresponding office. To ensure equal conditions, in compliance with the ADA Act (1990) and the Rehabilitation Act (1973), as amended, any student in need of reasonable accommodation or special assistance must complete the process established by the Vice Presidency for Academic Affairs.

ACADEMIC INTEGRITY

This policy applies to all students enrolled at Universidad del Sagrado Corazón to take courses with or without academic credit. A lack of academic integrity is any act or omission that does not demonstrate the honesty, transparency, and responsibility that should characterize all academic activity. Any student who fails to comply with the Honesty, Fraud, and Plagiarism Policy is exposed to the following sanctions: receive a grade of zero in the evaluation and / or repetition of the assignment in the seminar, a grade of F (*) in the seminar, suspension, or expulsion as established in the Academic Integrity Policy effective in November 2022.