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UNIVERSITAT POLITÈCNICA  
DE CATALUNYA  
BARCELONATECH

# **EXECUTIVE MASTER IN SUPPLY CHAIN MANAGEMENT AND OPERATIONS MANAGEMENT**

## **LOGISTICS AND WAREHOUSE MANAGEMENT TEACHING GUIDE**

**[2022-2023]**

## GENERAL DETAILS

<b>Name of module:</b>	Logistics and Warehouse Management
<b>Academic Year:</b>	2022 - 2023
<b>Degree:</b>	Executive Master in Supply Chain Management and Operations Management
<b>Number of credits (ECTS):</b>	7
<b>Date of latest version:</b>	November 2022
<b>Lecturers in Charge:</b>	Ángel García Izquierdo

## 1. GENERAL DESCRIPTION

### Introduction.

In this subject, the fundamental concepts for logistics and warehouse management are collected.

Efficient management of the strategic processes of the logistics chain always seeks to optimize costs and improve processes and services, providing added value to the client and company itself, from comprehensive logistics management, through the receipt and distribution of goods, warehouse and stock management, the optimization of the logistics chain has a transversal integration and a critical weight within any business model and company.

This course provides a holistic vision of the key flows and processes in logistics and warehouse management, from a strategic perspective that seeks to provide students with the ability to provide differential value to the company.

### Contents.

The content of the course is structured in two main topics developed in two sessions:

- The first topic will focus on the fundamentals of logistics management and its main processes (*inbound* and *outbound*). Area indicators and cost control will be deepened. In addition, main management tools will be analysed.
- The second topic will focus on the comprehensive management of the warehouse and the strategic management of *stock*. The first one will focus on a transversal vision of warehouse management that starts from the analysis and optimization of key processes. The second, with a more specific approach to the strategic management of *stock*, will deal with the tools, classification, definition and analysis and implementation of improvements for the reduction of *stock*. It will also focus on efficient warehouse design. Starting the importance of a good LAYOUT, strategies, knowledge and tools to carry it out will be defined. In this session current and future trends of smart warehouses will also be delved into.

All sessions seek maximum interaction with students, so that the contents can be adapted to the professional needs of each. As far as possible, practical exercises, debates and talks of professionals of the sector will be oriented to this end.

## 2. OBJECTIVES

- Acquire a transversal vision of the key processes for good logistics management.
- Know the tools for the control and continuous improvement of logistics execution in terms of efficiency and costs.
- Develop logistics agreements with customers and/or suppliers that contribute to the needs of the business model.
- Create a scoreboard for the area.
- Internalize a vision and transversal involvement in the comprehensive management of the warehouse.
- Create value for the company from the efficient and strategic management of stock.
- Understand and participate in the LAYOUT design.
- Learn about future trends and smart warehouse models.
- Understand the regulatory and quality framework in logistics (stock) and transport.
- Manage occupational safety from the function of logistics and warehouse management.

## 3. CONTENTS

UNIT 1. Logistics Management

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UNIT 2. Warehouse management and stock management

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### UNIT 1. Logistics Management

#### Learning outcome

At the end of this topic, students will be able to:

- Establish the main logistics processes.
- Calculate the costs of supplies and materials management in the warehouse.
- Decide what advantages and risks represent the agreements with clients or providers of logistics services.
- Define the logistics area management indicators (KPIs).
- Define which are the computer tools that are needed to support logistics decisions.

## Contents

1. Fundamentals of logistics: implications of logistics in the management of a modern organization.
2. *Inbound* logistics: the provisioning process. Comprehensive cost of supplies and materials management. Input flows and flows toward production lines
3. *Outbound* logistics: the integrated management of the logistics chain, and its sizing to ensure a certain level of service. Packaging, cargo management and transport scheduling.
4. Logistic agreements with customers and suppliers.
5. Management indicators (KPIs).
6. Models and tools to support logistics decisions.
7. Technology applied to logistics.
8. Future trends in logistics management.

## UNIT 2. Warehouse management and stock management

### Learning outcome

The theoretical content that will be exposed and the practices that will be associated with this topic will allow students to:

- Acquire the transversal vision necessary for comprehensive warehouse management.
- Develop in the strategic management of *stock*.
- Analysis and optimization of key management processes.
- Learn about tools, classification, definition, analysis and implementation of improvements for the reduction of *stock*.
- Respond to the need for *replenishment*.
- Establish economic batch models, minimum order or *safety stock*.
- Apply replenishment frequencies as needed.
- Manage *stock* based on cost criteria.
- Stock reduction tools
- Efficient warehouse design.
- Define strategies, knowledge and tools to carry it out.

## Contents

1. Warehouses and their functions.
2. Management of central distribution warehouses.
3. Warehouse areas: entrance, *picking* and *packing*, locations, exits.
4. Stock replacement orders, rotations. Management of returns and non-deliveries. Management of order cancellation and changes.
5. Updating of stock and management of available and occupied space in the warehouse.
6. LAYOUT design. Warehouse design: basic and advanced warehouse configurations.
7. Stock definition. Types and causes that originate inventories.
8. Inventory management factors: costs, demand, etc.
9. ABC Classification (Pareto's Law) applied to *stock* management.
10. Fixed order quantity systems and fixed period systems.
11. Variable demand model.
12. Management of stock and uncertainties.
13. Inventory management in service operations.
14. *Pull* system versus *push* systems.
15. Full quality guarantee.

## 4. TEACHING AND LEARNING METHODOLOGY

The experiential learning process at Euncet Business School combines a set of methodologies that allow the participant to achieve in a practical and innovative way the competencies of the professional exit profile established in an *executive* program.

This subject will be taught online.

Activities will be carried out through:

- Presentation by the teaching staff of theoretical contents.
- Discussion of the contents among the attendees.
- Application of the concepts and methodologies to practical examples by students.
- Discussion of real cases in the classroom.

## 5. ASSESSMENT

The Executive Modular Education programs are based on a competency assessment model, in which the progress of the students in achieving the objectives set out in the study program is assessed. The final grade will be calculated by making the arithmetic mean of the marks obtained in the different practical cases, exercises and/or presentation of practical work carried out individually or collectively.

The evaluation system for this course aims to guarantee both the understanding of the contents and the student's ability to put them into practice, assessing progress and continued effort. Teaching

staff will ensure the assimilation of the contents through the evaluable activities and the tutored project in the classroom.

## 6. BIBLIOGRAPHY

### 6.1 BASIC BIBLIOGRAPHY

- Christopher, Martin. *Logistics and Supply Chain Management*. Pearson Education. ISBN 9781292083797.
- Farahani, Reza; Rezapour, Shabnam; Kardar, Laleh. *Logistics Operations and Management: Concepts and Models*. Elsevier Insights. ISBN 9780123852021.
- Harrinson, Alan; Van Kock, Remko. *Logistics Management and Strategy: Competing through the Supply Chain*. Prentice Hall. ISBN 9781292183688.