

Course guide

240308 - 240IIT11 - Supply Chain Management for Industry

Last modified: 02/06/2025

Unit in charge: Barcelona School of Industrial Engineering
Teaching unit: 732 - OE - Department of Management.

Degree: MASTER'S DEGREE IN INDUSTRIAL ENGINEERING (Syllabus 2014). (Optional subject).
MASTER'S DEGREE IN AUTOMOTIVE ENGINEERING (Syllabus 2019). (Optional subject).

Academic year: 2025 **ECTS Credits:** 4.5 **Languages:** Spanish

LECTURER

Coordinating lecturer: Ponsich, Antonin Sebastien

Others: Muñoz Pulido, Juan Ramon
Mur, Ana

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Transversal:

CT3. TEAMWORK: Being able to work in an interdisciplinary team, whether as a member or as a leader, with the aim of contributing to projects pragmatically and responsibly and making commitments in view of the resources that are available.

TEACHING METHODOLOGY

Teachers will encourage the active participation of the students, both in the theoretical classes, promoting the expression of their opinion when faced with the need to make a decision, as well as in the performance of exercises and cases during the practical sessions. Debates and group discussions will be essential.

In some sessions, lectures will be given by professionals working in the supply chain field. The lectures will explain different use cases of digital technologies in supply chain management.

LEARNING OBJECTIVES OF THE SUBJECT

At the end of the course the student must know the concept of supply chain and its management. You need to be able to identify the main problems that supply chains face and identify the methods and tools that are useful to solve them.

The student must be able to identify when an industrial environment is digital, know the technologies used in digital industrial environments and identify the differences in the management of supply chains operating in these environments compared to those operating in traditional environments

STUDY LOAD

Type	Hours	Percentage
Hours large group	40,5	36.00
Self study	72,0	64.00

Total learning time: 112.5 h



CONTENTS

Introduction to supply chain management

Description:

Supply chain concept (SC). Origin and evolution of the concept of SC. Production, logistics and SC. Direct and reverse logistics. Supply chains with closed loop. SC management concept and SC design.

Product definition, strategies, life cycle, product portfolio. Phases in the design of a product. Design and production strategies: diversification, simplification, standardization, modularity, product value analysis.

Supply chain coordination. The whip effect. Behaviors that accentuate the whip effect. Measures to avoid the whip effect.

Key aspects to properly manage SC.

Full-or-part-time: 78h

Theory classes: 20h

Guided activities: 10h

Self study : 48h

Digital technologies for supply chain

Description:

Digital industrial environments. Technologies of digital environments. Digital environments to solve SC problems.

Presentations of practical cases of digital supply chains, through conferences and active review of examples.

Full-or-part-time: 34h 30m

Theory classes: 8h 30m

Guided activities: 2h

Self study : 24h

GRADING SYSTEM

Final grade = $0.7 \times \text{Final exam grade} + 0.25 \times \text{Business cases grade} + 0.05 \times \text{Active participation grade}$

In case of receiving a failing final grade, students can take a re-evaluation exam. In this case, the grade of the re-evaluation exam will directly replace the final grade (case studies and participation grades will not be taken into account).

BIBLIOGRAPHY

Basic:

- Simchi Levi, David ; Kaminsky, Philip ; Edith Simchi, Levi. Designing and managing the supply chain : concepts, strategies, and case studies [on line]. 4rd ed. New York: McGraw-Hill, 2021 [Consultation: 07/10/2025]. Available on: <https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?pq-origsite=primo&docID=6630992>. ISBN 9781259997815.

- Chopra, Sunil. Supply chain management : strategy, planning, and operation. 7th ed. Harlow: Pearson, 2019. ISBN 9781292257891.