



centro adscrito a:



UNIVERSITAT POLITÈCNICA
DE CATALUNYA
BARCELONATECH

EXECUTIVE MASTER IN SUPPLY CHAIN MANAGEMENT AND OPERATIONS MANAGEMENT

PLANNING OF LOGISTICS, PRODUCTIONS AND SUPPLY FLOWS TEACHING GUIDE 2022 - 2023

GENERAL DETAILS

| | |
|----------------------------------|---|
| Name of module: | Planning of Logistics, Productions and Supply Flows |
| Academic Year: | 2022 - 2023 |
| Degree: | Executive Master in Supply Chain Management and Operations Management |
| Number of credits (ECTS): | 5 |
| Date of latest revision: | November 2022 |
| Lecturers in charge: | Angel García Izquierdo |

1. GENERAL DESCRIPTION

This subject covers the essential concepts involved in the management of the planning of the end-to-end supply chain, i.e., from the delivery of the product to the client to the purchase of materials from the supplier.

It shows that strategic planning is the point of departure of an efficient management, as it enables the scaling of the necessary resources for the activity and the coordination of operations in the short term. So this subject will show how the different functional areas of the supply chain interact and are bound among themselves.

The content is structured in two units that will in turn be divided into three sessions:

- The first unit will be developed in one session. In it we shall deal with the scope of planning processes in business and the key stages and interactions for the alignment of the supply chain (S&OP). We will also lay special emphasis on the planning process of the demand, its calculation methodologies, and the necessary interaction with the product portfolio. Finally, we will introduce the concepts of capacity planning based on demand planning management and the company's objective stocks in accordance with its processes and flows strategy.
- The second unit will cover a session focused on productive and supply planning based on the information and decision-making flow. We will go deeper into the different production sequencing operations, while describing more traditional planning techniques together with some more new ones, such as DDMRP, Kanban or POLCA.

All sessions will seek maximum interaction with the student, so that the contents can be adapted in a pragmatic way to each student's professional needs. In as far as possible, practical exercises, debates and talks by professionals from the sector will follow this direction.

2. OBJECTIVES

- Understanding interrelations among all the stages of the chain that should be planned from a total coordination in order to achieve the maximum synergies among the different parts of the chain.
- Setting the planning keys of demand and its calculation methodologies.
- Analysing the necessary load and the available capacity for a correct planning of resources.
- Defining medium- and short-term management in a production plan and its sequencing.
- Getting to know more up-to-date methodologies to manage production and stock planning.

3. CONTENTS

UNIT 1. Planning supply chain demand

UNIT 2. Production planning and sequencing

UNIT 1. Planning supply chain demand

Learning outcome

After this unit, students should be able to:

- Get to know the scope of planning regarding processes, areas and people involved.
- Identify the management keys to a Sales and Operations Plan (S&OP).
- Know the methodologies of demand planning.
- Suggest different planning strategies according to the product portfolio.
- Carry out the calculation of the resources to realise the company's strategy.

Contents

1. Sales and Operations Plan (S&OP).
2. Demand planning.
3. Calculation of the capacity of the resources.

UNIT 2. Production planning and sequencing

Learning outcome

After this unit, students should be able to:

- Identify the decision-making points in the daily management of production planning
- Understand the different production sequencing methodologies and decision making in short-term execution.
- Respond to the changing needs of the supply chain.
- Align the stock needs to the company strategy.

Contents

1. Master Production Scheduling (MPS and MRP)
2. Stock management and DDMRP
3. Sequencing systems: Lean and QRM – Kanban and Polca

4. TEACHING AND LEARNING METHODOLOGY

Euncet Business School's experiential learning process brings together a combination of methodologies which, in a practical and innovative way, allow students to acquire skills specific to the professional exit profile that is expected for an executive program.

Lectures will be held on-site, in a combination of theoretical (T) and practical (P) sessions and will be complemented with real examples developed by professionals from the sector (C).

Theoretical sessions will be developed through:

- Exposition of theoretical content by the staff.
- Debate of content among students attending.

Practical sessions may consist in:

- Application of concepts and methodologies to practical examples by students.
- Discussion on real cases in the classroom.

Professionals from the sector will take charge of the talks, and they will offer a pragmatic focus on the subject's theoretical content.

5. ASSESSMENT

The Executive Modular Education programs are based on a competency assessment model. The student's progress is assessed on the basis of their accomplishment of various objectives set out throughout the study program. The final qualification for the module will be calculated using the arithmetic mean of the marks received in the different practical cases, exercises and/or presentation of practical work or projects carried out in an individual way or as a group.

The evaluation system for this module 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

- Makridakis, Spyros G.; Wheelwright, Steven C.; Hyndman, Rob J. *Forecasting: methods and applications*. New York: John Wiley & Sons, 1998. ISBN 9780471532330.
- Perry, S. Applied business forecasting. *Management Accounting*. Montvale: National Association of Accountants, 1994, vol. 72, no 3, p. 40-44. ISSN 0025-1690.
- Silver, Edward A.; Pyke, D. F.; Peterson, Rein. *Inventory management and production planning and scheduling*. 3rd ed. New York: John Wiley & Sons, 1998. ISBN 0471119474.

6.2. WEBGRAPHY

- Institute of Business Forecasting & Planning/S&OP/ Demand Planning/ Supply Chain/ Analytics/ Data. *LinkedIn* [online]. Available at: <<https://www.linkedin.com/groups/56631/>>.
- Rolling Forecast Budgeting. *LinkedIn* [online]. Available at: <<https://www.linkedin.com/groups/68644/>>.