Course guide
220563 - 220563 - Supply Chain Management

Last modified: 22/04/2024

Unit in charge: Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 732 - OE - Department of Management.

Degree: MASTER'S DEGREE IN MANAGEMENT ENGINEERING (Syllabus 2012). (Compulsory subject).

Academic year: 2024 **ECTS Credits:** 5.0 **Languages:** Spanish

LECTURER

Coordinating lecturer: Sunyer Torrents, Albert

Others: Marti Badia, M. Elena

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
2. Apply quantitative and experimental methods for making decisions in situations where intangibles appear
3. Apply theories and inherent principles in the production and logistics area in order to analyze uncertainty complex situations and make decisions using engineering tools.
CIA05. Research, analysis, design and evaluation of logistics, which involve storage, production and distribution with all the associated labeling and any control or transport required.

Generical:
4. Ability to apply knowledge to solve problems in new environments or unfamiliar environments within broader contexts (or multidisciplinary) related to engineering.
7. Ability to integrate knowledge and formulate judgments with the aim of making decisions based on information that, with incomplete or limited include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgments.
6. Ability to effectively communicate their findings, knowledge and concluding reasons to skilled and unskilled audiences, clearly and unambiguously.
9. Ability to operate and lead multidisciplinary and multicultural groups, with negotiation skills, group work, relationships in an international setting, and conflict resolution.
5. Self-learning capacity to independent continuous training.
8. Ability to understand the impact of engineering solutions in a global and social context .

TEACHING METHODOLOGY

The course is developed by the use of three types of methodology:

- Lecture sessions.
- Case study debates and problem-solving sessions (case studies and exercises).
- Self-study for doing exercises and activities.

In the lecture sessions, lecturers will introduce the theoretical basis of the concepts, methods and results and illustrate them with examples appropriate to facilitate their understanding.

In the case study debates and problem solving sessions, lecturers will guide students in applying theoretical concepts to solve problems and cases, always using critical reasoning. We will propose that students solve exercises in and outside the classroom, to promote contact and use the basic tools needed to solve problems.

Students, independently, need to work on the materials provided by lecturers and the outcomes of the sessions of exercises/problems, in order to fix and assimilate the concepts.

Lecturers provide the curriculum and monitoring of activities (by ATENEA).

LEARNING OBJECTIVES OF THE SUBJECT

The course Supply Chain Management introduces students to the concepts, principles and techniques related to the order fulfilment process, the planning process, the design of the logistics chain process, the purchasing and procurement process, and the supplier's selection and development process.

STUDY LOAD

Type	Hours	Percentage
Self study	80,0	64.00
Hours medium group	15,0	12.00
Guided activities	22,0	17.60
Hours large group	8,0	6.40

Total learning time: 125 h

CONTENTS

Module 1: Logistic system design

Description:
Introduction to integral logistic
Localization
Transportation
Storage
Outsourcing of logistic activities
Logistics management

Full-or-part-time: 62h 30m
Theory classes: 4h
Practical classes: 7h 30m
Guided activities: 11h
Self study : 40h

Module 2: Managing the supply chain

Description:
Push flow supply chains
Pull flow supply chains
Stocks optimization
Demand planning
Material and resources requirement planning
Purchasing Management
Selecting and developing suppliers

Full-or-part-time: 62h 30m
Theory classes: 4h
Practical classes: 7h 30m
Guided activities: 11h
Self study : 40h

GRADING SYSTEM

The final mark depends on the following assessment criteria:

- Continuous assessment exam 1, weight: 30%
- Continuous assessment exam 2, weight: 50%
- Team project, weight: 20%

At the end of the course, there will be an overall recovery examen to improve unsatisfactory results in the continuous assessment exams. This overall exam weight will be 80% in case the final grade is higher than the continuous assessment.

BIBLIOGRAPHY

Basic:
- Baudin, Michael. Logística lean: desarrollo de la logística lean en diversos tipos de industria. Madrid: TGP Hoshin, 2008. ISBN 9788495605139.
- Chopra, S; Meindl, P. Administración de la cadena de suministro: estrategia, planeación y operación. 3a ed. México: Pearson Prentice Hall, 2008. ISBN 9789702611929.
- Heizer, Jay H. Dirección de la producción y de operaciones: decisiones tácticas. 8a ed. Madrid: Prentice Hall, 2007. ISBN 9788483223611.
- Slone, R.E.; Dittmann, J.P.; Mentzer, J.T. Transformando la cadena de suministro: innovando para la creación de valor en todos los procesos críticos. Barcelona: Profit, 2011. ISBN 9788492956524.

Complementary:
- Ballou, Ronald H. Logística administración de la cadena de suministro [on line]. 5a ed. México: Pearson Educación, 2004 [Consultation: 20/09/2022]. Available on: https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=5988. ISBN 9702605407.
- Womack, James P. Lean thinking: cómo utilizar el pensamiento Lean para eliminar los despilfarros y crear valor en la empresa. Madrid: Gestión 2000, 2005. ISBN 8480886897.