

29747 - Industrial Production

Información del Plan Docente

Academic Year	2017/18
Faculty / School	110 - Escuela de Ingeniería y Arquitectura
Degree	434 - Bachelor's Degree in Mechanical Engineering
ECTS	6.0
Year	4
Semester	First semester
Subject Type	Optional
Module	---

1.General information

1.1.Introduction

1.2.Recommendations to take this course

1.3.Context and importance of this course in the degree

1.4.Activities and key dates

2.Learning goals

2.1.Learning goals

2.2.Importance of learning goals

3.Aims of the course and competences

3.1.Aims of the course

3.2.Competences

4.Assessment (1st and 2nd call)

4.1.Assessment tasks (description of tasks, marking system and assessment criteria)

5.Methodology, learning tasks, syllabus and resources

5.1.Methodological overview

The methodology followed in this course is oriented towards achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as theory sessions, laboratory sessions, visits, and tutorials.

In sessions with the whole group the more theoretical aspects are addressed in the form of master class and are completed with immediate applications: trouble-type. It is intended to provide students with sufficient advance the documentation for each subject, in order that the student knows the contents on the subject to be treated, which favor a

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more participatory class.

The practice sessions are done in 3 hours. Each group is scheduled to perform practices Monday through Friday. As in the theoretical teaching, students have in advance the script of practices. These jobs are sometimes collectively made in groups of 3 or 4 students and in other cases, individually.

Both classroom sessions and lab will equip the student knowledge and skills to perform different case studies. These cases have been raised so that each group of students will apply throughout the course different techniques working on a company that will be given at the beginning of the course. This company will keep throughout all sessions. On it different situations for the application of knowledge indicated in the established modules that reflect real situations, in which the student must apply the appropriate technique and take appropriate decisions to the situation in question will arise.

The evaluation is focused on the more practical aspects. It aims to promote both teamwork and individual effort and has made planning for the hours of dedication are balanced each week.

Students are expected to participate actively in the class throughout the semester.

Classroom materials will be available via Moodle. These include a repository of the lecture notes used in class, the course syllabus, as well as other course-specific learning materials.

Further information regarding the course will be provided on the first day of class.

5.2.Learning tasks

The course includes 6 ECTS (150 hours) organized according to:

- Theory sessions (1,2 ECTS): 30 hours.
- Guided assignments (0,24 ECTS): 6 hours.
- Laboratory sessions (0,72 ECTS): 18 hours.
- Visits to companies (0,24 ECTS): 6 hours.
- Assignments (5 ECTS): 50 hours.
- Autonomous work (1,52 ECTS): 38 hours.
- Assessment (0.08 ECTS): 2 hours.

Theory sessions and guided assignments: lecture notes and a series of problems (and its solutions) will be available for the students. At the end of each topic, some of the problems will be solved in class by the professor and the rest will be done individually.

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Laboratory sessions: these 2-hour sessions take place approximately each week. Students are provided with the practical exercises' instructions to be done as well as a theoretical introduction to the session's contents.

Assignments: Elaboration by the students of a set of reports, associated to the sessions of problems and practices, in which they will solve the cases raised based on the learned tools.

Scheduled visits: visits to companies.

Autonomous work: students do tasks such as autonomous study, reading of the course book, preparation of practice sessions and seminars, and summative assignments.

Assessment: final examination

5.3.Syllabus

- Production Planning Problem
- Aggregate Planning and Master Production Schedule
- Material Requirements Planning (MRP)
- Warehouse Management
- Industrial Maintenance
- Simulation: Modeling & Analysis
- Manufacturing Resource Planning (MRP and MRPII)

5.4.Course planning and calendar

For further details concerning the timetable, classroom and further information regarding this course please refer to the "Escuela de Ingeniería y Arquitectura" website (<http://eina.unizar.es>)

5.5.Bibliography and recommended resources

[BB: Basic Bibliography / BC: Additional Bibliography]

- [BB] Mantenimiento industrial integral / Jesús A. Royo Sánchez , Mariano Bolea Bitrián, Fernando Torres Leza, Juan José Aguilar Martín . - 1ª ed. [Zaragoza : s. n.], 2002[f(Kronos)
- [BB] Mauleón Torres, Mikel. Sistemas de almacenaje y picking / Mikel Mauleón . Reimp. Madrid : Díaz de Santos, imp. 2015
- [BB] Modelado y simulación : aplicación a procesos logísticos de fabricación y servicios / Antoni Guasch...[et al.] . - 1a. ed. Barcelona : Edicions UPC, 2002
- [BB] Planificación y gestión de la producción / Jesús A. Royo Sánchez, Alejandro Hernández Paricio, Luis Berges Muro, José Manuel Franco Gimeno . - 1ª ed. [Zaragoza : s. n.], 2002[f(Kronos)
- [BB] Vollmann, Thomas E.. Sistemas de planificación y control de la fabricación / Thomas E. Vollmann, William Lee Berry, D. Clay Whybark . - 1ª ed. en español trad. de la 3ª en inglés México, D.F. ; Madrid : Irwin, D.L. 1995