Course guide
320180 - IPM - Industrialization of Mechanical Projects

Last modified: 04/12/2025

Unit in charge: Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 712 - EM - Department of Mechanical Engineering.

Degree: BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Optional subject).

Academic year: 2025 **ECTS Credits:** 6.0 **Languages:** Catalan

LECTURER

Coordinating lecturer: JORGE SANS GARCIA

Others:

PRIOR SKILLS

Computer-aided design. CAD Solidworks

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. IND_COMMON: Basic understanding of industrial production systems.

2. MEC: Applied Knowledge in systems and fabrications processes, metrology and quality control.

Transversal:
3. ENTREPRENEURSHIP AND INNOVATION - Level 3. Using knowledge and strategic skills to set up and manage projects. Applying systemic solutions to complex problems. Devising and managing innovation in organizations.
4. TEAMWORK - Level 3. Managing and making work groups effective. Resolving possible conflicts, valuing working with others, assessing the effectiveness of a team and presenting the final results.
5. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.

TEACHING METHODOLOGY

Theory classes: Lectures given by the subject instructors or by an expert on the topic being covered.
Practical classes: Small groups will be formed to work independently during the session, guided only by the instructor.

LEARNING OBJECTIVES OF THE SUBJECT

The main objective of the subject will be to introduce students to an experience that brings them as close as possible to the development of the tasks required to succeed in developing a mechanical project. Understanding that today projects are not only within a work area or scope, classes and activities will also be held that relate these projects to areas as diverse as the implementation of control elements or pneumatics, to name two areas, among many.
In short, the student will receive knowledge and experiences that, in the end, should allow them to develop a mechanical project from the reception and negotiation of the customer's specifications to the delivery of the machine or project.

STUDY LOAD

Type	Hours	Percentage
Hours small group	30,0	20.00
Self study	90,0	60.00
Hours large group	30,0	20.00

Total learning time: 150 h

CONTENTS

(ENG) Tema 1: Producte

Full-or-part-time: 22h
Theory classes: 4h
Practical classes: 4h
Self study : 14h

(ENG) Tema 2: Coneixement i selecció d'elements comercials

Full-or-part-time: 22h
Theory classes: 4h
Practical classes: 4h
Self study : 14h

(ENG) Tema 3: Caracterització de projectes mecànics

Full-or-part-time: 44h
Theory classes: 8h
Practical classes: 10h
Self study : 26h

(ENG) Tema 4: Documentació

Full-or-part-time: 37h
Theory classes: 7h
Practical classes: 8h
Self study : 22h

(ENG) Tema 5: Gestió del projecte

Full-or-part-time: 21h
Theory classes: 3h
Practical classes: 4h
Self study : 14h

GRADING SYSTEM

Task 1: Machine Cycle Development 10%
Task 2: Machine Concept Development 20%
Task 3: 3D Final Project Development 40%
Task 3: 2D Final Project Development (Graphics) 30%

EXAMINATION RULES.

During the practice sessions, a minimum attendance of 90% of the hours must be demonstrated.