30050 - Integrated Manufacturing

Información del Plan Docente

Academic Year	2017/18
Faculty / School	110 - Escuela de Ingeniería y Arquitectura
Degree	436 - Bachelor's Degree in Industrial Engineering Technology
ECTS	6.0
Year	4
Semester	Second 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

5.2.Learning tasks

5.3.Syllabus

1) Mechanical design in process planning.
Geometric modeling systems (CAD).

30050 - Integrated Manufacturing

Design rules for structural and aesthetic parts.
2) Manufacturing and rapid prototyping.
Prototyping and integration phases in the product development cycle.
Manufacturing technologies and rapid prototyping.
Reverse engineering.
3) Planning manufacturing processes.
Planning mechanical forming processes.
Tools for molding and deformation processes.
4) Analysis of the feasibility of manufacturing by CAE.
Finite element in manufacturing processes and planning stages.
Validation of manufacturing process.
5) Planning machining processes.
CNC machining systems and high performance machining.
Machining strategies in CAM systems.
6) Concurrent Engineering and PLM.
Planning manufacturing processes in Concurrent Engineering environments.
Product data management (PDM).
CAD / CAM / CAE systems. Data exchange standards.

5.4.Course planning and calendar

5.5.Bibliography and recommended resources