

29749 - Manufacturing Systems

Información del Plan Docente

Academic Year	2016/17
Academic center	110 - Escuela de Ingeniería y Arquitectura
Degree	434 - Bachelor's Degree in Mechanical Engineering
ECTS	6.0
Course	4
Period	First semester
Subject Type	Optional
Module	---

1.Basic info

1.1.Recommendations to take this course

1.2.Activities and key dates for the course

2.Initiation

2.1.Learning outcomes that define the subject

2.2.Introduction

3.Context and competences

3.1.Goals

3.2.Context and meaning of the subject in the degree

3.3.Competences

3.4.Importance of learning outcomes

4.Evaluation

5.Activities and resources

5.1.General methodological presentation

5.2.Learning activities

5.3.Program

1) Cellular manufacturing systems

- Basic Components
- Manufacturing systems characterization

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- Group technology and cellular manufacturing
- Flexible and transfer manufacturing systems.

2) Material handling:

- Workpiece carrier.
- Warehouse.
- Transport system.
- Part feeders.
- Handling equipment, positioning units and robots.
- Transfer systems.
- Process units. Package, packaging and palletizing.

3) Assembly workstations and cells

- Manual workstations.
- Automatic workstation components.
- Grippers and fixture design.
- Calculation and selection of components.
- Analytical techniques. Functional, geometric, resistant and economic analysis.
- Planning, configuration and evaluation of automatic assembly systems.

4) Monitoring and control systems:

- Data record automatic system.
- Fixed sequence automatic mechanism.
- PLC/PC control.; surveillance; HMI.
- Robot and automaton programming.
- DNC and industrial nets.

5) Design for assembly

5.4.Planning and scheduling

5.5.Bibliography and recommended resources