

## 29845 - Electronic Embedded Systems

### Información del Plan Docente

<b>Academic Year</b>	2016/17
<b>Academic center</b>	326 - Escuela Universitaria Politécnica de Teruel
<b>Degree</b>	444 - Bachelor's Degree in Electronic and Automatic Engineering
<b>ECTS</b>	6.0
<b>Course</b>	4
<b>Period</b>	Half-yearly
<b>Subject Type</b>	Optional
<b>Module</b>	---

### **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**

The course will be based on lectures and laboratory work.

- Lectures will provide the theoretical bases of embedded systems.

- The students will do laboratory work based on a course project. Software and hardware designs will be integrated to complete it

- In addition, continuous and autonomous student work will be encouraged.

#### **5.2.Learning activities**

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Training activities ( lectures, practical and works) are based on the program modules

### 5.3.Program

1. Hw / Sw co-design for :
  - 32-bit SoC : Architecture , development tools and applications
  - FPGAS : development tools.
  - Fundamentals of reconfigurable Systems
2. Fundamentals and tools for Embedded systems Cross-Platform Development
  - Real-time operating system
  - Cross compilation
3. Debugging embedded systems
  - Local and remote debugging
  - Logic analyzer
4. Integration and test

### 5.4.Planning and scheduling

Lectures and problem classes and practice sessions are held in the laboratory according to schedule set by the center (schedules available on [eupt.unizar.es](http://eupt.unizar.es) ) . There are tutorials to resolve issues related with the course, that are available on the web and the moodle platform

The other activities will be planned depending on the number of students and will be announced in good time . It will be available on <http://moodle.unizar.es>

### 5.5.Bibliography and recommended resources

1. Transparencies (notes ) of the subject. Available in <http://moodle.unizar.es> .
2. Problems and practices. Available in <http://moodle.unizar.es> .
3. Reference book :
  - Embedded system design : An introduction to Processes , tools and techniques. Arnold A. Berger . Ed CMP Books
  - Programming Embedded Systems in C and C ++ . Michael Barr . Ed O'Reilly
  - An Embedded software first . David . E. Simon . Ed Addison- Wesley
4. Documentation on the web .
  - Data sheets, reference manuals, etc. (Depending on the devices, manufacturers and technologies used).