**230107 - EA - Automobile Electronics**

**Coordinating unit:** 230 - ETSETB - Barcelona School of Telecommunications Engineering  
**Teaching unit:** 710 - EEL - Department of Electronic Engineering  
739 - TSC - Department of Signal Theory and Communications  
**Academic year:** 2017  
**Degree:** BACHELOR'S DEGREE IN TELECOMMUNICATIONS SCIENCE AND TECHNOLOGY (Syllabus 2010). (Teaching unit Optional)  
BACHELOR'S DEGREE IN TELECOMMUNICATIONS TECHNOLOGIES AND SERVICES ENGINEERING (Syllabus 2015). (Teaching unit Optional)  
BACHELOR'S DEGREE IN AUDIOVISUAL SYSTEMS ENGINEERING (Syllabus 2009). (Teaching unit Optional)  
BACHELOR'S DEGREE IN ELECTRONIC SYSTEMS ENGINEERING (Syllabus 2009). (Teaching unit Optional)  
**ECTS credits:** 6  
**Teaching languages:** Catalan, Spanish

### Teaching staff

**Coordinator:** Silva Martinez, Fernando  
**Others:** Silva Martinez, Fernando  
Ramos Castro, Juan Jose

### Prior skills

Electronic components, circuits and systems. Electronic Instrumentation.

### Learning objectives of the subject

Analyze the electronic systems that incorporate current cars, study their particular requirements and meet new applications currently being developed for future cars.  
The course is developed with the advice of several companies in the automotive industry, who taught some theoretical contents.

### Study load

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group: 26h</th>
<th>17.33%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours small group: 26h</td>
<td>17.33%</td>
</tr>
<tr>
<td></td>
<td>Self study: 98h</td>
<td>65.33%</td>
</tr>
</tbody>
</table>
# 230107 - EA - Automobile Electronics

## Content

<table>
<thead>
<tr>
<th>Section</th>
<th>Learning time:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction</strong></td>
<td>12h</td>
</tr>
<tr>
<td><strong>Automotive project</strong></td>
<td>28h</td>
</tr>
<tr>
<td><strong>Electronic automotive systems</strong></td>
<td>12h</td>
</tr>
</tbody>
</table>

### Introduction

**Description:**
Introduction to the automotive electronics including the bus CAN

### Automotive project

**Description:**
Definition, development and presentation of an automotive electronics hardware and software project

### Electronic automotive systems

**Description:**
Automotive electronic development management
Automotive Electromagnetic Compatibility
Hybrid and electrical vehicles
Fleet management
ADAS systems
Drive by Wire

## Qualification system

Lessons 3 credits
- Work (content and presentation): 20%
- Final exam (test): 30%
Project 3 credits
- Laboratory work: 30%
- Final exam (issue): 20%
Bibliography

**Basic:**

**Complementary:**

**Others resources:**
Internet information