Course guides
230107 - EA - Automobile Electronics

Unit in charge: Barcelona School of Telecommunications Engineering
Teaching unit: 739 - TSC - Department of Signal Theory and Communications.
710 - EEL - Department of Electronic Engineering.

Degree: BACHELOR’S DEGREE IN ELECTRONIC SYSTEMS ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR’S DEGREE IN AUDIOVISUAL SYSTEMS ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR’S DEGREE IN TELECOMMUNICATIONS SCIENCE AND TECHNOLOGY (Syllabus 2010). (Optional subject).
BACHELOR’S DEGREE IN TELECOMMUNICATIONS TECHNOLOGIES AND SERVICES ENGINEERING (Syllabus 2015). (Optional subject).

Academic year: 2020  ECTS Credits: 6.0  Languages: Catalan, Spanish

LECTURER

Coordinating lecturer: Silva Martinez, Fernando
Others: Silva Martinez, Fernando
Ramos Castro, Juan Jose

PRIOR SKILLS

Electronic components, circuits and systems. Electronic Instrumentation.

TEACHING METHODOLOGY

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>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours large group</td>
<td>26,0</td>
<td>17.33</td>
</tr>
<tr>
<td>Hours small group</td>
<td>26,0</td>
<td>17.33</td>
</tr>
<tr>
<td>Self study</td>
<td>98,0</td>
<td>65.33</td>
</tr>
</tbody>
</table>

Total learning time: 150 h
## CONTENTS

### Introduction

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

**Full-or-part-time:** 12h  
Theory classes: 12h

### Automotive project

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

**Full-or-part-time:** 28h  
Theory classes: 28h

### Electronic automotive systems

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

**Full-or-part-time:** 12h  
Theory classes: 12h

## GRADING 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:**

## RESOURCES
Other resources:
Internet information