Course guide
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 TELECOMMUNICATIONS TECHNOLOGIES AND SERVICES ENGINEERING (Syllabus 2015). (Optional subject).
BACHELOR’S DEGREE IN ELECTRONIC ENGINEERING AND TELECOMMUNICATION (Syllabus 2018). (Optional subject).

Academic year: 2022  ECTS Credits: 6.0  Languages: Catalan, Spanish

LECTURER

Coordinating lecturer: Consultar aquí / See here:
https://telecos.upc.edu/ca/estudis/curs-actual/professorat-responsables-coordinadors/responsables-assignatura

Others: Consultar aquí / See here:
https://telecos.upc.edu/ca/estudis/curs-actual/professorat-responsables-coordinadors/professorat-assignat-idioma

PRIOR SKILLS

Basic electronic laboratory instrumentation
Sensors and signal conditioning
Microprocessor programming

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 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>
<tr>
<td>Hours large group</td>
<td>26,0</td>
<td>17.33</td>
</tr>
</tbody>
</table>

Total learning time: 150 h
CONTENTS

**Lab Project**

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

**Full-or-part-time:** 32h
Theory classes: 6h
Laboratory classes: 26h

**Electronic automotive systems**

**Description:**
Introduction
Automotive communication systems
Requirements for car electronics
Autonomous driving systems

**Full-or-part-time:** 20h
Theory classes: 20h

GRADING SYSTEM

Lectures Task=40%
Lab Project=60%

BIBLIOGRAPHY

**Basic:**

**Complementary:**

RESOURCES

**Other resources:**
Internet information