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