Course guides
230115 - EI - Smart Electronics

Unit in charge: Barcelona School of Telecommunications Engineering
Teaching unit: 710 - EEL - Department of Electronic Engineering.

Degree: BACHELOR’S DEGREE IN ELECTRONIC 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, English

LECTURER
Coordinating lecturer: SERGI BERMEJO
Others:

PRIOR SKILLS
Basic knowledge in electronics, programming, signal processing, probability and statistics.

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT
This introductory and practical course aims to provide the elements necessary to design intelligent electronic systems that, due to various adaptation and control mechanisms, have the ability to learn and generalize the problems of engineering to be solved. Additionally, the use of the mentioned elements in various applications will be illustrated with the help of a series of case studies. The methodology of the course is based on active and PBL techniques so that students, working in groups, can apply and integrate these elements to solve a problem (based on one of the studied cases) through a customized design of an electronic system.

STUDY LOAD

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

Total learning time: 150 h
CONTENTS

(ENG) 1. Introducció al sistemes electrònics intel·ligents

Full-or-part-time: 46h
Theory classes: 4h
Practical classes: 4h
Laboratory classes: 8h
Self study : 30h

(ENG) 2. Disseny de sistemes electrònics intel·ligents

Full-or-part-time: 46h
Theory classes: 4h
Practical classes: 4h
Laboratory classes: 8h
Self study : 30h

(ENG) 3. Aplicacions dels sistemes electrònics intel·ligents

Full-or-part-time: 58h
Theory classes: 5h
Practical classes: 5h
Laboratory classes: 10h
Self study : 38h

ACTIVITIES

(ENG) LABORATORI

(ENG) EXERCICIS

(ENG) PRESENTACIONS ORALS

(ENG) CONTROLS DE RESPOSTA CURTA

GRADING SYSTEM

The final grade of the subject will be obtained based on the evaluation of the continuous evaluation (work proposed by the teacher throughout the course and laboratory practices) and of various controls, according to the following criteria:

Controls: 20%
Exercises: 30%
Laboratory practices: 50%
BIBLIOGRAPHY

Basic:

Complementary: