Course guide
330251 - DEAD - Electronic Design Analog -Digital

Unit in charge: Manresa School of Engineering
Teaching unit: 750 - EMIT - Department of Mining, Industrial and ICT Engineering.

Degree: BACHELOR’S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Optional subject).

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

LECTURER
Coordinating lecturer: RICARD SANAHUJA MOLINER
Others: JESÚS VICENTE RODRIGO - VICTOR BARCONS XIXONS

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. The ability to define, analyze, design, evaluate and document both sequential and combinational digital circuits, as well as alternatives to their implementation, including CPLD and FPGA devices.
2. The ability to use tools and languages specification, synthesis and verification of digital circuits.
3. The knowledge and ability to use existing tools and instrumentation for the analysis, design, development and verification of electronic, computer and communications systems.

Transversal:
4. THIRD LANGUAGE. Learning a third language, preferably English, to a degree of oral and written fluency that fits in with the future needs of the graduates of each course.
5. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.
6. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

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>30,0</td>
<td>20.00</td>
</tr>
<tr>
<td>Self study</td>
<td>90,0</td>
<td>60.00</td>
</tr>
<tr>
<td>Hours small group</td>
<td>30,0</td>
<td>20.00</td>
</tr>
</tbody>
</table>

Total learning time: 150 h
## CONTENTS

### (ENG) 1. INTRODUCCIÓ

**Full-or-part-time:** 8h  
Theory classes: 2h  
Practical classes: 2h  
Self study: 4h

### (ENG) 2. DISPOSITIUS PROGRAMABLES DIGITALS I ANALÒGICS, I LA SEVA CONNXEXIÓ

**Full-or-part-time:** 104h  
Theory classes: 22h  
Practical classes: 22h  
Self study: 60h

### (ENG) 3. DISSENY DE PLAQUES DE CIRCUIT IMPRÉS

**Full-or-part-time:** 38h  
Theory classes: 6h  
Practical classes: 6h  
Self study: 26h

## ACTIVITIES

### (ENG) TÍTOL DE L'ACTIVITAT 1: CLASSES MAGISTRALS I PARTICIPATIVES

**Full-or-part-time:** 25h  
Theory classes: 25h

### (ENG) TÍTOL DE L'ACTIVITAT 2: CLASSES DE LABORATORI

**Full-or-part-time:** 75h  
Practical classes: 30h  
Self study: 45h

### (ENG) TÍTOL DE L'ACTIVITAT 3: TREBALL PERSONAL INDIVIDUAL/EN GRUP

**Full-or-part-time:** 20h  
Self study: 20h

### (ENG) TÍTOL DE L'ACTIVITAT 4: PROVES

**Full-or-part-time:** 30h  
Theory classes: 5h  
Self study: 25h
BIBLIOGRAPHY

Basic: