Course guide
330450 - SCE - Embedded Control Systems

Unit in charge: Manresa School of Engineering
Teaching unit: 750 - EMIT - Department of Mining, Industrial and ICT Engineering.
Degree: BACHELOR’S DEGREE IN AUTOMOTIVE ENGINEERING (Syllabus 2017). (Optional subject).

Coordinating lecturer: Vicente Rodrigo, Jesús

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. The ability to specify, analyze, design, evaluate, and document microcomputer-based systems, as well as their implementation alternatives in order to form a built-in control system.
2. The ability to use microcomputer tools and programming languages.
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. FOREIGN LANGUAGE: Achieving a level of spoken and written proficiency in a foreign language, preferably English, that meets the needs of the profession and the labour market.
5. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 1. Planning oral communication, answering questions properly and writing straightforward texts that are spelt correctly and are grammatically coherent.
7. EFFECTIVE USE OF INFORMATION RESOURCES - Level 3. Planning and using the information necessary for an academic assignment (a final thesis, for example) based on a critical appraisal of the information resources used.
6. SELF-DIRECTED LEARNING - Level 1. Completing set tasks within established deadlines. Working with recommended information sources according to the guidelines set by lecturers.

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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<tbody>
<tr>
<td>Hours large group</td>
<td>45,0</td>
<td>30.00</td>
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<tr>
<td>Self study</td>
<td>90,0</td>
<td>60.00</td>
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<tr>
<td>Hours small group</td>
<td>15,0</td>
<td>10.00</td>
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Total learning time: 150 h
CONTENTS

<table>
<thead>
<tr>
<th>Title</th>
<th>Description</th>
<th>Content</th>
<th>Full-or-part-time</th>
<th>Theory classes</th>
<th>Practical classes</th>
<th>Self study</th>
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<td></td>
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<td>8h</td>
<td>2h</td>
<td>15h</td>
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ACTIVITIES

1. CLASSE EXPOSITIVA I DE PROBLEMES (ENG)

Full-or-part-time: 41h
Theory classes: 41h
2. CLASSE DE LABORATORI (ENG)

Full-or-part-time: 45h
Laboratory classes: 15h
Self study: 30h

3. TREBALL PERSONAL INDIVIDUAL/ EN GRUP (ENG)

Full-or-part-time: 30h
Self study: 30h

4. PROVES (ENG)

Full-or-part-time: 34h
Theory classes: 4h
Self study: 30h

GRADING SYSTEM

BIBLIOGRAPHY

Basic:
- Manuals de referència i Notes d'aplicació del fabricant (en anglès).