Course guides
340110 - ACEL-E6009 - Electric Drives

Unit in charge: Vilanova i la Geltrú School of Engineering
Teaching unit: 709 - DEE - Department of Electrical Engineering.

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

Academic year: 2021 ECTS Credits: 6.0 Languages: Catalan

LECTURER

Coordinating lecturer: Pere Andrada Gascón
Others: Marcel Torrent Burgués

PRIOR SKILLS

It is recommended to have attended Electric Machines I and Electric Machines II

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
4. CE34. Ability to design electric systems and systems of traction in vehicles.

Transversal:
2. SUSTAINABILITY AND SOCIAL COMMITMENT - Level 3. Taking social, economic and environmental factors into account in the application of solutions. Undertaking projects that tie in with human development and sustainability.
3. 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.

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self study</td>
<td>90,0</td>
<td>60.00</td>
</tr>
<tr>
<td>Hours small group</td>
<td>15,0</td>
<td>10.00</td>
</tr>
<tr>
<td>Hours large group</td>
<td>45,0</td>
<td>30.00</td>
</tr>
</tbody>
</table>

Total learning time: 150 h
## CONTENTS

### (ENG) Topic 1. Fundamentals of electric drives

**Description:**
(in process)

**Full-or-part-time:** 20h  
Theory classes: 4h  
Practical classes: 2h  
Laboratory classes: 4h  
Self study: 10h

### (ENG) Topic 2. Direct current motor drives

**Description:**
(in process)

**Full-or-part-time:** 39h  
Theory classes: 8h  
Practical classes: 2h  
Laboratory classes: 4h  
Self study: 25h

### (ENG) Topic 3. Space vector model of A.C. drives

**Description:**
(in process)

**Full-or-part-time:** 16h  
Theory classes: 4h  
Practical classes: 2h  
Self study: 10h

### (ENG) Topic 4. Asynchronous motor drives

**Description:**
(in process)

**Full-or-part-time:** 43h  
Theory classes: 6h  
Practical classes: 4h  
Laboratory classes: 4h  
Guided activities: 4h  
Self study: 25h
(ENG) Topic 5.- Synchronous motor drives

Description:
(in process)

Full-or-part-time: 23h
Theory classes: 4h
Practical classes: 2h
Laboratory classes: 2h
Self study : 15h

GRADING SYSTEM

BIBLIOGRAPHY

Basic: