Course guides
340109 - SIEP-E6009 - Electrical Power Systems

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

Academic year: 2020  ECTS Credits: 6.0  Languages: Catalan

LECTURER
Coordinating lecturer: Enric Ferrer i Bardem

Others:

PRIOR SKILLS
It is recommended to have taken the subjects of Electrical Systems (SIEL), Electrical Circuits (CIEL), Power Lines (LIEL) and Electrical Machines I (MAE1)

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. CE24. Knowledge of electrical power systems and its applications.

Transversal:
2. TEAMWORK - Level 3. Managing and making work groups effective. Resolving possible conflicts, valuing working with others, assessing the effectiveness of a team and presenting the final results.
3. 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>
</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) Tema 1: Components i modelat d’un Sistema Elèctric de Potència**

- **Full-or-part-time:** 12h  
- Theory classes: 2h 30m  
- Guided activities: 2h  
- Self study: 7h 30m

**[Table continues]**

### (ENG) Tema 2: Estudi de defectes

- **Full-or-part-time:** 34h  
  - Theory classes: 8h  
  - Practical classes: 2h  
  - Laboratory classes: 2h  
  - Guided activities: 2h  
  - Self study: 20h

### (ENG) Tema 3: Regulació de la tensió

- **Full-or-part-time:** 27h  
  - Theory classes: 6h  
  - Practical classes: 2h  
  - Laboratory classes: 2h  
  - Guided activities: 2h  
  - Self study: 15h

### (ENG) Tema 4: Topologia i Matrius de Xarxa

- **Full-or-part-time:** 18h 30m  
  - Theory classes: 5h  
  - Laboratory classes: 1h 30m  
  - Guided activities: 2h  
  - Self study: 10h

### (ENG) Tema 5: Estudis de Flux de Càrregues

- **Full-or-part-time:** 36h  
  - Theory classes: 10h  
  - Practical classes: 2h  
  - Laboratory classes: 2h  
  - Guided activities: 2h  
  - Self study: 20h
Full-or-part-time: 22h 30m
Theory classes: 6h
Practical classes: 1h 30m
Guided activities: 2h
Self study: 13h

GRADING SYSTEM

BIBLIOGRAPHY

Basic: