Course guides
330082 - GEF - Eolic and Photovoltaic Energy Generation

Unit in charge: Manresa School of Engineering
Teaching unit: 709 - DEE - Department of Electrical Engineering.

Degree: BACHELOR’S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR’S DEGREE IN ICT SYSTEMS ENGINEERING (Syllabus 2010). (Optional subject).

Academic year: 2020 ECTS Credits: 6.0 Languages: Catalan, English

LECTURER

Coordinating lecturer: JOAN GABRIEL BERGAS JANE

Others:

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. (ENG) Capacitat per al càlcul i disseny de màquines elèctriques.

Transversal:
2. 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.
3. 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.
4. 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.
5. 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.

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

CONTENTS

(ENG) 2. Máquinas eléctricas utilizadas en la generación eólica: generador de inducción, generadores de inducción doblemente alimentados, generadores síncronos.

(ENG) 3. Convertidores utilizados para la generación eléctrica.

(ENG) 4. Control de aerogeneradores.

(ENG) 5. Modelización y simulación de sistemas de generación eólica.

(ENG) 6. Energía Fotovoltaica.

(ENG) 7. Modelización y simulación de sistemas de generación fotovoltaicos.

(ENG) 8. Integración en la red eléctrica de las renovables.

GRADING SYSTEM

BIBLIOGRAPHY

Basic:

Complementary: