330082 - GEF - Eolic and Photovoltaic Energy Generation

Coordinating unit: 330 - EPSEM - Manresa School of Engineering
Teaching unit: 709 - EE - Department of Electrical Engineering
Academic year: 2018
Degree: BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN ICT SYSTEMS ENGINEERING (Syllabus 2010). (Teaching unit Optional)
ECTS credits: 6

Teaching languages: Catalan, English

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.

Learning objectives of the subject

Study load

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group: 45h</th>
<th>30.00%</th>
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<tbody>
<tr>
<td></td>
<td>Hours medium group: 0h</td>
<td>0.00%</td>
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<tr>
<td></td>
<td>Hours small group: 15h</td>
<td>10.00%</td>
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<td></td>
<td>Guided activities: 0h</td>
<td>0.00%</td>
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<tr>
<td></td>
<td>Self study: 90h</td>
<td>60.00%</td>
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### Content


Degree competences to which the content contributes:

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

Degree competences to which the content contributes:

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

Degree competences to which the content contributes:

(ENG) 4. Control de aerogeneradores.

Degree competences to which the content contributes:

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

Degree competences to which the content contributes:

(ENG) 6. Energía Fotovoltaica.

Degree competences to which the content contributes:

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

Degree competences to which the content contributes:

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

Degree competences to which the content contributes:
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Bibliography

Basic:


Complementary: