Course guides
820545 - SATARQ - Advanced Waste Water Treatment Processes

Unit in charge: Barcelona East School of Engineering
Teaching unit: 713 - EQ - Department of Chemical Engineering.
Degree: BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Optional subject).
Academic year: 2015 ECTS Credits: 6.0 Languages: Catalan, English

LECTURER

Coordinating lecturer: Teresa Visa
Others: Teresa Visa Montserrat Pérez Moya

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTE

Specific:
1. Understand spatial vision and graphic representation techniques, whether using traditional metric and descriptive geometry methods or computer assisted design applications.
2. Solve mathematical problems that may arise in engineering. Apply knowledge of linear algebra; geometry; differential geometry; differential and integral calculus; differential equations and partial differential equations; numerical methods; numerical algorithms; statistics and optimisation.
3. Understand the basic applications of environmental technologies and sustainability principles.

Transversal:
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. 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.

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 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>
</tr>
<tr>
<td>Hours small group</td>
<td>15,0</td>
<td>10.00</td>
</tr>
</tbody>
</table>

Total learning time: 150 h
CONTENTS

(ENG) TEMA 1: Introducció

Full-or-part-time: 11 h
Theory classes: 5h
Self study: 6h

(ENG) TEMA 2: Tractaments d’aigües residuals

Full-or-part-time: 31 h
Theory classes: 12h
Laboratory classes: 3h
Self study: 16h

(ENG) TEMA 3: Tipus de contaminants. Química lligada als contaminants

Full-or-part-time: 48 h
Theory classes: 20h
Self study: 28h

(ENG) TEMA 4: Aplicació pràctica d’un tractament terciari.

Full-or-part-time: 60 h
Theory classes: 8h
Laboratory classes: 12h
Self study: 40h

GRADING SYSTEM

BIBLIOGRAPHY

Basic:

Complementary: