33115 - GTR - Waste Management and Treatment

Coordinating unit: 330 - EPSEM - Manresa School of Engineering
Teaching unit: 750 - EMIT - Department of Mining, Industrial and ICT Engineering
Academic year: 2019
Degree: MASTER’S DEGREE IN NATURAL RESOURCE ENGINEERING (Syllabus 2015). (Teaching unit Compulsory)
ECTS credits: 5
Teaching languages: Spanish

Teaching staff
Coordinator: Bonsfills Pedros, Anna
Others: Busquets Rubio, Pere

Degree competences to which the subject contributes

Specific:
1. The ability to understand the types of waste that may be generated from natural resources and apply the most appropriate approaches to management and treatment.

Teaching methodology
Lectures, which cover the topics related to the specific learning objectives. Exercises and introduction to research tasks, which students must do and hand in and which form part of continuous assessment.

Two individual written tests are set during the semester. Parts of the tests are multiple-choice and the other parts involve solving problems.

Learning objectives of the subject

1. To gain a broad understanding of the management and treatment of solid, liquid and gaseous waste from extractive activities and of the effect of pollutants on these activities, with an emphasis on heavy metals.

2. To contribute to waste minimisation at source, the use of waste during the manufacturing process and the recycling and recovery of materials whose useful life has ended.

3. To give as much value as possible to waste, following sustainability criteria.

4. To apply the knowledge acquired in simple research tasks.

Study load

<table>
<thead>
<tr>
<th>Total learning time: 45h</th>
<th>Hours large group: 30h 66.67%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours medium group: 15h 33.33%</td>
</tr>
</tbody>
</table>

1 / 2
Universitat Politècnica de Catalunya
The final mark is calculated by applying the following percentages:
Continuous assessment activities 30%
Individual written test I (multiple-choice and problems) 35%
Individual written test II (multiple-choice and problems) 35%

Description:
1. Introduction
2. Characterisation of waste
3. Management of industrial waste
4. Industrial waste treatment systems
5. Building and mining waste
6. Metal mining waste
7. Non-metal and potash mining waste
8. Radioactive waste

Qualification system

Bibliography

Basic:


