295709 - POTAM - Optical, Thermal and Acoustic Properties of Materials

Coordinating unit: 295 - EEBE - Barcelona East School of Engineering
Teaching unit: 702 - CMEM - Department of Materials Science and Metallurgy
Academic year: 2018
Degree: BACHELOR'S DEGREE IN MATERIALS ENGINEERING (Syllabus 2010). (Teaching unit Compulsory)
ECTS credits: 6
Teaching languages: Spanish

Teaching staff
Coordinator: Jimenez Piqué, Emilio

Degree competences to which the subject contributes

Specific:
CEMT-20. Knowledge of the mechanical, electronic, chemical and biological behaviour of materials, and the ability to apply it in designing, calculating and modelling aspects of elements, components and equipment.

Transversal:
07 AAT N3. 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.
04 COE N2. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 2. Using strategies for preparing and giving oral presentations. Writing texts and documents whose content is coherent, well structured and free of spelling and grammatical errors.

Teaching methodology
Lectures, demonstrations in class, problems and lab

Learning objectives of the subject

Study load

<table>
<thead>
<tr>
<th>Study load</th>
<th>Hours large group:</th>
<th>Hours small group:</th>
<th>Self study:</th>
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<tbody>
<tr>
<td>Total learning time: 150h</td>
<td>45h</td>
<td>15h</td>
<td>90h</td>
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<td>30.00%</td>
<td>10.00%</td>
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## Content

### UNIT I: Physics of light

- **Learning time:** 50h
  - Theory classes: 12h
  - Practical classes: 8h
  - Self study: 30h


### UNIT II: Color in Materials

- **Learning time:** 50h
  - Theory classes: 12h
  - Practical classes: 8h
  - Self study: 30h


### UNIT IV: Thermal Properties of Materials

- **Learning time:** 25h
  - Theory classes: 6h
  - Practical classes: 4h
  - Self study: 15h

Qualification system

40% Final Exam + 30% Partial Exam + 10% Presentation + 20% Laboratory

Bibliography

Basic:


