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

Unit in charge: Barcelona East School of Engineering
Teaching unit: 702 - CEM - Department of Materials Science and Engineering.
Degree: BACHELOR’S DEGREE IN MATERIALS ENGINEERING (Syllabus 2010). (Compulsory subject).
Academic year: 2023  ECTS Credits: 6.0  Languages: Spanish

LECTURER
Coordinating lecturer: Jimenez Piqué, Emilio
Others:
Segon quadrimestre:
KIM ALBO SELMA - M11, M12
JOSÉ MANUEL GARCÍA TORRES - M11, M12
EMILIO JIMENEZ PIQUÉ - M11, M12

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>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours small group</td>
<td>15,0</td>
<td>10.00</td>
</tr>
<tr>
<td>Self study</td>
<td>90,0</td>
<td>60.00</td>
</tr>
<tr>
<td>Hours large group</td>
<td>45,0</td>
<td>30.00</td>
</tr>
</tbody>
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Total learning time: 150 h
# CONTENTS

## UNIT I: Physics of light

**Description:**

**Full-or-part-time:** 50h  
Theory classes: 12h  
Practical classes: 8h  
Self study: 30h

## UNIT II: Color in Materials

**Description:**

**Full-or-part-time:** 50h  
Theory classes: 12h  
Practical classes: 8h  
Self study: 30h

## title english

**Description:**

**Full-or-part-time:** 25h  
Theory classes: 6h  
Practical classes: 4h  
Self study: 15h

## UNIT IV: Thermal Properties of Materials

**Description:**

**Full-or-part-time:** 25h  
Theory classes: 6h  
Practical classes: 4h  
Self study: 15h

## GRADING SYSTEM

50% Final Exam + 30% Partial Exam + 5% Presentation + 15% Laboratory  
NO reevaluation
BIBLIOGRAPHY

Basic: