Course guides
340054 - RMA1-M4O37 - Strength of Materials I

Unit in charge: Vilanova i la Geltrú School of Engineering
Teaching unit: 737 - RMEE - Department of Strength of Materials and Structural Engineering.

Degree: BACHELOR’S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR’S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR’S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Compulsory subject).

Academic year: 2021 ECTS Credits: 6.0 Languages: Catalan, Spanish

LECTURER

Coordinating lecturer:

Others:

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
2. CE14. Knowledge and application of basics of material resistance.
3. CE22. Knowledge and ability to apply basics of elasticity and resistance of materials into behavior of real solids.
4. CE23. Knowledge and ability to calculate and design structures and industrial constructions.

Transversal:
1. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.
5. EFFECTIVE USE OF INFORMATION RESOURCES - Level 1. Identifying information needs. Using collections, premises and services that are available for designing and executing simple searches that are suited to the topic.

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Full-or-part-time:</th>
<th>Theory classes:</th>
<th>Laboratory classes:</th>
<th>Self study:</th>
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<tbody>
<tr>
<td>(ENG) Vector Tensió i Estat Tensional Pla</td>
<td>20h</td>
<td>6h</td>
<td>2h</td>
<td>12h</td>
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<tr>
<td>(ENG) Estat de Tensions Tridimensional</td>
<td>12h</td>
<td>4h</td>
<td>8h</td>
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<tr>
<td>(ENG) Estat de Deformacions en el Sòlid Elàstic</td>
<td>14h</td>
<td>8h</td>
<td>4h</td>
<td>2h</td>
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<tr>
<td>(ENG) Relacions entre Tensions i Deformacions</td>
<td>18h</td>
<td>6h</td>
<td>12h</td>
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<td>(ENG) Anàlisi i Disseny de Bigues sotmeses a Flexió</td>
<td>42h</td>
<td>14h</td>
<td>2h</td>
<td>26h</td>
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<td>(ENG) Càlcul de deformacions en Bigues Prismàtiques: Teoremes Energètics</td>
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<td>14h</td>
<td>2h</td>
<td>28h</td>
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### GRADING SYSTEM
BIBLIOGRAPHY

**Basic:**

**Complementary:**