Course guide
340669 - CEAO - Computer-Assisted Structure Calculation

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 MECHANICAL ENGINEERING (Syllabus 2009). (Optional subject).

Academic year: 2022  ECTS Credits: 6.0  Languages: Catalan, Spanish

LECTURER

Coordinating lecturer: Musté Rodríguez, Marta
Others: Musté Rodríguez, Marta  Junquera Fernandez-Diez, Jose Luis

PRIOR SKILLS

It is recommended to have completed the subject of ESCI

TEACHING METHODOLOGY

This subject is imminently practical. The practices and the project will be carried out in the classes. At the beginning of the class, the teacher will give an explanation of the practice to be carried out and, immediately afterwards, the students will work together to carry it out. Time will be left in each class to work on the industrial building project that each student must carry out individually throughout the semester. At the end of the semester, students will present their project orally in front of their classmates.

LEARNING OBJECTIVES OF THE SUBJECT

- Know different types of buildings for industrial use
- Calculate the actions in a structure
- Choose and dimension the profiles
- Calculate the foundation
- Make a budget based on measurements
- Work with a professional structure design and calculation program (Cype Ingenieros)
- Simulate a flat roof geometry with the Ansys program and compare the deformation results with the experimental results of the extensometry
- Develop an industrial building project

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>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>
</tbody>
</table>

Total learning time: 150 h
## CONTENTS

<table>
<thead>
<tr>
<th>Title English</th>
<th>Description</th>
<th>Content English</th>
<th>Full-or-part-time: 20h</th>
<th>Theory classes: 20h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## GRADING SYSTEM