240644 - Non-Destructive Industrial Tests Techniques

Coordinating unit: 240 - ETSEIB - Barcelona School of Industrial Engineering
Teaching unit: 748 - FIS - Department of Physics
Academic year: 2017
Degree: BACHELOR’S DEGREE IN INDUSTRIAL TECHNOLOGY ENGINEERING (Syllabus 2010). (Teaching unit Optional)
BACHELOR’S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2010). (Teaching unit Optional)
BACHELOR’S DEGREE IN MATERIALS ENGINEERING (Syllabus 2010). (Teaching unit Optional)
ECTS credits: 4,5
Teaching languages: Catalan, Spanish

Teaching staff
Coordinator: Blas Del Hoyo, Alfredo De
Others: Blas Del Hoyo, Alfredo De
Cortes Rossell, Guillem Pere

Degree competences to which the subject contributes

Specific:
3. Capacity to solve mathematical problems that can appear in engineering. Aptitude to apply knowledge about: linear algebra; geometry; differential geometry; differential and integral calculus; differential equations and derived partial equations; numerical methods; numerical algorithm; statistics and optimisation.
4. Understanding and dominion of basic concepts on mechanics, thermodynamics, fields and waves and electromagnetism laws and their application to solve engineering problems.

Transversal:
1. TEAMWORK. Being able to work as a team player, either as a member or as a leader. Contributing to projects pragmatically and responsibly, by reaching commitments in accordance to the resources that are available.
2. SELF-DIRECTED LEARNING. Detecting gaps in one's knowledge and overcoming them through critical self-appraisal. Choosing the best path for broadening one's knowledge.

Learning objectives of the subject

Study load

<table>
<thead>
<tr>
<th>Total learning time: 112h 30m</th>
<th>Hours large group: 0h</th>
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<tr>
<td>Hours medium group: 45h</td>
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<td>Hours small group: 0h</td>
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<td>Learning time</td>
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<tr>
<td></td>
<td><strong>1h</strong></td>
<td>Theory classes: <strong>1h</strong></td>
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|       | **11h 30m**   | Theory classes: **3h**  
|       |               | Practical classes: **1h 30m**  
|       |               | Laboratory classes: **1h**  
|       |               | Self study : **6h**  |
|       | **4h 30m**    | Theory classes: **1h 30m**  
|       |               | Self study : **3h**  |
|       | **4h 30m**    | Theory classes: **1h 30m**  
|       |               | Self study : **3h**  |
|       | **6h**        | Theory classes: **6h**  
|       |               | Practical classes: **4h 30m**  
|       |               | Self study : **12h**  |
|       | **22h 30m**   | Theory classes: **6h**  
|       |               | Practical classes: **4h 30m**  
<p>|       |               | Self study : <strong>12h</strong>  |</p>
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<td>Self study : 6h</td>
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**Description:**
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**Description:**
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<td>2h 30m</td>
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<td>Self study : 12h</td>
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**Description:**
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Bibliography

Others resources:

Audiovisual material

Presentacions de classe
  Resource

Manual de pràctiques
  Resource