280697 - Inspection, Maintenance and Repair of Marine Systems

Coordination unit: 280 - FNB - Barcelona School of Nautical Studies
Teaching unit: 742 - CEN - Department of Nautical Sciences and Engineering
Academic year: 2017
Degree: BACHELOR'S DEGREE IN MARINE TECHNOLOGIES/BACHELOR'S DEGREE IN NAVAL SYSTEMS AND TECHNOLOGY ENGINEERING (Syllabus 2016). (Teaching unit Optional)
           BACHELOR'S DEGREE IN MARINE TECHNOLOGIES (Syllabus 2010). (Teaching unit Optional)
           BACHELOR'S DEGREE IN NAVAL SYSTEMS AND TECHNOLOGY ENGINEERING (Syllabus 2010).
           (Teaching unit Optional)
ECTS credits: 6
Teaching languages: Spanish

Teaching staff
Coordinator: IGNACIO ECHEVARRIETA SAZATORNIL

Prior skills
It is advisable to have passed the subjects on internal combustion engines, steam generators, steam turbines, heat exchangers because this subject is about survey, repair, and maintenance of these installations.

Degree competence to which the subject contributes
Specific:
1. Knowledge of marine diesel engines, gas turbines, and steam plants.

Teaching methodology
Class work using graphic material from marine engines and equipment builders. Personal work with the material in ATENEA.

Learning objectives of the subject
Achievement of knowledge and skills for diagnosing failure causes. Knowledge of the repair methods of marine equipment. Failure detection methods.

Study load

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group:</th>
<th>30h</th>
<th>20.00%</th>
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</thead>
<tbody>
<tr>
<td>Hours medium group:</td>
<td>15h</td>
<td>10.00%</td>
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<tr>
<td>Hours small group:</td>
<td>10h</td>
<td>6.67%</td>
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<tr>
<td>Guided activities:</td>
<td>5h</td>
<td>3.33%</td>
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<tr>
<td>Self study:</td>
<td>90h</td>
<td>60.00%</td>
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**Content**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Learning time:</th>
<th>Description:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakdown and failure diagnosis in plain and roller bearings.</td>
<td>10h</td>
<td>Breakdown and failure diagnosis in plain and roller bearings.</td>
</tr>
<tr>
<td><strong>Internal combustion engines survey</strong></td>
<td>10h</td>
<td>Internal combustion engines survey</td>
</tr>
<tr>
<td>Breakdown and failure diagnosis in steam generators.</td>
<td>10h</td>
<td>Breakdown and failure diagnosis in steam generators.</td>
</tr>
<tr>
<td>Breakdown and failure diagnosis in heat exchangers</td>
<td>10h</td>
<td>Breakdown and failure diagnosis in heat exchangers.</td>
</tr>
<tr>
<td>Repairs of elements of internal combustion engines.</td>
<td>10h</td>
<td>Repairs of elements of internal combustion engines.</td>
</tr>
<tr>
<td>Repair methods of marine engines elements</td>
<td>10h</td>
<td>Repair methods of marine engines elements</td>
</tr>
</tbody>
</table>

**Learning time:** 10h

**Theory classes:** 10h
Diagnosis by vibration analysis.

Learning time: 1h
Theory classes: 1h

Description:
Diagnosis by vibration analysis.

Qualification system

Final exam with a 70% of the total qualification. Activities like control exams, individual or group work and its presentation with a total value of the 30% of the total qualification. Reevaluation is a single exam with all the content of the subject.

Regulations for carrying out activities

The usual ones in written exams.

Bibliography

Basic: