280696 - Inspection, Maintenance and Repair of Ship Structures

**Coordinating 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 NAVAL SYSTEMS AND TECHNOLOGY ENGINEERING (Syllabus 2010). (Teaching unit Optional)
- BACHELOR’S DEGREE IN MARINE TECHNOLOGIES (Syllabus 2010). (Teaching unit Optional)
- BACHELOR’S DEGREE IN MARINE TECHNOLOGIES/BACHELOR’S DEGREE IN NAVAL SYSTEMS AND TECHNOLOGY ENGINEERING (Syllabus 2016). (Teaching unit Optional)

**ECTS credits:** 6

**Teaching languages:** Catalan, Spanish

---

**Teaching staff**

**Coordinator:** Dr. JUAN CARLOS MURCIA GONZÁLEZ

---

**Opening hours**

**Timetable:** Monday 13:00-15:00, 19:00-20:00

---

**Teaching methodology**

Attendance at lectures will be taken into account in the final evaluation.

---

**Learning objectives of the subject**

Understanding the processes of construction and repair of ships, structural concepts, types of inspections and certificates of ships, classification societies, ship recognition methods and main breakdowns.

---

**Study load**

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours large group:</td>
</tr>
<tr>
<td>Hours medium group:</td>
</tr>
<tr>
<td>Hours small group:</td>
</tr>
<tr>
<td>Guided activities:</td>
</tr>
<tr>
<td>Self study:</td>
</tr>
</tbody>
</table>

- Hours large group: 30h 20.00%
- Hours medium group: 15h 10.00%
- Hours small group: 10h 6.67%
- Guided activities: 5h 3.33%
- Self study: 90h 60.00%
## Content

<table>
<thead>
<tr>
<th>Section</th>
<th>Learning time:</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Recognition and Certification of ships</strong></td>
<td>15h</td>
<td><strong>Specific objectives:</strong> The procedures for inspection and certification of merchant vessels and pleasure and abroad. Knowing the certificates to be carried on board ships.</td>
</tr>
<tr>
<td><strong>2. Classification Societies</strong></td>
<td>10h</td>
<td><strong>Description:</strong> - Operation - Goals - Structure - IACS - International Association of Classification Societies - CSR - Common Structural Rules.</td>
</tr>
<tr>
<td><strong>3. Construction and repair of ships and boats. Structural concepts.</strong></td>
<td>15h</td>
<td><strong>Description:</strong> Shipbuilding: Process shipbuilding, steel and other construction materials, painting and finishing, and testing equipment. Ship Repair: Processes and practices of ship repair steel, planning, and execution of technical repair common types of repair work.</td>
</tr>
<tr>
<td><strong>4. Recognition methods of the ship</strong></td>
<td>10h</td>
<td><strong>Description:</strong> Means to assess the condition of the vessel: visual inspection, non-destructive testing methods, pressure testing and sealing testing, performance testing, stability, toma thickness, vibration measuring tools and equipment. Inspection programs: Recognition periodic renewal class distinctions in drydock.</td>
</tr>
</tbody>
</table>
5. Failures

**Description:**
Classes of failures, considerations to take into account. Fatigue, corrosion under tension, the progress of corrosion, humidity and heat stress concentration factor.

---

**Qualification system**

40% - FINAL PROJECT.
20% - PARTIAL EXAM.
40% - FINAL EXAM.

The test will be held on reevaluation and time specified by the Faculty. Consist of a single test may be submitted only the students who meet the requirements set out in the undergraduate academic regulations of the FNB.

**Assessment tests**

Assessment tests will contain theoretical tests, practical and / or problem solving.

Considered absent does not involve any of the tests evaluated.

The test will be held on reassessment and time specified by the Faculty. Consist of only a single test Prodi presented the students who meet the requirements set out in the undergraduate academic regulations of the FNB.

---

**Bibliography**

**Basic:**


**Others resources:**