280634 - Graphic Expression

Coordinating unit: 280 - FNB - Barcelona School of Nautical Studies
Teaching unit: 742 - CEN - Department of Nautical Sciences and Engineering
Academic year: 2019
Degree: BACHELOR'S DEGREE IN MARINE TECHNOLOGIES (Syllabus 2010). (Teaching unit Compulsory)
       BACHELOR'S DEGREE IN NAVAL SYSTEMS AND TECHNOLOGY ENGINEERING (Syllabus 2010).
       (Teaching unit Compulsory)
       BACHELOR'S DEGREE IN MARINE TECHNOLOGIES/BACHELOR'S DEGREE IN NAVAL SYSTEMS AND
       TECHNOLOGY ENGINEERING (Syllabus 2016). (Teaching unit Compulsory)
ECTS credits: 6

Teaching languages: Catalan, Spanish, English

Teaching staff

Coordinator: JOSE MANUEL DE LA PUENTE MARTORELL
Others: Primer quadrimestre:
       JOSE MANUEL DE LA PUENTE MARTORELL - 1

       Segon quadrimestre:
       JOSE MANUEL DE LA PUENTE MARTORELL - 1

Opening hours

Timetable: Monday & Friday: 14-15 h
            Tuesday: 14-16 h
            Wednesday: 14-16 h

Degree competences to which the subject contributes

Specific:
1. Capacity for spatial vision and knowledge of mapping techniques, both traditional methods of geometry and metric
   geometry, as by the ions app computer-aided design.
2. Visual spatial ability and knowledge of graphic techniques, both traditional and metric geometry descriptive
   geometry, and through applications of computer aided design.

Teaching methodology

- To develop and foster a sense of spatial reasoning, the order in the visual information, and the graphic communication capacity.
- To recognize particular codes in Technical Drawing and visual representation, especially in the representation of mechanic parts and mechanisms.
- To acknowledge the singularities of technical representation of ships, and the specificity of map projections.
- To get acquainted with graphic digital tools, and to acquire skills by means of strategies of drafting, design and imaging.
- To understand and synthesize knowledge of the area through practical exercises and continuous assessment.
Students should get a professional level in their three-dimensional vision capabilities, in their analytical spatial knowledge, and in design, using techniques of representation and graphical information, both through conventional means or analog-traditional methods of descriptive geometry and through digital or automated means, devices and software for drawing and CAD.

The expected learning outcomes are:

- Solving graphics problems that arise in the field of engineering and mapping
- Applying knowledge of design problems in engineering
- Developing the capacity for abstraction and creativity in three-dimensional space
- Identifying objectives of representation and design, and being able to develop plans to achieve them
- Using resources and informational services to perform tasks of representation and design

Additionally, the aim of the course is to fully satisfy the requirement 2.2 of the STCW skills, specifically the correct "interpretation of technical drawings and operating machinery graphics"

### Study load

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group:</th>
<th>24h</th>
<th>16.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours medium group:</td>
<td>24h</td>
<td>16.00%</td>
</tr>
<tr>
<td></td>
<td>Hours small group:</td>
<td>8h</td>
<td>5.33%</td>
</tr>
<tr>
<td></td>
<td>Guided activities:</td>
<td>4h</td>
<td>2.67%</td>
</tr>
<tr>
<td></td>
<td>Self study:</td>
<td>90h</td>
<td>60.00%</td>
</tr>
</tbody>
</table>
## Content

<table>
<thead>
<tr>
<th>Technical drawing and methods of graphical representation</th>
<th><strong>Learning time:</strong> 0h 55m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 0h 55m</td>
</tr>
</tbody>
</table>

**Description:**

**Specific objectives:**
Students should acquire a professional level in their ability to read tridimensional objects, to analyze space, and to represent and design basic mechanical pieces; using both drafting procedures and computerized techniques.

### (ENG) Representació de peces i mecanismes I.

<table>
<thead>
<tr>
<th><strong>Learning time:</strong> 1h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical classes: 1h</td>
</tr>
</tbody>
</table>

**Description:**
Symbols, standards and regulations. Scale.

### (ENG) Representació de peces i mecanismes II.

<table>
<thead>
<tr>
<th><strong>Learning time:</strong> 1h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical classes: 1h</td>
</tr>
</tbody>
</table>

**Description:**
CAD concepts and strategies

### (ENG) Representació de peces i mecanismes III.

<table>
<thead>
<tr>
<th><strong>Learning time:</strong> 1h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical classes: 1h</td>
</tr>
</tbody>
</table>

**Description:**
Technical sketching, Measurements, Cuts and Sections.

### (ENG) Representació tècnica del vaixell.

<table>
<thead>
<tr>
<th><strong>Learning time:</strong> 1h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical classes: 1h</td>
</tr>
</tbody>
</table>

**Description:**
Vessel plans. Ship design drawings.
(ENG) Cartography and geometric projections

| Description: | Cartography, chart drawing and geometric projections |
| Specific objectives: |

**Learning time:** 1h
**Practical classes:** 1h

---

### Qualification system

The final grade is obtained from two axis: 1) the student work and tests performed during the classes (50%), and 2) the score of the final exam.

A qualification reassessment test will be performed for students who meet the requirements of the regulations of the center. That final exam will encompass all subjects taught during the course.

### Regulations for carrying out activities

The final exam is mandatory to get a final grade. Otherwise, the final grade will be 'Not Presented'
Bibliography

**Basic:**


**Complementary:**