Course guide 280634 - 280634 - Graphic Expression

Unit in charge: Barcelona School of Nautical Studies
Teaching unit: 742 - CEN - Department of Nautical Sciences and Engineering.
Degree: BACHELOR'S DEGREE IN MARINE TECHNOLOGIES (Syllabus 2010). (Compulsory subject). BACHELOR'S DEGREE IN NAVAL SYSTEMS AND TECHNOLOGY ENGINEERING (Syllabus 2010). (Compulsory subject).
Academic year: 2022  ECTS Credits: 6.0  Languages: Catalan, Spanish, English

LECTURER

Coordinating lecturer: JOSE MANUEL DE LA PUENTE MARTORELL
Primer quadrimestre: JOSE MANUEL DE LA PUENTE MARTORELL


Segon quadrimestre: JOSE MANUEL DE LA PUENTE MARTORELL - Grup: GESTN, Grup: GTM

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
GTM.CE4. 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.
GESTN.CE5. 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.
LEARNING OBJECTIVES OF THE SUBJECT

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.

An introduction to Computer Graphics software aimed to future graduates and engineers

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

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Hours large group</td>
<td>24,0</td>
<td>16.00</td>
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<tr>
<td>Hours medium group</td>
<td>24,0</td>
<td>16.00</td>
</tr>
<tr>
<td>Self study</td>
<td>90,0</td>
<td>60.00</td>
</tr>
<tr>
<td>Guided activities</td>
<td>4,0</td>
<td>2.67</td>
</tr>
<tr>
<td>Hours small group</td>
<td>8,0</td>
<td>5.33</td>
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</table>

Total learning time: 150 h

CONTENTS

1. Technical drawing and methods of graphical representation

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.

Full-or-part-time: 2h 55m
Theory classes: 0h 55m
Guided activities: 1h
Self study: 1h

2. Representació de peces i mecanismes I

Description:
Symbols, standards and regulations. Scale.

Full-or-part-time: 4h
Theory classes: 1h
Practical classes: 1h
Guided activities: 1h
Self study: 1h
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Description</th>
<th>Full-or-part-time</th>
<th>Theory classes</th>
<th>Practical classes</th>
<th>Guided activities</th>
<th>Self study</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Representació de peces i mecanismes II</td>
<td>CAD concepts and strategies</td>
<td>4h</td>
<td>1h</td>
<td>1h</td>
<td>1h</td>
<td>1h</td>
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<tr>
<td>4. Representació de peces i mecanismes III</td>
<td>Technical sketching, Measurements, Cuts and Sections.</td>
<td>4h</td>
<td>1h</td>
<td>1h</td>
<td>1h</td>
<td>1h</td>
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<tr>
<td>5. Representació tècnica del vaixell</td>
<td>Vessel plans. Ship design drawings.</td>
<td>4h</td>
<td>1h</td>
<td>1h</td>
<td>1h</td>
<td>1h</td>
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<tr>
<td>6. Cartography and geometric projections</td>
<td>Cartography, chart drawing and geometric projections</td>
<td>4h</td>
<td>1h</td>
<td>1h</td>
<td>1h</td>
<td>1h</td>
</tr>
<tr>
<td>Technical Drawing and Computer Graphics in Engineering</td>
<td>An introduction to Computer Graphics and CAD software</td>
<td>1h</td>
<td>1h</td>
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GRADING SYSTEM

The final grade is obtained from two axes: 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.

EXAMINATION RULES.

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

BIBLIOGRAPHY

Basic:

Complementary:

RESOURCES

Other resources:
AUTOCAD