Degree competences to which the subject contributes

Basic:

CB9. That students can communicate their conclusions and the knowledge and latest rationale underpinning to specialists and non-specialty clearly and unambiguously
CB8. Students should be able to integrate knowledge and handle the complexity of making judgments based on information that, being incomplete or limited, includes reflections on the responsibilities social and ethical linked to the application of their knowledge and judgments.

CB6. Possess knowledge and understanding that provide a basis or opportunity to be original in the development and / or application of ideas, often in a research context.
CB7. That the students can apply their knowledge and ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their study area.
CB10. Students must possess the learning skills that enable them to continue studying in a way that will be largely self-directed or autonomous.

Specific:

CE8. Conocimiento de los elementos de oceanografía física (olas, corrientes, mareas, etc.) necesarios para el análisis del comportamiento de las estructuras oceánicas, y de los elementos de las oceanografías química y biológica que deben ser tenidos en cuenta para la seguridad marítima y para el tratamiento de la contaminación, y del impacto ambiental producido por los buques y artefactos marinos.

Transversal:

CT2. SUSTAINABILITY AND SOCIAL COMMITMENT: Know and understand the complexity of economic and social
280803 - Oceanography

To familiarize the student with the concepts of physical, chemical, geological and biological oceanography necessary for the performance of his future activity in the field of Naval and Oceanic engineering in a manner that respects the marine environment and sustainable from a technical, economic and environmental point of view.

Learning objectives of the subject

To familiarize the student with the concepts of physical, chemical, geological and biological oceanography necessary for the performance of his future activity in the field of Naval and Oceanic engineering in a manner that respects the marine environment and sustainable from a technical, economic and environmental point of view.

Study load

| Total learning time: 45h | Hours large group: | 45h | 100.00% |
### Content

#### Introduction to Oceanography

**Learning time:** 6h  
Theory classes: 3h  
Self study: 3h

**Description:**  
Presentation of the subject. Introduction to the concepts of physical oceanography, chemical oceanography, geological oceanography and biological oceanography. History of the Oceanography.

#### Marine Geology

**Learning time:** 8h  
Theory classes: 2h  
Practical classes: 1h  
Guided activities: 2h  
Self study: 3h

**Description:**  
The bathymetry of the ocean: continental margins and ocean basins. Geophysical techniques for prospecting the ocean floor. Sedimentation in the ocean. Techniques for sampling sediment in the background.

#### Physical and chemical properties of sea water

**Learning time:** 15h  
Theory classes: 4h  
Practical classes: 1h  
Guided activities: 5h  
Self study: 5h

**Description:**  

#### Meteorology and ocean circulation

**Learning time:** 26h  
Theory classes: 7h  
Practical classes: 2h  
Guided activities: 10h  
Self study: 7h

**Description:**  
# 280803 - Oceanography

## Waves, Tsunamis and Seiches

<table>
<thead>
<tr>
<th>Learning time: 19h</th>
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<tbody>
<tr>
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<td>Practical classes: 3h</td>
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<tr>
<td>Guided activities: 5h</td>
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<tr>
<td>Self study: 5h</td>
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</tbody>
</table>

**Description:**

## Tides and currents

<table>
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<tbody>
<tr>
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<td>Practical classes: 2h</td>
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<tr>
<td>Guided activities: 5h</td>
</tr>
<tr>
<td>Self study: 5h</td>
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</tbody>
</table>

**Description:**

## Marine Ecology

<table>
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</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Guided activities: 3h</td>
</tr>
<tr>
<td>Self study: 3h</td>
</tr>
</tbody>
</table>

**Description:**
Habitats in the Ocean. Classification of marine organisms. Functioning of marine ecosystems. Trophic chains and types of ecosystems. Coastal outcrops and productivity in the ocean.
The final grade is the sum of the following partial grades:
Final qualification = (0.6 x Final test qualification) + (0.4 x Qualification of the course exercises)

Bibliography

Basic:

Complementary: