Course guide
280607 - 280607 - Chemistry

Unit in charge: Barcelona School of Nautical Studies
Teaching unit: 713 - EQ - Department of Chemical Engineering.

Degree: BACHELOR’S DEGREE IN MARINE TECHNOLOGIES (Syllabus 2010). (Compulsory subject).
BACHELOR’S DEGREE IN NAUTICAL SCIENCE AND MARITIME TRANSPORT (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

LECTURER

Coordinating lecturer: LUIS JAVIER DEL VALLE MENDOZA

Others: Primer quadrimestre:
LUIS JAVIER DEL VALLE MENDOZA - Grup: GESTN, Grup: GNTM, Grup: GTM
GUILLEM REVILLA LÓPEZ - Grup: GESTN, Grup: GNTM, Grup: GTM

Segon quadrimestre:
AURELIO CALVET TARRAGONA - Grup: GESTN, Grup: GNTM, Grup: GTM
LUIS JAVIER DEL VALLE MENDOZA - Grup: GESTN, Grup: GNTM, Grup: GTM
OSCAR GONZALEZ FERNANDEZ - Grup: GESTN, Grup: GNTM, Grup: GTM
NEKANE LOZANO HERNÁNDEZ - Grup: GESTN, Grup: GNTM, Grup: GTM
GERMAN ANIBAL PEREZ LLANOS - Grup: GESTN, Grup: GNTM, Grup: GTM

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
GTM.CE2. Basic knowledge of general chemistry, organic and inorganic chemistry and its applications in engineering.
GESTN.CE3. Basic knowledge of general chemistry, organic and inorganic chemistry and its applications in the field of naval engineering technology.

TEACHING METHODOLOGY

* Receive, understand and synthesize knowledge.
* Set up and solve problems.
* Develop critical thinking and reasoning and defend it orally or in writing.
* Submit the report of the labs individually and / or group.

LEARNING OBJECTIVES OF THE SUBJECT

At the end of the course the student will have:
1. Basic knowledge of general chemistry, organic and inorganic chemistry and their applications in engineering.
2. Basic knowledge of general chemistry, organic and inorganic chemistry and its applications in the field of naval engineering technique.
**STUDY LOAD**

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self study</td>
<td>90.0</td>
<td>60.00</td>
</tr>
<tr>
<td>Hours large group</td>
<td>30.0</td>
<td>20.00</td>
</tr>
<tr>
<td>Hours small group</td>
<td>6.0</td>
<td>4.00</td>
</tr>
<tr>
<td>Hours medium group</td>
<td>24.0</td>
<td>16.00</td>
</tr>
</tbody>
</table>

**Total learning time:** 150 h

**CONTENTS**

1. Chemical elements and chemical bonding

**Description:**

**Full-or-part-time:** 13h
Theory classes: 9h
Practical classes: 1h
Laboratory classes: 1h
Guided activities: 1h
Self study: 1h

2. Dissolutions

**Description:**

**Full-or-part-time:** 9h
Theory classes: 9h

3. Inorganic and organic compounds

**Description:**

**Full-or-part-time:** 5h
Theory classes: 5h

4. Elemental analysis, analysis of water and organic compounds

**Description:**
Water analysis: nautical main parameters of interest. Analysis of fuel: nautical main parameters of interest.

**Full-or-part-time:** 4h
Theory classes: 4h
5. States of matter

Description:

Full-or-part-time: 3h
Theory classes: 3h

ACTIVITIES

Laboratory practices

Description:
1. Physical-chemical water analysis.
2. Acid-base titrations.

Specific objectives:
* Consolidate the theoretical knowledge on the subject of chemistry.
* Develop skills and abilities to work in a chemistry laboratory.
* Promote respect for the environment through the management of chemical waste (greening the subject).

Material:
Own chemistry laboratory.

Delivery:
Individual report and / or group of laboratory practices.

Related competencies:
CE3.GESTN. Basic knowledge of general chemistry, organic and inorganic chemistry and its applications in the field of naval engineering technology.
CE2. Basic knowledge of general chemistry, organic and inorganic chemistry and its applications in engineering.

Full-or-part-time: 4h
Laboratory classes: 2h
Guided activities: 1h
Self study: 1h
GRADING SYSTEM

For instance:
The final score is the sum of the following partial scores:
Final score = 0.5 SF + 0.35 SP + 0.15 SL

SF: Final test
SP: Partial test
SL: Laboratory teaching qualification (lab, computer room).
The final test consists of part types with test questions and issues associated with the learning objectives of the course concepts in knowledge and/or understanding, and a set of exercises and application problems. It has about 3 hours to do it.
Continuous assessment and partial test is to do different activities, both individual and group, summative and formative, carried out during the course.
The rating of the laboratory teaching is the average of the laboratory activities.

REEXAMINATION

Reassessment scheduled for the subject of Chemistry, is an optional situation chosen by the student that it deems appropriate. The reassessment requirement is to have completed the labs. The event will consist of a single test that considers the entire contents of the subject. The test methodology consists reexamination of part types with test questions and issues associated with the learning objectives of the course concepts in knowledge and/or understanding, and a set of exercises and application problems.

EXAMINATION RULES.

* If it is not any laboratory activities, continuous assessment or final test performed, shall be deemed not scored.
* It is deemed not-presented to students who have not made any test, either the final or continuous assessment or has performed more than a practice.
* In any case you can have any kind of form controls learning or testing.

BIBLIOGRAPHY

Basic:

Complementary: