Degree competences to which the subject contributes

Specific:
1. Capacity to understand and apply basic knowledge principles of general chemistry, organic and inorganic chemistry and their engineering applications.

Teaching methodology

The module consists of lectures in which the professor presents the learning objectives related with the different contents and later a resolution of practical examples. Active participation is encouraged during the resolution of practical cases, while proposing a large amount of numerical problems in which students are presented with real cases related with the chemical environment.

During the course, students are provided with learning material and tools in order to guide their learning process and therefore consolidate knowledge on chemistry which is achieved during the course.

Learning objectives of the subject

The module's general objective is to establish a chemical basis necessary to interpret the most important chemical reactions which take place in aqueous dissolution and to apply in the Chemical Industry and Environment.

At the end of the module, students should be able to:
1. Predict the reactivity and stability of the most common chemical inorganic composites.
2. Correctly write chemical reactions differentiating those which take place in chemical balances.
3. Use the corresponding equations in the mass and charge balances as well as the necessary thermodynamic constants to interpret chemical balances.
5. Applying calculus of balanced systems in environment's examples and in chemical industry examples.
### Study load

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group: 60h</th>
<th>40.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours medium group:</td>
<td>0h</td>
<td>0.00%</td>
</tr>
<tr>
<td>Hours small group:</td>
<td>0h</td>
<td>0.00%</td>
</tr>
<tr>
<td>Guided activities:</td>
<td>0h</td>
<td>0.00%</td>
</tr>
<tr>
<td>Self study:</td>
<td>90h</td>
<td>60.00%</td>
</tr>
</tbody>
</table>
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## Content

<table>
<thead>
<tr>
<th>Topic</th>
<th>Learning time:</th>
<th>Description</th>
</tr>
</thead>
</table>

### Additional Learning Time分配

- **Theory classes:**
  - TOPIC 1: 10h
  - TOPIC 2: 8h
  - TOPIC 3: 5h
  - TOPIC 4: 6h

- **Practical classes:**
  - TOPIC 1: 8h
  - TOPIC 2: 5h
  - TOPIC 3: 5h
  - TOPIC 4: 6h

- **Self study:**
  - TOPIC 1: 15h
  - TOPIC 2: 24h
  - TOPIC 3: 15h
  - TOPIC 4: 18h
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**TOPIC 5. Redox reactions**

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### Planning of activities

| (ENG) PROVA AVALUACIÓ CONTINUADA AC1 | Hours: 1h  
|                                      | Self study: 1h |
| name english(ENG) PROVA AVALUACIÓ CONTINUADA AC2 | Hours: 1h  
|                                      | Theory classes: 1h |

### Qualification system

Final mark (NF) will consist of four 'inputs':
1) Continuous evaluation mark: AC1  
2) Partial exam: EP  
3) Continuous evaluation mark: AC2  
4) Final exam: EF

It will be calculated according to:
NF = 0.1*AC1 + 0.20*EP + 0.1*AC2 + 0.60*EF

The reassessment mark (ReAv) will replace the final exam mark. Final mark will be calculated according to: NF = 0.9*ReAv + 0.1*EP

### Regulations for carrying out activities

Both in continuous evaluation tests and in the partial and final exams, and in the reassessment exam, it is necessary to have a calculator. It will not be possible to use notes or any type of formulary under any circumstance.
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Bibliography

Basic:


Complementary:


Others resources:

In the ATENEA's platform, more information relative to the laboratory practice, questionnaires, self-evaluation multiple choice tests.