Course guide
330153 - QF - Physical Chemistry

Unit in charge: Manresa School of Engineering
Teaching unit: 750 - EMIT - Department of Mining, Industrial and ICT Engineering.

Degree: BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Compulsory subject).

Academic year: 2022  ECTS Credits: 6.0  Languages: Catalan

LECTURER

Coordinating lecturer: Pere Busquets Rubió

Others:

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. Expand knowledge of the state of gases.
2. Know the basic concepts of thermodynamics.
3. Expand knowledge of chemical equilibria.
4. Expand knowledge of liquids and solutions.
5. Develop problem-solving skills.
6. Develop skills in the laboratory.
7. Planning, organization and learning on a personal and team level.
8. (ENG) Aprenentatge autònom.

Transversal:
9. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.
10. TEAMWORK - Level 3. Managing and making work groups effective. Resolving possible conflicts, valuing working with others, assessing the effectiveness of a team and presenting the final results.
11. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours small group</td>
<td>15,0</td>
<td>10.00</td>
</tr>
<tr>
<td>Self study</td>
<td>90,0</td>
<td>60.00</td>
</tr>
<tr>
<td>Hours large group</td>
<td>45,0</td>
<td>30.00</td>
</tr>
</tbody>
</table>

Total learning time: 150 h
## CONTENTS

### (ENG) Contingut 1: L'ESTAT GASÓS

**Description:**

**Full-or-part-time:** 33h  
Theory classes: 10h  
Laboratory classes: 3h  
Self study: 20h

### (ENG) Contingut 2: TERMODINÀMICA

**Description:**

**Full-or-part-time:** 44h  
Theory classes: 12h  
Laboratory classes: 4h  
Self study: 28h

### (ENG) Contingut 3: EQUILIBRIS QUÍMICS

**Description:**

**Full-or-part-time:** 32h  
Theory classes: 8h  
Laboratory classes: 4h  
Self study: 20h

### (ENG) Contingut 4: LÍQUID I DISSOLUCIONS

**Description:**

**Full-or-part-time:** 41h  
Theory classes: 15h  
Laboratory classes: 4h  
Self study: 22h

## ACTIVITIES

### (ENG) ACTIVITAT 1: PRÀCTIQUES DE LABORATORI

**Full-or-part-time:** 20h  
Laboratory classes: 10h  
Self study: 10h
(ENG) ACTIVITAT 2: RESOLUCIÓ DE PROBLEMES I/O EXERCIS. AVALUACIÓ CONTINUADA

Material:

Full-or-part-time: 14h
Self study: 14h

name english

Material:

Full-or-part-time: 24h
Laboratory classes: 4h
Self study: 20h

(ENG) ACTIVITAT 4: PROVES INDIVIDUALES D’AVALUACIÓ

Full-or-part-time: 52h
Theory classes: 6h
Self study: 46h

GRADING SYSTEM

BIBLIOGRAPHY

Basic:

RESOURCES

Other resources:
Teaching digital material (UPCCommons Videos, multimedia material; Power Point Presentations).
Collection of Exercises.
Virtual digital support (Athena).
The physical space (the classroom with a blackboard and audiovisual support to teach the classes. Classrooms to be able to work in groups).