Course guides
330153 - QF - Physical Chemistry

Last modified: 01/06/2020

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).
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2016). (Compulsory subject).

Academic year: 2020 **ECTS Credits:** 6.0 **Languages:** Catalan

LECTURER

Coordinating lecturer: Pere Busquets Rubió

Others:

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. (ENG) Ampliar coneixement de l'estat gasós.
2. (ENG) Conèixer els conceptes bàsics de termodinàmica.
3. (ENG) Ampliar els coneixements d'equilibris químics.
4. (ENG) Ampliar els coneixements dels líquids i les dissolucions.
5. (ENG) Desenvolupar Les capacitats per resoldre problemes.
6. (ENG) Desenvolupar habilitats en el laboratori.
7. (ENG) Planificació, organització i aprenentatge a nivell personal i en equip.
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

Type	Hours	Percentage
Hours large group	45,0	30.00
Hours small group	15,0	10.00
Self study	90,0	60.00

Total learning time: 150 h

CONTENTS

(ENG) Contingut 1: L'ESTAT GASÓS

Description:
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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 EXERCICIS. AVALUACIÓ CONTINUADA

Material:
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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 INDIVIDUALS D'AVALUACIÓ

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

GRADING SYSTEM

BIBLIOGRAPHY

Basic:
- Engel, Thomas; Reid, Philip J. Introducción a la fisicoquímica: termodinámica. Madrid: Pearson Prentice Hall, 2007. ISBN 9789702608295.
- Atkins, P. W.; De Paula, J. Química física. 8ª ed. Buenos Aires: Editorial Médica Panamericana, 2008. ISBN 9789500612487.
- Levine, I. N. Fisicoquímica. 5ª ed. Madrid: McGraw-Hill, 2004. ISBN 8448140052.
- Atkins, P. W.; Friedman, Ronald. Molecular quantum mechanics. 5th ed. Oxford: Oxford University Press, 2011. ISBN 9780199541423.
- Ball, David W. Fisicoquímica. México: Thomson, 2004. ISBN 9706863281.