



Course guide

330054 - Q - Chemistry

Last modified: 25/04/2024

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 ELECTRICAL ENGINEERING (Syllabus 2009). (Compulsory subject).
BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Compulsory subject).
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Compulsory subject).
BACHELOR'S DEGREE IN ICT SYSTEMS ENGINEERING (Syllabus 2010). (Optional subject).
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2016). (Compulsory subject).
BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2016). (Compulsory subject).
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2016). (Compulsory subject).
BACHELOR'S DEGREE IN MINERAL RESOURCE ENGINEERING AND MINERAL RECYCLING (Syllabus 2021). (Compulsory subject).

Academic year: 2024 **ECTS Credits:** 6.0 **Languages:** Catalan

LECTURER

Coordinating lecturer: Lao Luque, Concepcion

Others: PERE BUSQUETS RUBIO - CONCEPCION LAO LUQUE - M. MONTSERRAT SOLE SARDANS

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Generical:

1. Ability to understand and apply the principles of basic knowledge of general chemistry, organic and inorganic chemistry and their applications in engineering.

Transversal:

2. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 1. Planning oral communication, answering questions properly and writing straightforward texts that are spelt correctly and are grammatically coherent.
3. TEAMWORK - Level 1. Working in a team and making positive contributions once the aims and group and individual responsibilities have been defined. Reaching joint decisions on the strategy to be followed.
4. SELF-DIRECTED LEARNING - Level 1. Completing set tasks within established deadlines. Working with recommended information sources according to the guidelines set by lecturers.

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

STUDY LOAD

Type	Hours	Percentage
Hours large group	30,0	20.00
Hours small group	30,0	20.00
Self study	90,0	60.00



Total learning time: 150 h

CONTENTS

(ENG) 1. ESTRUCTURA ATÒMICA I ENLLAÇ QUÍMIC

Full-or-part-time: 38h

Theory classes: 6h

Laboratory classes: 10h

Self study : 22h

(ENG) 2. DISSOLUCIONS I ESTEQUIOMETRIA

Full-or-part-time: 52h

Theory classes: 12h

Laboratory classes: 10h

Self study : 30h

(ENG) 3. REACCIÓ QUÍMICA: ASPECTES TERMODINÀMICS I CINÈTICS

Full-or-part-time: 60h

Theory classes: 10h

Laboratory classes: 12h

Self study : 38h

ACTIVITIES

(ENG) 1. PRÀCTIQUES DE LABORATORI

Full-or-part-time: 40h

Laboratory classes: 15h

Self study: 25h

Full-or-part-time: 24h

Laboratory classes: 4h

Self study: 20h

(ENG) 3. PROVES INDIVIDUALS D'AVALUACIÓ CONTINUADA

Full-or-part-time: 16h

Theory classes: 4h

Self study: 12h

GRADING SYSTEM

BIBLIOGRAPHY

Basic:

- Chang, R. Fundamentos de química [on line]. México: McGraw-Hill, 2011 [Consultation: 10/11/2022]. Available on: https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=10619. ISBN 9786071505415.
- Kotz, J. C.; Treichel, P. M.; Harman, Patrick A. Química y reactividad química. 5ª ed. México: International Thomson, 2003.
- Petrucci, R. H., i altres. Química general: principios y aplicaciones modernas [on line]. 10ª ed. Madrid: Prentice Hall, 2011 [Consultation: 07/06/2022]. Available on: https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=6751. ISBN 9788483226803.
- Reboiras, M. D. Química: la ciencia básica. Madrid: International Thomson Editores, 2006. ISBN 8497323475.
- Bell, Jerry, i altres. Química: un proyecto de American Chemical Society [on line]. Barcelona: Reverté, 2005 [Consultation: 08/06/2022]. Available on: https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=8079. ISBN 8429170014.
- Orozco, C.; González, Mª N.; Pérez, A. Problemas resueltos de química aplicada. Madrid: Paraninfo, 2011. ISBN 9788428380928.
- Reboiras, M. D. Problemas resueltos de química: la ciencia básica. Madrid: Thomson, 2007. ISBN 9788497325417.
- Tècniques bàsiques al laboratori [on line]. Barcelona: Universitat Politècnica de Catalunya, 2010 [Consultation: 13/11/2020]. Available on: <http://hdl.handle.net/2099.2/1241>.
- Atkins, P. W.; Jones, Loretta. Principios de química : los caminos del descubrimiento. 5a ed. Madrid: Editorial Médica Panamericana, 2012. ISBN 9789500602822.

Complementary:

- American Chemical Society. Chemistry in the community: ChemCom a project of the American Chemical Society. 5th ed. New York: W.H. Freeman and Co, 2006. ISBN 9780716789192.
- American Chemical Society. QuimCom: química en la comunidad. 2ª ed. México: Addison Wesley Longman, 1998. ISBN 9684443072.