



Course guides

330158 - EEQ - Experimentation in Chemical Engineering

Last modified: 05/05/2020

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: ANNA BONSFILLS PEDROS

Others: ANTONIO DAVID DORADO CASTAÑO - MARIA DOLORS GRAU VILALTA

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

1. (ENG) Plantejar i comprovar hipòtesis. Tractar i interpretar correctament dades experimentals. Desenvolupar la capacitat d'anàlisi i síntesi.

Transversal:

2. 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.
3. 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.
4. 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
Self study	90,0	60.00
Hours small group	60,0	40.00

Total learning time: 150 h

CONTENTS

(ENG) 1. Reactors

Full-or-part-time: 40h
Laboratory classes: 16h
Self study : 24h



(ENG) 2. Transport de fluids

Full-or-part-time: 30h
Laboratory classes: 12h
Self study : 18h

(ENG) 3. Transmissió de calor

Full-or-part-time: 20h
Laboratory classes: 8h
Self study : 12h

(ENG) 4. Operacions de separació

Full-or-part-time: 50h
Laboratory classes: 20h
Self study : 30h

(ENG) 5. Regulació automàtica

Full-or-part-time: 10h
Laboratory classes: 4h
Self study : 6h

ACTIVITIES

(ENG) ACTIVITAT 1: QÜESTIONARI

Full-or-part-time: 17h
Laboratory classes: 2h
Self study: 15h

(ENG) ACTIVITAT 2: EXPERIMENTACIÓ LABORATORI

Full-or-part-time: 66h
Laboratory classes: 48h
Self study: 18h

(ENG) ACTIVITAT 3: SIMULACIÓ

Full-or-part-time: 13h
Laboratory classes: 6h
Self study: 7h



(ENG) ACTIVITAT 4: INFORMES

Full-or-part-time: 20h

Self study: 20h

(ENG) ACTIVITAT 5: PRESENTACIÓ ORAL

Full-or-part-time: 12h

Laboratory classes: 2h

Self study: 10h

(ENG) ACTIVITAT 6: PROVA ESCRITA

Full-or-part-time: 22h

Laboratory classes: 2h

Self study: 20h

GRADING SYSTEM

BIBLIOGRAPHY

Basic:

- Bonsfills, A.; Dorado, A. D. Experimentació en enginyeria química: guions de pràctiques. Manresa: EPSEM, 2019.

Complementary:

- Ingham, J., i altres. Chemical engineering dynamics: an introduction to modelling and computer simulation. 2nd ed. Weinheim: Wiley-VCH, 2000. ISBN 3527297766.

- Levenspiel, O. Ingeniería de las reacciones químicas [on line]. 3ª ed. México: Limusa Wiley, 2004 [Consultation: 30/07/2020]. Available on: http://www.ingebook.com/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=8700. ISBN 9681858603.

- Froment, G. F.; Bischoff, K. B. Chemical reactor analysis and design. 2nd ed. New York: John Wiley & Sons, 1990. ISBN 0471510440.

- Treybal, R. E. Operaciones de transferencia de masa. 2ª ed. México: McGraw-Hill, 1988. ISBN 9686046348.

- Perry, R. H.; Green, D. W., eds. Manual del ingeniero químico [on line]. 4ª ed. Madrid: McGraw-Hill, 2001 [Consultation: 31/07/2020]. Available on: http://www.ingebook.com/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=6572. ISBN 8448130081.

- Perry, R. H.; Green, D. W., eds. Perry's chemical engineers' handbook [CD-ROM] [on line]. New York: McGraw-Hill, 1999 Available on: https://discovery.upc.edu/iii/encore/record/C__Rb1324713?lang=cat. ISBN 0071344128.

- Perry, R. H.; Green, D. W., eds. Perry's chemical engineers' handbook [on line]. 8th ed. New York: McGraw-Hill, 2008 [Consultation: 01/09/2014]. Available on: <http://www.netLibrary.com/urlapi.asp?action=summary&v=1&bookid=219494>. ISBN 9780071593137.

- McCabe, W. L.; Smith, J. C.; Harriott, P. Operaciones unitarias en ingeniería química. 7ª ed. Madrid: McGraw-Hill, 2007. ISBN 9701061748.