

Course guides

330253 - TA1 - Environments Technology I

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

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

LECTURER

Coordinating lecturer: ANNA BONSFILLS PEDROS

Others: M. MONTSERRAT SOLE SARDANS

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

1. (ENG) Comprendre i utilitzar els principis bàsics de les tecnologies ambientals de l'aigua i l'aire i la seva aplicació.

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	15,0	10.00
Hours large group	45,0	30.00

Total learning time: 150 h



CONTENTS

(ENG) Contingut 1: Tecnologies ambientals: aire

Full-or-part-time: 75h

Theory classes: 23h

Laboratory classes: 7h

Self study : 45h

(ENG) Contingut 2: Tecnologies ambientals: aigua

Full-or-part-time: 75h

Theory classes: 22h

Laboratory classes: 8h

Self study : 45h

ACTIVITIES

(ENG) TÍTOL DE L'ACTIVITAT 1: PRÀCTIQUES DE LABORATORI

Full-or-part-time: 12h

Laboratory classes: 4h

Self study: 8h

(ENG) TÍTOL DE L'ACTIVITAT 2: VISITA EDAR

Full-or-part-time: 5h

Laboratory classes: 3h

Self study: 2h

(ENG) TÍTOL DE L'ACTIVITAT 3: RESOLUCIÓ DE PROBLEMES I/O EXERCICIS. AVALUACIÓ CONTINUADA

Full-or-part-time: 32h

Theory classes: 2h

Self study: 30h

(ENG) TÍTOL DE L'ACTIVITAT 4: PROVES INDIVIDUALS D'AVAUACIÓ

Full-or-part-time: 54h

Theory classes: 4h

Self study: 50h

GRADING SYSTEM

BIBLIOGRAPHY

Basic:

- Hernández Muñoz, Aurelio. Depuración y desinfección de aguas residuales. 5a ed. rev. y ampl. Madrid: Colegio de Ingenieros de Caminos, Canales y Puertos, 2001. ISBN 8438001904.
- Davis, M. L.; Cornwell, D. A. Introduction to environmental engineering. 5th ed. New York: McGraw-Hill, 2013. ISBN 9780071326247.
- McCabe, W. L.; Smith, J. C.; Harriott, P. Operaciones unitarias en ingeniería química. 7ª ed. Madrid: McGraw-Hill, 2007. ISBN 9789701061749.
- Bueno, J. L.; Sastre, H. L.; Lavin A. G. Contaminación e ingeniería ambiental. Vol. 2, Contaminación atmosférica. Oviedo: F.I.C.Y.T., 1997. ISBN 8492313137.
- Bueno, J. L.; Sastre, H. L.; Lavin A. G. Contaminación e ingeniería ambiental. Vol. 3, Contaminación de las aguas. Oviedo: F.I.C.Y.T., 1997. ISBN 8492313229.
- Masters, G. M. Introducción a la ingeniería medioambiental [on line]. 3ª ed. Madrid: Prentice-Hall, 2008 [Consultation: 31/07/2020]. Available on: http://www.ingebook.com/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=3884. ISBN 9788483224441.
- Peavy, H. S.; Rowe, D. R.; Tchobanoglous, G. Environmental engineering. Madrid: McGraw-Hill, 1985. ISBN 0070491348.
- Sincero, A. P.; Sincero, G. A. Environmental engineering: a design approach. New York: Prentice Hall, 1996. ISBN 0024105643.
- Ramalho, R. S. Tratamiento de aguas residuales. Barcelona: Reverté, 1996. ISBN 8429179755.
- Henry, J. G. ; Heinke, G. W. Ingeniería ambiental. México: Prentice-Hall, 1999. ISBN 9701702662.
- Benítez, J. Process engineering and design for air pollution control. Englewood Cliffs: Prentice Hall, 1993. ISBN 0137232144.
- Tchobanoglous, George; Burton, Franklin L. Ingeniería de aguas residuales : tratamiento, vertido y reutilización. 3a ed. Madrid: McGraw-Hill, cop. 1995. ISBN 8448116070.

Complementary:

- Capó Martí, M. A. Principios de ecotoxicología: diagnóstico, tratamiento y gestión del medio ambiente. Madrid: McGraw-Hill Interamericana, 2002. ISBN 8448136721.
- Noyes, R., ed. Unit operations in environmental engineering. Park Ridge: Noyes Publications, 1994. ISBN 0815513437.
- Orozco Barrenetxea, C., i altres. Contaminación ambiental: una visión desde la química. Madrid: International Thomson, 2003. ISBN 8497321782.
- 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. Perry's chemical engineers' handbook [CD-ROM]. New York: McGraw-Hill, 1999. ISBN 0071344128.
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- Wark, K.; Warner, C. F. Contaminación del aire: origen y control. México: Noriega, 1990. ISBN 9681819543.
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- Querol i Noguera, J. M. Manual de mesurament i avaluació del soroll. Barcelona: Generalitat de Catalunya. Departament de Medi Ambient, 1994. ISBN 8439332351.
- American Public Health Association; American Water Works Association; Water Pollution Control Federation. Métodos normalizados para el análisis de aguas potables y residuales. Madrid: Diaz de Santos, 1992. ISBN 8479780312.
- Henze, M., i altres. Wastewater treatment: biological and chemical processes. 3rd ed. Berlin: Springer, 2002. ISBN 3540422285.
- Marín Galvín, R. Análisis de aguas y ensayos de tratamiento: principios y aplicaciones. Barcelona: GPE, 1995. ISBN 8486052203.