Course guide
330223 - TCO2 - Complementary Technologies II

Last modified: 04/05/2023

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

Degree:	BACHELOR'S DEGREE IN ICT SYSTEMS ENGINEERING (Syllabus 2010). (Compulsory subject).

Academic year: 2023 **ECTS Credits:** 6.0 **Languages:** Catalan

LECTURER

Coordinating lecturer:	Vila Marta, Sebastian
Others:	Bonet Dalmau, Jordi Pala Schonwalder, Pere Soler Conde, Marc Antoni Vila Marta, Sebastian

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. Connections of basic aspects of complementary technologies in the ICT environment with the objective of acquiring a broad perspective of the technology applied to engineering.

Transversal:
2. ENTREPRENEURSHIP AND INNOVATION - Level 2. Taking initiatives that give rise to opportunities and to new products and solutions, doing so with a vision of process implementation and market understanding, and involving others in projects that have to be carried out.
3. SUSTAINABILITY AND SOCIAL COMMITMENT - Level 2. Applying sustainability criteria and professional codes of conduct in the design and assessment of technological solutions.
4. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 2. Using strategies for preparing and giving oral presentations. Writing texts and documents whose content is coherent, well structured and free of spelling and grammatical errors.
5. TEAMWORK - Level 2. Contributing to the consolidation of a team by planning targets and working efficiently to favor communication, task assignment and cohesion.
6. EFFECTIVE USE OF INFORMATI0N RESOURCES - Level 2. Designing and executing a good strategy for advanced searches using specialized information resources, once the various parts of an academic document have been identified and bibliographical references provided. Choosing suitable information based on its relevance and quality.
7. THIRD LANGUAGE. Learning a third language, preferably English, to a degree of oral and written fluency that fits in with the future needs of the graduates of each course.

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

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STUDY LOAD

Type	Hours	Percentage
Hours large group	36,0	24.00
Self study	88,0	58.67
Hours small group	26,0	17.33

Total learning time: 150 h

CONTENTS

(ENG) TEM

Description:
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Full-or-part-time: 26h
Theory classes: 2h
Laboratory classes: 8h
Self study : 16h

(ENG)

Description:
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Full-or-part-time: 26h
Theory classes: 2h
Laboratory classes: 8h
Self study : 16h

(ENG) TEMA 5:

Description:
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Full-or-part-time: 24h
Theory classes: 12h
Self study : 12h

(ENG) TEMA 7: Realització d'un mini projecte i la seva presentació en un workshop

Description:
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Full-or-part-time: 74h
Theory classes: 28h
Self study : 46h

ACTIVITIES

(ENG) ACTIVITAT 3: TALLER

Related competencies :
. Connections of basic aspects of complementary technologies in the ICT environment with the objective of acquiring a broad perspective of the technology applied to engineering.
05 TEQ N2. TEAMWORK - Level 2. Contributing to the consolidation of a team by planning targets and working efficiently to favor communication, task assignment and cohesion.
03 TLG. THIRD LANGUAGE. Learning a third language, preferably English, to a degree of oral and written fluency that fits in with the future needs of the graduates of each course.
06 URI N2. EFFECTIVE USE OF INFORMATI0N RESOURCES - Level 2. Designing and executing a good strategy for advanced searches using specialized information resources, once the various parts of an academic document have been identified and bibliographical references provided. Choosing suitable information based on its relevance and quality.
04 COE N2. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 2. Using strategies for preparing and giving oral presentations. Writing texts and documents whose content is coherent, well structured and free of spelling and grammatical errors.

Full-or-part-time: 128h
Theory classes: 44h
Laboratory classes: 16h
Self study: 68h

(ENG) ACTIVITAT 5: TREBALLS DIRIGITS

Related competencies :
04 COE N2. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 2. Using strategies for preparing and giving oral presentations. Writing texts and documents whose content is coherent, well structured and free of spelling and grammatical errors.

Full-or-part-time: 10h
Guided activities: 10h

name english

Related competencies :
. Connections of basic aspects of complementary technologies in the ICT environment with the objective of acquiring a broad perspective of the technology applied to engineering.
02 SCS N2. SUSTAINABILITY AND SOCIAL COMMITMENT - Level 2. Applying sustainability criteria and professional codes of conduct in the design and assessment of technological solutions.
01 EIN N2. ENTREPRENEURSHIP AND INNOVATION - Level 2. Taking initiatives that give rise to opportunities and to new products and solutions, doing so with a vision of process implementation and market understanding, and involving others in projects that have to be carried out.
03 TLG. THIRD LANGUAGE. Learning a third language, preferably English, to a degree of oral and written fluency that fits in with the future needs of the graduates of each course.

Full-or-part-time: 12h
Self study: 12h

GRADING SYSTEM

BIBLIOGRAPHY

Basic:

- Callister, William D.; Rethwisch, David G. Ciencia e ingeniería de los materiales [on line]. 2ª ed. Barcelona: Reverté, 2016 [Consultation: 10/06/2022]. Available on: https://search-ebscohost-com.recursos.biblioteca.upc.edu/login.aspx?direct=true&AuthType=ip,uid&db=nlebk&AN=2616389&site=ehost-live&ebv=EB&ppid=pp_a. ISBN 9788429172515.
- Ashby, M. F. Materials selection in mechanical design [on line]. 4th ed. Burlington: Butterworth-Heinemann, 2011 [Consultation: 10/06/2022]. Available on: https://www-sciencedirect-com.recursos.biblioteca.upc.edu/book/9781856176637/materials-selection-in-mechanical-design. ISBN 9781856176637.
- Cesarini, F.; Thompson, S. Erlang programming [on line]. Farnham: O'Reilly, 2009 [Consultation: 27/05/2022]. Available on: https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?docID=443218. ISBN 9780596518189.
- Torres Portero, Manuel; Torres Portero, Miguel Ángel. Diseño e ingeniería electrónica asistida con Protel DXP. Madrid: RA-MA, cop. 2004. ISBN 8478976183.

RESOURCES

Other resources:
Own notes
Presentations of the different topics accessible from Atenea and / or OpenCouseWare.