

330053 - I - Introduction to Computing

Coordinating unit:	330 - EPSEM - Manresa School of Engineering
Teaching unit:	750 - EMIT - Department of Mining, Industrial and ICT Engineering
Academic year:	2019
Degree:	BACHELOR'S DEGREE IN ENERGY AND MINING RESOURCE ENGINEERING (Syllabus 2012). (Teaching unit Compulsory) BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2016). (Teaching unit Compulsory) BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2016). (Teaching unit Compulsory) BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2016). (Teaching unit Compulsory) BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory) BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory) BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory) BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)
ECTS credits:	6
Teaching languages:	Catalan

Teaching staff

Coordinator:	Vives Pons, Jordi
Others:	Esteve Cusine, Jordi

Degree competences to which the subject contributes

Specific:

1. (ENG) Coneixements fonamentals sobre la utilització i la programació dels ordinadors.
2. (ENG) Sistemes operatius, bases de dades i programes informàtics amb aplicació en enginyeria.

Transversal:

3. 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.
4. 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.
5. EFFECTIVE USE OF INFORMATION RESOURCES - Level 1. Identifying information needs. Using collections, premises and services that are available for designing and executing simple searches that are suited to the topic.
6. SELF-DIRECTED LEARNING - Level 1. Completing set tasks within established deadlines. Working with recommended information sources according to the guidelines set by lecturers.

Learning objectives of the subject



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Study load

Total learning time: 150h	Hours large group:	30h	20.00%
	Hours medium group:	0h	0.00%
	Hours small group:	30h	20.00%
	Guided activities:	0h	0.00%
	Self study:	90h	60.00%

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Content

(ENG) 1. Introducció a la programació (4 setmanes)

Degree competences to which the content contributes:

(ENG) 2. Tipus de dades nadius i llibreria (6 setmanes)

Degree competences to which the content contributes:

(ENG) 3. Orientació a objectes i mòduls (5 setmanes)

Degree competences to which the content contributes:

(ENG) Tema 4. Strings

Degree competences to which the content contributes:

(ENG) Tema 5. Llistes

Degree competences to which the content contributes:

(ENG) Tema 6. Esquemes de tractament seqüencial

Degree competences to which the content contributes:

(ENG) Tema 7. Mòduls i fitxers

Degree competences to which the content contributes:

(ENG) Tema 8. Tuples

Degree competences to which the content contributes:

(ENG) Tema 9. Diccionaris

Degree competences to which the content contributes:

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Planning of activities

(ENG) ACTIVITAT 1: CLASSE EXPOSITIVA	Hours: 12h Theory classes: 12h
(ENG) ACTIVITAT 2: CLASSE DE PROBLEMES	Hours: 12h Theory classes: 12h
(ENG) ACTIVITAT 3: CLASSE DE LABORATORI	Hours: 41h Laboratory classes: 26h Self study: 15h
(ENG) ACTIVITAT 4: ESTUDI DE CONTINGUTS	Hours: 20h Self study: 20h
(ENG) ACTIVITAT 5: REALITZACIÓ D'EXERCICIS	Hours: 25h Self study: 25h
(ENG) ACTIVITAT 6: PROJECTE	Hours: 28h Theory classes: 4h Laboratory classes: 4h Self study: 20h
(ENG) ACTIVITAT 7: EXAMEN	Hours: 12h Theory classes: 2h Self study: 10h

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Bibliography

Basic:

Downey, A. Python for software design: how to think like a computer scientist. Cambridge: Cambridge University Press, 2009. ISBN 9780521725965.

Pilgrim, M. Dive into Python [on line]. New York: Apress, 2004 [Consultation: 30/06/2017]. Available on: <<http://www.diveintopython3.net/>>. ISBN 1590593561.

Guzdial, M.; Ericson, B. Introduction to computing & programming in Python: a multimedia approach. 2nd ed. Upper Saddle River: Pearson/ Prentice Hall, 2010. ISBN 9780136060239.