

330067 - SEL - Electronic Systems

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 CHEMICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory) BACHELOR'S DEGREE IN MECHANICAL 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 ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory) BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2016). (Teaching unit Compulsory) BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2016). (Teaching unit Compulsory) BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2016). (Teaching unit Compulsory)
ECTS credits:	6
Teaching languages:	Catalan

Teaching staff

Coordinator: VICTOR BARCONS XIXONS

Degree competences to which the subject contributes

Specific:

1. (ENG) Coneixement i utilització de la teoria de circuits.
2. (ENG) Coneixement dels fonaments de l'electrònica.

Transversal:

3. TEAMWORK - Level 2. Contributing to the consolidation of a team by planning targets and working efficiently to favor communication, task assignment and cohesion.
4. EFFECTIVE USE OF INFORMATION 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.
5. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.

Learning objectives of the subject

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Study load

Total learning time: 150h	Hours large group:	45h	30.00%
	Hours medium group:	0h	0.00%
	Hours small group:	15h	10.00%
	Guided activities:	0h	0.00%
	Self study:	90h	60.00%

Content

(ENG) 1. INTRODUCCIÓ ALS COMPONENTS ELECTRÒNICS	Learning time: 26h Theory classes: 8h Laboratory classes: 2h Self study : 16h
(ENG) 2. CONCEPTES BÀSICS D'ELECTRÒNICA ANALÒGICA	Learning time: 34h Theory classes: 10h Laboratory classes: 4h Self study : 20h
(ENG) 3. CONCEPTES BÀSICS D'ELECTRÒNICA DIGITAL	Learning time: 51h Theory classes: 15h Laboratory classes: 6h Self study : 30h
(ENG) 4. CONVERTIDORS A/D I D/A	Learning time: 39h Theory classes: 12h Laboratory classes: 3h Self study : 24h

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Planning of activities

(ENG) 1. INTRODUCCIÓ AL LABORATORI D'ELECTRÒNICA	Hours: 45h Laboratory classes: 15h Self study: 30h
(ENG) 2. PRÀCTIQUES DE LABORATORI DE SISTEMES ELECTRÒNICS	Hours: 27h Laboratory classes: 2h Self study: 25h
(ENG) 3. PROVA ESCRITA	Hours: 18h Theory classes: 1h Self study: 17h
(ENG) 4. PROVA ESCRITA	Hours: 15h Theory classes: 1h Guided activities: 14h

Bibliography

Basic:

Apunts realitzats pels professors.

Frenzel, Louis E. Electronics explained: the new systems approach to learning electronics [on line]. Burlington: Newnes, 2010 [Consultation: 31/05/2019]. Available on: <https://discovery.upc.edu/iii/encore/record/C__Rb1425095?lang=cat>. ISBN 1856177009.

Complementary:

Kybett, H.; Boysen, E. All new electronics self-teaching guide. 3rd ed. Indianapolis: Wiley, 2008. ISBN 9780470289617.

Trzynadlowski, Andrzej M. Introduction to modern power electronics. 2nd ed. Hoboken: Wiley, 2010. ISBN 9780470401033.

Others resources: