

330252 - DESP - Electronic Design Power 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 INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2016). (Teaching unit Optional)
ECTS credits:	6
Teaching languages:	Catalan

Teaching staff

Coordinator: INMACULADA MARTINEZ TEIXIDOR

Others: Delis Ramos, Francisco Manuel

Degree competences to which the subject contributes

Specific:

1. (ENG) Coneixement aplicat de convertidors de potència.
2. (ENG) Capacitat per a dissenyar sistemes electrònics de potència.
3. (ENG) Coneixement per desenvolupar el modelat i simulació de sistemes.

Transversal:

4. 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.
5. 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.
6. 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.

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) Títol contingut 1: CONVERTIDORS CONTINUA-CONTINUA	Learning time: 50h Theory classes: 15h Laboratory classes: 5h Self study : 30h
(ENG) Títol contingut 2: CONVERTIDORS CONTINUA-ALTERNA	Learning time: 50h Theory classes: 15h Laboratory classes: 5h Self study : 30h
(ENG) Títol contingut 3: CONVERTIDORS ALTERNA-CONTINUA	Learning time: 50h Theory classes: 15h Laboratory classes: 5h Self study : 30h

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Planning of activities

(ENG) TÍTOL DE L'ACTIVITAT 1: SESSIÓ EXPLICATIVA	Hours: 1h Laboratory classes: 1h
(ENG) TÍTOL DE L'ACTIVITAT 2: PRÀCTIQUES DE LABORATORI DE SISTEMES DE POTÈNCIA	Hours: 49h Laboratory classes: 14h Self study: 35h
(ENG) TÍTOL DE L'ACTIVITAT 3: PROVA ESCRITA	Hours: 16h Theory classes: 2h Self study: 14h
(ENG) TÍTOL DE L'ACTIVITAT 4: PROVA ESCRITA	Hours: 16h Theory classes: 2h Self study: 14h

Bibliography

Basic:

Ballester Portillo, Eduard ; Piqué, Robert. Electrónica de potencia. Barcelona: Marcombo, 2011. ISBN 9788426716699.

Complementary:

Rashid, M. H. Electrónica de potencia : circuitos, dispositivos y aplicaciones. 3a ed. México: Prentice-Hall, 2004. ISBN 9702605326.

Hart, Daniel W. Electrónica de potencia. Madrid: Prentice-Hall, 2001. ISBN 8420531790.

Mohan, Ned ; Undeland, Tore M. ; Robbins, Willimas P. Power electronics: converters, applications and design. 3rd ed. New York: John Wiley & Sons, 2003. ISBN 0471429082.

Others resources: