

340110 - ACEL-E6009 - Electric Drives

Coordinating unit:	340 - EPSEVG - Vilanova i la Geltrú School of Engineering		
Teaching unit:	709 - EE - Department of Electrical Engineering		
Academic year:	2019		
Degree:	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 Optional) BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)		
ECTS credits:	6	Teaching languages:	Catalan

Teaching staff

Coordinator:	Pere Andrada Gascón
Others:	Marcel Torrent Burgués

Prior skills

It is recommended to have attended Electric Machines I and Electric Machines II

Degree competences to which the subject contributes

Specific:

- C. CE20. Knowledge of machine controlling and electrical operations and its applications.
- 4. CE34. Ability to design electric systems and systems of traction in vehicles.

Transversal:

- 2. SUSTAINABILITY AND SOCIAL COMMITMENT - Level 3. Taking social, economic and environmental factors into account in the application of solutions. Undertaking projects that tie in with human development and sustainability.
- 3. EFFECTIVE USE OF INFORMATION RESOURCES - Level 3. Planning and using the information necessary for an academic assignment (a final thesis, for example) based on a critical appraisal of the information resources used.

Learning objectives of the subject

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%

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Content

(ENG) Tema 1.- Generalitats sobre accionaments elèctrics	<p>Learning time: 20h</p> <p>Theory classes: 4h Practical classes: 2h Laboratory classes: 4h Self study : 10h</p>
(ENG) Tema 2.- Accionaments elèctrics de corrent continu	<p>Learning time: 39h</p> <p>Theory classes: 8h Practical classes: 2h Laboratory classes: 4h Self study : 25h</p>
(ENG) Tema 3.- Principis generals dels accionaments elèctrics de corrent altern	<p>Learning time: 16h</p> <p>Theory classes: 4h Practical classes: 2h Self study : 10h</p>
(ENG) Tema 4.- Accionaments elèctrics de corrent altern amb motors asíncrons	<p>Learning time: 43h</p> <p>Theory classes: 6h Practical classes: 4h Laboratory classes: 4h Guided activities: 4h Self study : 25h</p>
(ENG) Tema 5.- Accionaments elèctrics de corrent altern amb motors síncrons	<p>Learning time: 23h</p> <p>Theory classes: 4h Practical classes: 2h Laboratory classes: 2h Self study : 15h</p>

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Bibliography

Basic:

Boldea, I.; Nasar S.A. Electric drives. 2nd ed. Boca Raton [etc.]: CRC Press, 2006. ISBN 9780849342201.

Leonhard, W. Control of electrical drives. 3rd ed. Berlin [etc.]: Springer, 2001. ISBN 3540418202.

Crowder, Richard. Electric drives and electromechanical systems [on line]. Amsterdam, (etc.): Butterworth-Heinemann, 2006 [Consultation: 07/10/2014]. Available on: <<http://www.sciencedirect.com/science/book/9780750667401>>. ISBN 0750667400.

Dubey, Gopal K. Fundamentals of electrical drives. 2nd ed. Pangbourne: Pangbourne, 2001. ISBN 084932422X.

Sul, Seung-Ki. Control of electric machine drive system [Rekurs electrònic] [on line]. Oxford, Hoboken, NJ: IEEE Press, John Wiley & Sons, 2011 [Consultation: 29/03/2016]. Available on: <<http://onlinelibrary.wiley.com/book/10.1002/9780470876541>>. ISBN 9780470876541.

Fraile Mora, Jesús. Accionamientos eléctricos. Madrid: Ibergarceta publicaciones, 2016. ISBN 9788416228492.