Last update: 28-05-2018

340109 - SIEP-E6O09 - Electrical Power Systems

Coordinating unit: 340 - EPSEVG - Vilanova i la Geltrú School of Engineering

Teaching unit: 709 - EE - Department of Electrical Engineering

Academic year: 2018

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: Enric Ferrer i Bardem

Degree competences to which the subject contributes

Specific:

1. CE24. Knowledge of electrical power systems and its applications.

Transversal:

2. 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.
3. 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

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: Components i modelat d'un Sistema Elèctric de Potència	Learning time: 12h Theory classes: 2h 30m Guided activities: 2h Self study : 7h 30m
(ENG) Tema 2: Estudi de defectes	Learning time: 34h Theory classes: 8h Practical classes: 2h Laboratory classes: 2h Guided activities: 2h Self study : 20h
(ENG) Tema 3: Regulació de la tensió	Learning time: 27h Theory classes: 6h Practical classes: 2h Laboratory classes: 2h Guided activities: 2h Self study : 15h
(ENG) Tema 4: Topologia i Matrius de Xarxa	Learning time: 18h 30m Theory classes: 5h Laboratory classes: 1h 30m Guided activities: 2h Self study : 10h
(ENG) Tema 5: Estudis de Flux de Càrregues	Learning time: 36h Theory classes: 10h Practical classes: 2h Laboratory classes: 2h Guided activities: 2h Self study : 20h

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(ENG) Tema 6: Operació econòmica de Sistemas de Potència	Learning time: 22h 30m Theory classes: 6h Practical classes: 1h 30m Guided activities: 2h Self study : 13h

Bibliography

Basic:

Grainger, John J.; Stevenson, William D. Análisis de sistemas de potencia. México [etc.]: Mc Graw-Hill, 1996. ISBN 9701009088.

Barrero, Fermín. Sistemas de energía eléctrica. Madrid: Thomson, 2004. ISBN 8479322835.

Gómez Expósito, Antonio... [et al.]. Sistemas eléctricos de potencia : problemas y ejercicios resueltos. Madrid: Prentice Hall, 2003. ISBN 8420535583.

Nasar, Syed A. Sistemas eléctricos de potencia. México, [etc.]: McGraw-Hill, 1991. ISBN 9684227973.

Zamora Belver, Mª inmaculada... [et al.]. Simulación de sistemas eléctricos. Madrid [etc.]: Prentice Hall, 2005. ISBN 8420548081.