

820244 - AEP - Power Electronics Applications

Coordinating unit: 295 - EEBE - Barcelona East School of Engineering
 Teaching unit: 710 - EEL - Department of Electronic Engineering
 Academic year: 2015
 Degree: BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
 BACHELOR'S DEGREE IN ENERGY ENGINEERING (Syllabus 2009). (Teaching unit Optional)
 BACHELOR'S DEGREE IN ENERGY ENGINEERING (Syllabus 2009). (Teaching unit Optional)
 BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
 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 2009). (Teaching unit Optional)
 ECTS credits: 6 Teaching languages: Spanish

Teaching staff

Coordinator: MANUEL ROMÁN LUMBRERAS
 Others: MANUEL ROMÁN LUMBRERAS

Degree competences to which the subject contributes

Transversal:

1. 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.

Learning objectives of the subject

Study load

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|---------------------------|---------------------|-----|--------|
| 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

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|---|---|
| (ENG) -Àreas de aplicación de la Electrónica de Potencia | Learning time: 6h Theory classes: 2h Self study : 4h |
| (ENG) -Estabilizadores/reguladores de tensión y acondicionadores de red eléctrica | Learning time: 15h Theory classes: 4h Laboratory classes: 3h Self study : 8h |
| (ENG) -Sistemas de alimentación ininterrumpida (S.A.I.) | Learning time: 15h Theory classes: 4h Laboratory classes: 3h Self study : 8h |
| (ENG) -Fuentes de alimentación | Learning time: 15h Theory classes: 4h Laboratory classes: 3h Self study : 8h |
| (ENG) -La potencia en los sistemas eléctricos | Learning time: 12h Theory classes: 4h Self study : 8h |
| (ENG) -Compensación estática de energía reactiva y armónicos | Learning time: 24h Theory classes: 8h Self study : 16h |

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|---|---|
| (ENG) -Control de máquinas eléctricas | Learning time: 51h Theory classes: 15h Laboratory classes: 6h Self study : 30h |
| (ENG) -Otras aplicaciones de la electrónica de potencia | Learning time: 12h Theory classes: 4h Self study : 8h |

Bibliography

Basic:

Mohan, Ned; Undeland, Tore M.; Robbins, William P. Power electronics : converters, applications, and design. 2nd ed. New York [etc.]: Wiley, 1995. ISBN 0471305766.

Complementary:

Bose, Bimal K. Power electronics and motor drives : recent advances and trends. Oxford: Academic, 2006. ISBN 0120884054.

Others resources: