

820142 - ACIE - Industrial Automation and Communications

Coordinating unit:	295 - EEBE - Barcelona East 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 Optional) BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
ECTS credits:	6
Teaching languages:	Catalan

Teaching staff

Coordinator:	DANIEL MONTESINOS MIRACLE
Others:	MIGUEL ANGEL SAIGI GRAU

Degree competences to which the subject contributes

Specific:

1. Understand the basics of production and manufacturing systems.
2. Understand machine control and electric drives and their applications.
3. Understand the fundamentals of automatic control methods.
4. Understand automatic regulation and control techniques and their application to industrial automation.

Transversal:

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.
9. 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.
10. ENTREPRENEURSHIP AND INNOVATION - Level 3. Using knowledge and strategic skills to set up and manage projects. Applying systemic solutions to complex problems. Devising and managing innovation in organizations.
13. 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.

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) Introducció a l'automatització industrial

Degree competences to which the content contributes:

(ENG) Filosofia i aplicació de l'automat programable

Degree competences to which the content contributes:

(ENG) Introducció a la programació d'automats

Degree competences to which the content contributes:

(ENG) Introducció al GRAFCET

Degree competences to which the content contributes:

(ENG) Pantalles d'operador. Programes SCADA. Xarxes d'automats

Degree competences to which the content contributes:

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Bibliography

Basic:

Bouteille, D. [et al.]. Los automatismos programables. Rueil-Malmaison: CITEF, 1991. ISBN 2907314149.

Bouteille, N. [et al.]. Le GRAFCET. Toulouse: Cépaduès, 1992. ISBN 2-85428-307-4.

Boix i Aragonès, O., Saigí i Grau, M., Zabaleta i Alaña, F. Automatismes elèctrics programables. Barcelona: Edicions UPC, 1993. ISBN 8476533055.

Piedrafita Moreno, R. Ingeniería de la automatización industrial. 2ª ed. Paracuellos de Jarama: Ra-Ma, 2004. ISBN 8478976043.