Last update: 01-08-2019

330111 - AA - Advanced Automation

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 2016). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)

ECTS credits: 6 Teaching languages: Catalan

Teaching staff

Coordinator: TERESA ESCOBET CANAL

Degree competences to which the subject contributes

Specific:

1. (ENG) Capacitat per a dissenyar sistemes de control i automatització.

2. (ENG) Coneixements de principis i aplicacions dels sistemes robotitzats.

Transversal:

3. 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.
4. 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.
5. 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.

Learning objectives of the subject

Study load

Total learning time: 150h	Hours large group:	30h	20.00%
	Hours medium group:	0h	0.00%
	Hours small group:	30h	20.00%
	Guided activities:	0h	0.00%
	Self study:	90h	60.00%

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Content

(ENG) 1. Introducció als sistemes avançats d'automatització industrial	Learning time: 4h Theory classes: 2h Self study : 2h

Description:
ENG

(ENG) 2. Els sistemes d'esdeveniments discrets i el PLC	Learning time: 58h Theory classes: 11h Laboratory classes: 13h Self study : 34h

Description:
ENG

(ENG) 3. Control PID en aplicacions industrials	Learning time: 25h Theory classes: 5h Laboratory classes: 5h Self study : 15h

Description:
ENG

ENG. 4. Supervisió	Learning time: 32h Theory classes: 6h Laboratory classes: 6h Self study : 20h

Description:
ENG

ENG. 5. Seguretat en les instal·lacions automatitzades	Learning time: 32h Theory classes: 6h Laboratory classes: 6h Self study : 20h

Description:
content english

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Planning of activities

(ENG) 1. PRÀCTIQUES	Hours: 60h Laboratory classes: 30h Self study: 30h
(ENG) 2. PROVES ESCRITES	Hours: 26h Theory classes: 6h Self study: 20h
ENG. 3. PROVA PRÀCTICA	Hours: 13h Theory classes: 3h Self study: 10h

Bibliography

Basic:

Sanchis, Robert; Ariel Romero, Julio; Vicente Ariño, Carlos. Automatización industrial [on line]. Castelló de la Plana: Publicacions de la Universitat Jaume I, 2010 [Consultation: 15/05/2017]. Available on: <http://hdl.handle.net/10234/24182>. ISBN 9788469309940.

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

Fu, K. S.; González, R. C.; Lee, C. S. G. Robótica: control, detección, visión e inteligencia. Madrid: McGraw-Hill, 1988. ISBN 8476152140.

Others resources: