

330068 - CIA - Industrial Control and 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 MECHANICAL ENGINEERING (Syllabus 2016). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2016). (Teaching unit Compulsory)
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 Compulsory)
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)
ECTS credits: 6 Teaching languages: Catalan

Teaching staff

Coordinator: XAVIER GAMISANS NOGUERA
Others: ROSA ARGELAGUET - TERESA ESCOBET CANAL – GERARD MARMI

Degree competences to which the subject contributes

Specific:

1. (ENG) Coneixements sobre els fonaments d'automatismes i tècniques de control.

Transversal:

3. TEAMWORK - Level 2. Contributing to the consolidation of a team by planning targets and working efficiently to favor communication, task assignment and cohesion.
5. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.

Learning objectives of the subject

ENG



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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%

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Content

<p>(ENG) 1. INTRODUCCIÓ AL CONTROL I AUTOMATITZACIÓ INDUSTRIAL</p>	<p>Learning time: 9h Theory classes: 3h Self study : 6h</p>
<p>Description: ENG</p>	
<p>(ENG) 2. AUTOMATITZACIÓ INDUSTRIAL</p>	<p>Learning time: 51h Theory classes: 14h Laboratory classes: 10h Self study : 27h</p>
<p>Description: ENG</p>	
<p>(ENG) 3. MODELAT I ANÀLISI DE SISTEMES DINÀMICS</p>	<p>Learning time: 44h Theory classes: 14h Laboratory classes: 2h Self study : 28h</p>
<p>Description: ENG</p>	
<p>(ENG) 4. CONTROL AUTOMÀTIC</p>	<p>Learning time: 44h Theory classes: 14h Laboratory classes: 2h Self study : 28h</p>
<p>Description: ENG</p>	

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Planning of activities

(ENG) 1. PRÀCTIQUES D'AUTOMATITZACIÓ	Hours: 30h Laboratory classes: 10h Self study: 20h
(ENG) 2. PRÀCTIQUES DE SISTEMES CONTINUS	Hours: 12h Laboratory classes: 4h Self study: 8h
(ENG) 3. PROVES ESCRITES	Hours: 17h Theory classes: 4h Self study: 13h
(ENG) EXERCICIS D'APRENTATGE	Hours: 20h Self study: 20h

Bibliography

Basic:

Apunts realitzats per els professors de l'assignatura.

Nise, Norman S. Control systems engineering. 6th ed. Hoboken: John Wiley & Sons, 2011. ISBN 9780470646120.

Ogata, K. Ingeniería de control moderna [on line]. 5ª ed. Madrid: Pearson Educación, 2010 [Consultation: 18/06/2019]. Available on: <https://discovery.upc.edu/iii/encore/record/C__Rb1510172?lang=cat>. ISBN 9788483226605.

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

Medina García, J. L. ; Guadayol, J. M. La automatización en la industria química [on line]. Barcelona: Edicions UPC, 2010 [Consultation: 08/03/2018]. Available on: <<http://hdl.handle.net/2099.3/36842>>. ISBN 9788498803983.

Boix Aragonès, Oriol; Sudrià Andreu, Antoni; Bergas Jané, Joan. Automatització industrial amb GRAFCET [on line]. Barcelona: Edicions UPC, 1998 [Consultation: 08/03/2018]. Available on: <<http://hdl.handle.net/2099.3/36537>>. ISBN 8483014998.

Ogata, Katsuhiko; Dormido Canto, Sebastián; Dormido Canto, Raquel. Ingeniería de control moderna [Recurs electrònic] [on line]. 5ª ed. Madrid [etc.]: Pearson Educación, S.A, cop. 2010 Available on: <https://renoir.upc.edu/login/tipus?url=http%3A%2F%2Fwww.ingebok.com%2Fib%2FNpcd%2FIB_BooksVis%3Fcod_p_rimaria%3D1000187%26codigo_libro%3D1259>. ISBN 9788483229552.

Others resources: