

820068 - SAFI - Automatic Systems in Integrated Manufacturing

Coordinating unit: 295 - EEBE - Barcelona East School of Engineering

Teaching unit: 707 - ESAIL - Department of Automatic Control

Academic year: 2015

Degree: BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN BIOMEDICAL 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 BIOMEDICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN MECHANICAL 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: Catalan, Spanish

Teaching staff

Coordinator: Javier Gámiz

Others: Pablo Arboleda, Susana Velázquez, Joan Segura, Juan Gámiz, Sebastián Tornil

Degree competences to which the subject contributes

Specific:

1. Design automatic control systems.

Transversal:

2. 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.
3. EFFECTIVE USE OF INFORMATION RESOURCES - Level 1. Identifying information needs. Using collections, premises and services that are available for designing and executing simple searches that are suited to the topic.

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%

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Content

<p>(ENG) Tema 1: Explicar la evolución histórica de las máquinas programadas. Definir las arquitectura de un PLC y su conexión con el proceso.</p>	<p>Learning time: 16h Theory classes: 5h Laboratory classes: 1h Self study : 10h</p>
<p>(ENG) Tema 2: Razonar el campo de aplicación de un sistema de Supervisión, Control y Adquisición de Datos (Scada).</p>	<p>Learning time: 16h Theory classes: 5h Laboratory classes: 1h Self study : 10h</p>
<p>(ENG) Tema 3: Definir la arquitectura específica de un sistema Scada.</p>	<p>Learning time: 16h Theory classes: 5h Laboratory classes: 1h Self study : 10h</p>
<p>(ENG) Tema 4: Parametrizar el entorno de un sistema Scada.</p>	<p>Learning time: 16h Theory classes: 5h Laboratory classes: 1h Self study : 10h</p>
<p>(ENG) Tema 5: Diseñar la interfaz de un sistema Scada.</p>	<p>Learning time: 16h Theory classes: 5h Laboratory classes: 1h Self study : 10h</p>
<p>(ENG) Tema 6: Explicar las operaciones básicas de manipulación industrial y el uso de robots.</p>	<p>Learning time: 16h Theory classes: 5h Laboratory classes: 1h Self study : 10h</p>

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<p>(ENG) Tema 7: Explicar las configuraciones básicas y los lenguajes de programación de robots.</p>	<p>Learning time: 16h Theory classes: 5h Laboratory classes: 1h Self study : 10h</p>
<p>(ENG) Tema 8: Explicar las características de los dispositivos ópticos y de iluminación.</p>	<p>Learning time: 16h Theory classes: 5h Laboratory classes: 1h Self study : 10h</p>
<p>(ENG) Tema 9: Razonar y justificar las diferentes soluciones en sistemas de reconocimiento de patrones.</p>	<p>Learning time: 22h Theory classes: 5h Laboratory classes: 1h Self study : 16h</p>

Bibliography

Basic:

Rodríguez Penin, A. Sistemas SCADA. 3a ed. Barcelona: Marcombo, 2012. ISBN 9788426717818.

Others resources: