

330115 - AP - Production 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 Optional) BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
ECTS credits:	6
Teaching languages:	Catalan

Teaching staff

Coordinator: MARC BACARDIT SUBIRANA

Degree competences to which the subject contributes

Specific:

1. (ENG) Coneixements sobre els sistemes orientats a esdeveniments discrets.
2. (ENG) Modelatge en xarxes de Petri.
3. (ENG) Programació en softwares de simulació.

Transversal:

4. 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.
5. 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.
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.
7. THIRD LANGUAGE. Learning a third language, preferably English, to a degree of oral and written fluency that fits in with the future needs of the graduates of each course.

Learning objectives of the subject

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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%

Content

(ENG) Títol contingut 1: INTRODUCCIÓ A LES TÈCNiques DE SIMULACIÓ	Learning time: 12h Theory classes: 6h Laboratory classes: 6h
(ENG) Títol contingut 2: MODELAT DE SISTEMES ORIENTATS A ESDEVENIMENTS DISCRETS	Learning time: 54h Theory classes: 12h Laboratory classes: 12h Self study : 30h
(ENG) Títol contingut 3: PROGRAMACIÓ, DISSENY D'EXPERIMENTS I ANÀLISIS DE RESULTATS	Learning time: 84h Theory classes: 12h Laboratory classes: 12h Self study : 60h

Planning of activities

(ENG) TÍTOL DE L'ACTIVITAT 1: EXERCICIS DE SEGUIMENT	Hours: 30h Self study: 30h
(ENG) TÍTOL DE L'ACTIVITAT 2: MINIPROJECTE	Hours: 90h Laboratory classes: 30h Self study: 60h

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Bibliography

Basic:

Law, Averill M.. Simulation modeling and analysis. 4th ed. New York: McGraw-Hill, 2007. ISBN 9780071255196.

Banks J. ; Carson J. S. ; Nelson B. L. Discrete-event system simulation. 3rd ed. Upper Saddle River: Prentice-Hall, 2001. ISBN 0130887021.

Complementary:

Scheaffer R. L. ; McClave J. T. Probability and statistics for engineers. 4th ed. Belmont: Duxbury Press, 1995. ISBN 0534209645.

Barcelo, J. Simulación de sistemas discretos. Madrid: ISDEFE, 1996. ISBN 8489338124.

Kelton D. W. ; Sadowski R. P. ; Sturrock D. A. Simulation with arena. 3rd edition. Boston: McGraw-Hill, 2004. ISBN 0072856947.

Others resources: