

Centre	University College of Engineering of Vitoria-Gasteiz
Name of subject	26000 – Industrial Automation
Qualification	Degree in Industrial Electronic Engineering and Automatics
Type	Compulsory
Credits	6 ECTS
Year	3
Term(s)	2nd
Department	Systems and Automation Engineering
Language	Spanish

Outcomes / Objectives

Conventional automation systems. Sequential and concurrent. Programmable automata.

Syllabus

1. Study of GRAFCET visual techniques for designing Industrial Automation applications, as a visual tool for the design of automation projects.
2. Implementation of automation systems for control loops through the use of arithmetic operations.
3. Local control loops will be implemented with analogue signals through the use of arithmetic operations and analogue signal data acquisition operations.
4. Introduction to the knowledge and modes of application of actuators and sensors (transducers).
5. Most common actuators and sensors in the automation of industrial processes.
6. Knowledge and ability to program other families of automata.
7. Programming of Omron programmable automata.
8. Knowledge of control and data acquisition systems and their application in industrial control. Siemens and Omron SCADA systems.
9. Advanced industrial automation applications.
10. Study of SMC flexible cell.

Methodology

Teaching Method

Face-to-Face Teaching Hours

Lectures	Seminars	Classroom practice	Lab. practice	Computer sessions	Clinical practice	Workshops	Industrial workshops	Field practice
36		6	18					

Student Hours of Non Face-To-Face Activities

Lectures	Seminars	Classroom practice	Lab. practice	Computer sessions	Clinical practice	Workshops	Industrial workshops	Field practice
30			60					

Assessment System

General criteria

Clarification regarding assessment

Bibliography

Basic Bibliography

1.-Autómatas programables, Entorno y aplicaciones, Enrique Mandado Pérez y otros (Thomson)

In-depth Bibliography

1.-Programmable Logic Controllers, Fourth edition, W. Bolton (Elsevier)

2.-Ingeniería De La Automatización Industrial. 2nd edition. Ramón Piedrafita Moreno (Ra-ma)

3.-Automatización. Problemas Resueltos con Autómatas Programables, Juan Pedro y otros (Paraninfo)

Websites

- <http://moodle.ehu.es/moodle/> (on this address you will enter Moodle, where you will find class notes, presentations, summaries, practice guidelines and relevant dates for the subject)
- <http://w1.siemens.com/entry/es/es/çwww.amazon.com> (very good for purchasing in-depth publications)
- <http://www.diazdesantos.es/> (for purchasing basic bibliography)
- www.elhuyar.com (for purchasing publications in Basque)
- <http://industrial.omron.es/>