uc3m | Universidad **Carlos III** de Madrid

Automatization of industrial systems

Academic Year: (2022 / 2023)   **Review date: 05-07-2021**

Department assigned to the subject: Systems Engineering and Automation Department

Coordinating teacher: SALICHS SANCHEZ-CABALLERO, MIGUEL

Type: Electives ECTS Credits : 6.0

Year : 1 Semester : 2

OBJECTIVES
* To get to know the Automation foundations in industrial sysems.
* Capacity for dealing with simple automation projects
* To get to know the equipment usually used in industry in the automation process.

DESCRIPTION OF CONTENTS: PROGRAMME
1. Presentation of the subject and Introduction

2. Logic Systems: Logic Systems Representation. State Diagrams. Functional Diagram

3. Tecnologies. Automata Programming (Execution modes, languages programming, common elements)

4. Ladder Programming.

5. Grafcet (SFC)

6. Actuators and Sensors

LEARNING ACTIVITIES AND METHODOLOGY
Theoretical and experimental lectures, student work in the labs, individual tutorials and personal work of the student.

ASSESSMENT SYSTEM
Assistance

Programming exam at the lab

Automation project

% end-of-term-examination:	0
% of continuous assessment (assigments, laboratory, practicals…):	10

BASIC BIBLIOGRAPHY
 - Flavio Bonfatti, Paola Daniela Monari, Umberto Sampieri IEC 61131-3 Programming Methodology: Software Engineering Methods for Industrial Automated Systems, ICS Triplex, 2003
 - null International Standard IEC 61131-3., IEC, 1993