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# Sistemi di automazione

## Finalità

Provide an overview of the systems used in the automation industrial

## Programma

### AUTOMATION: ARCHITECTURE

- a) Introduction to industrial automation
- b) Automation of production processes
- c) Architectures control hardware

### REAL TIME CONTROL SYSTEMS

- a) Classification of real time systems
- b) Scheduling Algorithms
- c) Outline of hardware and software implementation of a real-time system

### ANALOG CONTROL VARIABLES

- a) The control loop and specific control
- b) Industrial Controllers: PID controller
- c) Implementation Problems of a digital controller

### PROGRAMMABLE LOGIC CONTROLLER - PLC

- a) Hardware Architecture
- b) Software Architecture
- c) PLC programming languages: data types, identifiers, constants and variables, Ladder Diagram, Function Block Diagram, Structured Text, Instruction List

### The SEQUENTIAL FUNCTIONAL CHART

- a) Introduction, rules and basic elements
- b) programming structures
- c) Examples

### INTRODUCTION OF DISCRETE EVENT SYSTEMS

### INTRODUCTION OF FUZZY LOGIC CONTROL

## Attività d'esercitazione

Laboratory exercises

## Modalità d'esame

Scritto e progetto di laboratorio

## Propedeuticità

Sistemi Multivariabili, Sistemi non lineari

## Testi consigliati

dispense fornite dal docente

manuali forniti dal docente dei PLC Siemens Logo, Siemens S7 1200 e Crouzet