

Common Course Outline
ELEI 212
PROGRAMMABLE CONTROLLERS
3 Semester Hours

The Community College of Baltimore County

Description

Programmable Controllers

Studies commonly used industrial programmable controllers and ladder logic emphasizing applications and troubleshooting of programmable controller systems; provides hands-on experience in the lab portion of the course using PLC (programmable logic controller) software. 2 lecture hours, 2 lab hours, per week.

Prerequisite: ELEI 204 or consent of the program director

Overall Course Objectives.

Upon completion of this course the student will be able to:

Describe an industrial process control situation; select the I/O field hardware to control the process; code a PLC program to control the field devices using currently popular PLC software on a workstation; download the PLC program code to a compatible programmable controller; run the program and control the process; troubleshoot the process.

Major Topics

Introduction to Programmable Controllers; Processors, the Power Supply, and Programming Devices; The PLC memory system and I/O Interaction; The Discrete I/O System; The Analog I/O System; Special Function I/O and Serial Communication Interfacing; PLC Programming Languages; The IEC 1131 Standard and Programming Language; System Programming and Implementation; PLC System Documentation; PLC Start-Up and Maintenance; System Selection Guidelines.

Course Requirements

The instructor will administer four tests (60%), lab work (30%), assignments (10%).

Other Course Information

Additional information about this course or any other Industrial electricity/electronics course may be obtained by contacting the IEE/Telecommunications program director.