



COURSE SYLLABUS

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COURSE: ELN 260 PROGRAMMABLE LOGIC CONTROLLERS

HOURS: Lecture: 3 Lab/Shop: 3 Work Exp/Clinical: 0 Credits: 4

COURSE DESCRIPTION:

This course provides a detailed study of PLC applications, with a focus on design of industrial controls using the PLC. Topics include PLC components, memory organization, math instructions, documentation, input/output devices, and applying PLCs in industrial control systems. Upon completion, students should be able to select and program a PLC system to perform a wide variety of industrial control functions.

PREREQUISITE(S): ELC 112 or ELC 131

COREQUISITE(S): None

TEXTBOOK(S) & OTHER SPECIAL REQUIREMENTS:

Open Educational Resources (OER) are listed in the course Moodle.

STUDENT LEARNING OUTCOMES:

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

1. List and describe the hardware components used in PLC systems.
2. Interpret and use Electromechanical Relay Ladder circuit.
3. Demonstrate and describe the use of various PLC instruction sets.
4. Create various simple PLC programs using the appropriate instruction set.
5. Describe the I/O section of PLC.
6. Describe the proper wiring connections for input and output devices and their corresponding modules.
7. Explain the different methods used to access the PLCs in a network environment.
8. Apply appropriate troubleshooting methods to PLCs.
9. Interface and program Human Machine Interface (Panel view, HMI).

*****Please refer to the online version of the Richmond Community College Program & Course Catalog and the Student Handbook for current academic and general information.**