

Department:

Electrical Technology

Course Description:

This course provides an introduction to programmable logic controllers (PLCs) and their industrial and commercial applications. The course will cover the fundamentals of operation, installation, and programming. This course is for students who have completed all the motor control requirements.

Course Competencies:

Upon completion of the course, the student should be able to:

1. Define, use, and explain basic PLC terminology.
2. Apply basic programming techniques for PLCs.
3. Demonstrate basic installation techniques for PLCs.

Course Content:

- A. Unit 1: Introduction to PLCs
- B. Unit 2: Basic programming
- C. Unit 3: Motor control
- D. Unit 4: Discrete I/O interfacing
- E. Unit 5: PLC timer instructions
- F. Unit 6: PLC counter instructions
- G. Unit 7: Introduction to PLC troubleshooting
- H. Unit 8: PLC troubleshooting
- I. Unit 9: Event sequencing
- J. Unit 10: Application development
- K. Unit 11: Program control instructions
- L. Unit 12: Math and data move instructions

Learning Assessments:

Course competencies will be assessed by use of unit tests, evaluation of lab work and work skills, quizzes, and a final exam.

Instructional Materials:

Lab books from the PLC trainer provided by the manufacturer.

**Guidelines for Requesting Accommodations Based on
Documented Disability or Medical Condition**

It is the intention of Highland Community College to work toward full compliance with the Americans with Disabilities Act, to make instructional programs accessible to all people, and to provide reasonable accommodations according to the law.

Students should understand that it is their responsibility to self-identify their need(s) for accommodation and that they must provide current, comprehensive diagnosis of a specific disability or medical condition from a qualified professional in order to receive services. Documentation must include specific recommendations for accommodation(s). Documentation should be provided in a timely manner prior to or early in the semester so that the requested accommodation can be considered and, if warranted, arranged.

In order to begin the process all students **must** complete the “Disabilities Self-Identification Form” at this link:
<https://highlandcc.edu/pages/disability-services>.

This form can also be accessed at the Highland Community College homepage under Students Services/Student Resources/Disability Service or by contacting the Disabilities Coordinator.