Piedmont Technical College Course Syllabus

COURSE INFORMATION

Course Prefix/Number: EEM 251

Title: Programmable Controllers

Responsible Division: Engineering and Industrial Technologies

Last Day to Withdraw from this Course: For the last date to withdraw from this course, consult the current *Student Calendar*.

Course Description:

For course, credit hour, pre-requisite(s) and co-requisite(s) information, visit the Detailed Course Information page: www.ptc.edu/courses/EEM251 .

Textbook and Other Materials:

For textbook information and additional required and/or supplemental materials, visit the college bookstore (www.ptc.edu/bookstore).

Proctored Examinations:

Proctored examinations for distance learning courses taken at non-PTC campuses may require a proctoring fee for each exam taken.

COURSE POLICIES

Course policies are available online through the *Academic Catalog* and *Student Handbook*. Visit the Course Policies page (www.ptc.edu/syllabus/policies) for a detailed list of important policies and more information.

GRADE POLICY

Detailed grading policy information can be found on the Grading Policy webpage (http://www.ptc.edu/grading-policy). Final grade appeal information is available in the *Academic Catalog* (http://www.ptc.edu/catalog/).

ACCOMMODATIONS

Accommodations for ADA:

Information is available on the Student Disability Services webpage (http://www.ptc.edu/ada).

RATIONALE

Why do I need this course?

Most machines and processes being installed in industry today are controlled by programmable logic controllers (PLC's). Due to its flexibility, the PLC is helping to modernize the older installations by replacing conventional controls. Being able to monitor and control machines and processes more closely allows industry to achieve two major goals; make a quality product more consistently and cut cost. As a student in IEE or MCT, you education would not be complete without a basic background of this technology.

PROGRAM INFORMATION

For program information including required courses, program learning outcomes, gainful employment information and advisement information, refer to the Academic Program webpage. Go to Academics (http://www.ptc.edu/academics), select your program, and then select Credentials Offered.

COURSE STUDENT LEARNING OUTCOMES

Upon successful completion of this course and/or clinical, each student will be able to:

- Interpret the symbology of a PLC diagram.
- Demonstrate the use of PLC diagnostics.
- Write basic PLC diagrams.
- Write and edit diagram documentation for PLC logic.
- Apply timer and counter instructions to a PLC diagram.

GENERAL EDUCATION COMPETENCIES

Piedmont Technical College General Education Competencies for All Graduates:

This course may address one or more of the following General Education Competencies (assessment will be stated when applicable):

Communicate effectively.

Assessment:

N/A

Apply mathematical skills appropriate to an occupation.

Assessment:

N/A

Employ effective processes for resolving problems and making decisions.

Assessment:

N/A

Demonstrate the basic computer skills necessary to function in a technological world.

Assessment:

Lab reports.

By writing programs for an elevator circuit and traffic light circuit students will better understand the use of computer systems within industrial and utility installations.

To validate proficiency in the general education competencies, students in some programs will be tested using Work Keys.