

Master Syllabus

EET 2281 - Programmable Logic Controllers

Division: Science, Mathematics and Engineering

Department: Electronics Engineering Technology

Credit Hour Total: 3.0

Lecture Hrs: 2.0 **Lab Hrs:** 2.0

Prerequisite(s): OR EET 1131 EET 1120

Date Revised: May 2016

Course Description:

Provides history of control systems and PLCs, use of number systems, ladder logic programming devices, Control I/O modules, relays, contacts, coils, and timers, counters and sequencers, fundamental PLC programming, and data transfer. Two classroom, two lab hours per week.

General Education Outcomes:

- Critical Thinking/Problem Solving

Course Outcomes:

Troubleshoot

Determine cause of problems with PLC hardware and software; and repair.

Assessment Method: Locally developed exams

Performance Criteria: 70% of exam items correct

Machine control

Develop programs for machine control.

Assessment Method: Locally developed exams

Performance Criteria: 70% of exam items correct

Ladder logic programs

Demonstrate competency in writing ladder logic programs.

Assessment Method: Locally developed exams

Performance Criteria: 70% of exam items correct

Outline:

Recall the history of control systems
Explain and describe the use of number systems
Demonstrate use of ladder logic programming devices
Employ ladder logic in control circuit design
Demonstrate fundamental PLC programming (e.g., comparators, block transfers, I/O forcing)
Use addressing to control I/O modules
Demonstrate the use of relays, contacts, coils, and timers
Demonstrate counters and sequencers
Demonstrate data transfer in PLC networks