MOORE NORMAN
TECHNOLOGY CENTER

Course Syllabus

PLC 5000

TI591

Hours : In Class 90 Clinical 0 Total 90

Description

This course covers the selection and application of Compact and ControlLogix programmable logic controllers and RsLogix 5000 software. Students will learn to program, troubleshoot input and output devices connected to the PLC and effect repairs. Basic to advanced programming of Compact and ControlLogix PLC's and Communications protocols such as EitherNet IP will be covered. Emphasis will be placed on PLC architecture, troubleshooting, and repair techniques, safety and reliability

Prerequisites

Prefer knowledge of relay logic and motor controls. Recommend Industrial Motor Control Class prior to this class.
TI 590 PLC 500

Books

Dunning, Gary. Introduction to the ControlLogix Programmable Automation Controller with Labs, Delmar/Cengage, 2013. - ISBN: 978-1111539290 (Included)

Required Supplies/Materials

1 gig flashdrive

Learning Objectives

- Understand available Control Logix controllers and their features.
- Identify I/O modules by their part numbers.
- Identify ControlLogix communication modules.
- Identify major RSLogix 5000 Software features.
- Identify RSLogix 5000 toolbars.
- Create and configure a new RSLogix 5000 project.
- Understand decimal, binary, octal and hexadecimal numbers.
- Convert from one number system to another.
- Define terms associated with ControlLogix data formatting.
- Understand task, program, and routine.
- Assign a main routine and a fault routine.
- Explain format of ControlLogix I/O tags.
- Identify the following tags: ControlLogix, local discrete and analog I/O, and remote I/O.
- Perform a digital input and output module configuration for 1768 or 1769 CompactLogix.
- Set up IP address and remote I/O and PowerFlex drives
- Establish a communications link between a computer and a programmable controller.
- Create base and alias tags, including assigning data type and configuring tag style.
- Explain AND logic, OR logic, and NOT logic.
- Determine if a PLC rung is true or false under specific conditions.
- Describe the function of normally open and closed instruction.
- Create ladder runs on paper from functional specification.
- Create ladder rungs using the RSLogix 5000 software from specification.
- Identify the TON, TOF and RTO timers.
- Configure a communications path for download.
- Add alias tags.
- Add main operand description program documentation.
- Add run comment description program documentation.
- Monitor project as it runs.

Teaching Philosophy

We believe that instructors, staff, and administrators have a shared responsibility to provide: 1) innovative course design and instruction; 2) a safe, learner-centered environment; and 3) an authentic learning experience.

Student Responsibilities

To ensure a quality and safe learning environment, students are required to follow the Post-Secondary Student Behavior policy #560. This policy can be found at www.mntc.edu/board-policies. Printed copies are available upon request.