COURSE TABLE OF CONTENTS

Allen Bradley Connected Components Workbench PLC Programming

OEM: Rockwell Automation • Duration: 6 Days (48 hrs)

COURSE MODULES & TOPICS

Module 1: Introduction to Micro800 and Connected Components Workbench

- Overview of Micro820, Micro850, Micro870 controllers
- Connected Components Workbench environment

Module 2: Variables and Data Types

- Global and local variables
- Supported data types

Module 3: Ladder Logic Fundamentals

- Contacts and coils
- Set/reset instructions
- R_TRIG and F_TRIG usage

Module 4: Timers and Counters

- TON, TOF, TP timers
- CTU, CTD, CTUD counters

Module 5: Simulation and Program Download

- Using the Micro800 simulator
- Downloading programs to controllers

Module 6: Compare, Move, and Math Instructions

- Compare instructions
- Move instructions
- Math operations

Module 7: Hands-on Lab: Conveyor Control

- Product counter implementation
- Jam alarm logic

Module 8: User-Defined Function Blocks (UDFB)

- Creating and using UDFBs

Module 9: Structured Text and Function Block Diagram

- Structured Text programming
- Function Block Diagram basics

Module 10: Analog Plug-ins and Scaling

- Configuring analog plug-ins
- Analog signal scaling

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Module 11: PID Control
- PID instruction setup
- Tuning and application

Module 12: Modbus RTU/TCP Communication
- Modbus RTU configuration
- Modbus TCP setup

Module 13: PanelView 800 Integration
- Connecting PanelView 800
- Basic HMI screen development

Module 14: Hands-on Lab: Level Control System
- PID-based level control
- UDFB and HMI integration

Module 15: PTO Motion and PLCopen Motion Control
- Axis configuration
- MC_Power, MC_Home, MC_MoveAbsolute instructions

Module 16: High-Speed Counters
- Configuring and using high-speed counters

Module 17: EtherNet/IP and Messaging
- EtherNet/IP setup
- Messaging configuration

Module 18: UDFB Libraries and Coding Standards
- Managing UDFB libraries
- Applying coding standards

Module 19: Diagnostics and Fault Handling
- Diagnostics tools
- Fault detection and handling

Module 20: Transition to ControlLogix and Studio 5000
- Moving from Micro800 to ControlLogix
- Introduction to Studio 5000 and Logix Echo

Module 21: Capstone Project: Pick-and-Place Machine
- PTO positioning implementation
- HMI integration for pick-and-place