IC 103

● ● ● Advanced 45 hours 3 modules · 21 lessons

PLCs, SCADA, OT Cybersecurity & Commissioning

Programmable control, plant networks and security — then calibration, commissioning and troubleshooting that prove the system works.

45	3	21	3,000	105	9
HOURS OF TRAINING	MODULES	LESSONS	STUDY CARDS	SCENARIOS	3D SIMULATORS

COURSE OBJECTIVES

By the end of this course you will be able to:

1. Explain PLC architecture, the scan cycle, I/O types and common programming languages (IEC 61131-3).
2. Read and troubleshoot ladder logic for lead/lag/alternate, interlocks and permissives.
3. Describe SCADA architecture, polling, Modbus and Ethernet topologies and ring recovery.
4. Apply OT cybersecurity defence-in-depth: zones, conduits, remote access and patching.
5. Plan calibration programs with as-found/as-left data and tolerance-based intervals.
6. Perform loop checks and functional tests for commissioning.
7. Document changes and maintain backups and drawings.

WHAT YOU WILL LEARN

PLCs & HMIs
Hardware, the scan, logic, alarms and operator screens.

Control programming
Lead-lag, sequences, interlocks and filter-backwash logic.

SCADA & networks
Topologies, protocols, radio and cellular telemetry.

OT cybersecurity
Zones and conduits, access control and incident response basics.

Calibration programs
Standards, uncertainty, drift and intervals.

Commissioning & troubleshooting
Loop checks, FAT/SAT and systematic fault finding.

MAJOR TOPICS COVERED

Module 8	PLCs, HMIs & Control Programming	7 lessons
Module 9	SCADA, Telemetry, Networks & OT Cybersecurity	7 lessons
Module 10	Calibration Programs, Commissioning & Troubleshooting	7 lessons

COURSE HIGHLIGHTS

- **45 hours** of structured, self-paced instruction with active-time tracking.
- **9 interactive 3D simulators** — rotate, explode and cut away real equipment, then change the controls and watch the numbers respond.
- **105 field scenarios** with background, decision points and worked answers.
- **3,000 study cards**, 21 printable checklists and hands-on calculators.
- **Module quizzes** and a completion certificate with a verification code.

WHO IT'S FOR

I&C technicians, controls specialists and plant staff who maintain PLC/SCADA systems and commission new equipment.

BEFORE YOU START

IC 101 and IC 102 recommended.

WHERE TO NEXT

ELEC 103 or MECH 104 (cross-training).

Start learning Create a free account at tryetech.com, open **Instrumentation & Controls** and begin with Module 8.