# Industrial Automation Using PLC Course

## Venue Information

**Venue:** London UK

**Place:**

**Start Date:** 2026-10-20

**End Date:** 2026-10-24

## Course Details

**Net Fee:** £4750.00

**Duration:** 1 Week

**Category ID:** EAPET

**Course Code:** EAPET-32

## Syllabus

### Course Description

This course is aimed at benefiting those engineers and technicians who need to design, commission and maintain automation and process control systems using Programmable Logic Controllers (PLC's).

The objective of the course is to provide the practicing engineer and technician with the necessary tools to design, specify, configure, install and commission a complete PLC system. The main challenge today is for engineers and technicians to make optimum use of their plant and equipment through automation and process control techniques.

The result of effective automation and process control are products, which cost less and have more controllable quality levels. The PLC is one of the key components in achieving this productivity improvement. PLCs in the past have differed widely in their programming and hardware structure. However there has been a rapid convergence today between different systems from the different manufacturers.

hardware requirements.

## Course Objective

The issues that will be discussed are:

- The basic components of a PLC system.
- The fundamental operating principles behind using a PLC.
- Good installation practice.
- Discussion on programming PLCs.
- The PLC as part of a complete Local Area Network.
- The PLC and the operator interface.
- High Security PLC systems.
- Guidelines to troubleshooting of PLCs.
- PLC project specification.

## Course Outline

A brief review of each of the chapters in this course is given below. It should be noted that the contents are broken into four main divisions.

### Review of the Programmable Logic Controller

This serves to introduce the PLC and review the fundamentals of PLCs. This comprises:

#### Introduction

An introduction to the objectives and summary of the contents of the manual and the essentials of a PLC and related systems.

#### Fundamentals of PLC's

The specific details of a typical PLC examined mainly from a hardware point of view.

#### Programming Techniques

The typical software used on a PLC, comparing different techniques - similarities and differences.

#### Good Installation Practice

Attention to good installation practice of a PLC system results in an effective system.

#### Data Communications

The RS-232/RS-485/Ethernet interfaces and software protocols are considered.

#### Operator Interfaces

Overall consideration from a design point of view and the interface to the PLC.

#### High Security PLC Systems

PLCs used in an ultra reliable situation.

#### Troubleshooting

Problem Isolation, Troubleshooting and Maintenance. An examination of all aspects of identifying and locating problems of a PLC system but from a hardware and software point of view.

### The Project

No matter how small or large a PLC system is, there is a methodical way of putting the system together to minimize the overall costs and to achieve an effective control system.

#### Functional Specification of the System

A detailed description of the hardware and software required for implementing the system.

### Appendices

- APPENDIX "A" Numbers and Data
- APPENDIX "B" Ladder diagram instructions
- APPENDIX "C" PLC Programming Examples
- APPENDIX "D" PLC applications
- APPENDIX "E" Combined Glossary of Terms