Programmable Logic Controllers (PLCs) and Embedded Systems Bootcamp

SKILLS FOR LIFE | Lakes College West Cumbria

Course Aim

Many companies use programmable logic controllers and embedded systems to run industrial facilities such as food manufacturing & processing, chemical & pharmaceutical production plants, low carbon power generation plants including wind turbines, paper production, and nuclear processing and decommissioning.

These systems require specialist technicians and engineers to commission, design code and maintain them. The aim of this course is to enable learners to develop knowledge and an understanding of programmable controller systems, with a particular reference to local and regional applications and demand within Cumbria.

The course develops a fundamental understanding of programmable controllers to then enable the learners to apply this knowledge when commissioning, adapting and maintaining automation systems.
The course will also provide learners with an opportunity to develop hands on skills with programming and fault finding programmable controller devices.

Course Learning Outcomes

- Understand programming techniques
- Be able to program embedded devices in a system
- Be able to program Programmable Logic Controllers (PLCs)
- Identify different types of PLCs and their connections
- Understand commercial testing and validation strategies
- Fault find on PLC systems

Schedule

Evening classes (5.30pm - 8pm) starting Tuesday 8th November 2022, completed Tuesday 23rd March 2023

Course Content

- Interpret the basic architectures of controller devices
- Explain the conversion of high level programming languages to machine code and then to binary/hexadecimal.
- Apply logic functions derived from Boolean operations
- Explain the use of flow charts, modules, subroutines and comments in programming.
- Write a program for an embedded device
- Be able to program Programmable Logic Controllers (PLCs)
- Model a PLC program that demonstrates understanding of ladder logic.
- Construct ladder code to represent a latching function
- Load and operate a PLC program
- Understand commercial testing and validation
- Wire up a PLC system and interface to a plant
- Carry out PLC fault finding activities

Employer Costs

- Large employer at 30% contribution. This is fantastic value for money with a 70% reduction.
- Micro, Small and Medium employer at 10%. This is fantastic value for money with a 90% reduction.
- Free licence for Autodesk package.

Learner Costs

The training is free if you meet the following criteria:

- Working, recently unemployed within the last 12 months or looking for work e.g coming back after a career break
- Resident in the UK and legally entitled to work in the Uk
- Aged 19 or over

Scan the QR code, visit our website (www.lcwc.ac.uk) or email admissions@lcwc.ac.uk for more information!

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