INDIGO
www.eliteindigo.com

Programmable Logic Controllers(PLC) Course Outline

REGISTERED HRD CORP TRAINING PROVIDER

INDIGO

Introduction

This is a mixture of practical “hands-on” and theoretical training course to introduce and expose participants to the concepts and operations of the PLC.

Participants will be trained using PLC training kits and simulators based on the OMRON range of PLCs. Ladder programming language will be used as the programming language to program and manage the PLCs.

Objectives

The program aims to provide participants with the skills and knowledge listed below

- Gain a basic understanding about the architecture of PLCs and how the various components of a PLC work together to achieve the desired function
- Understand the basic terms used in PLC and control systems
- Understand the basic concepts of sensors and actuators and how these are used with PLCs to control/manage equipment and systems
- Gain a basic understanding of the ladder programming language used to program PLCs
- Gain a basic understanding of conveyor systems and how PLCs can be used to manage such systems

Who Should Attend

Anyone who needs a basic appreciation and understanding of PLCs through a theoretical and practical “hands-on” exposure. Some basic knowledge of computers and electronics will be helpful in this course, but this is not absolutely necessary.

Duration

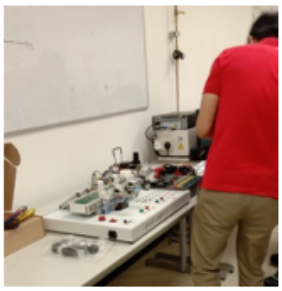
2 Full Days

Course Outline

Day 1

TIME	ACTIVITY	DETAILS	LEARNING
08:45a.m. -9:00a.m.	**COURSE REGISTRATION**	Introduction and short ice-breaking session	
9:00a.m.- 1:00p.m.	**Session 1** 	Discussion sessions and/or short quiz/tests to reinforce the learning process.	Theoretical introduction to the PLC and understanding the function and construction of a PLC unit based on the OMRON PLC. Introduction to common terms used in the PLC operating environment including inputs, outputs, sinking/coursing, sensors, and actuators. Introduction to the architecture of a PLC unit – including various type of memory areas.
1:00p.m.- 2:00p.m.	**Lunch**		
2:00p.m.- 5:00p.m.	**Session 2** 	Practical exercises involving the design of simple control circuits using the PLC trainer unit	Theoretical introduction to binary arithmetic and simple logic circuits with exercises. Introduction to the ladder programming language using the PLC trainer unit. Configuring the inputs and outputs for the PLC trainer unit – application of Boolean logic to programming the PLC trainer unit.

Day 2

TIME	ACTIVITY	DETAILS	LEARNING
08:45a.m. -9:00a.m.	**COURSE REGISTRATION**	Introduction and short ice-breaking session	
9:00a.m.-1:00p.m.	**Session 1**	Revision of material covered in day 1 of training.	Extension of exercises on the PLC trainer unit to include configuring counters and timers. Introduction to the conveyor training system and exploring possible applications using the conveyor system.
1:00p.m.-2:00p.m.	**Lunch**		
2:00p.m.-5:00p.m.	**Session 2** 	Practical exercises involving the design of simple applications using the PLC trainer unit and the conveyor training system.	Putting everything together and revision of all topics and practical sessions covered from the earlier sessions. Exercises include connecting the conveyor training system to the PLC trainer unit which will enable the control of the conveyor system using the PLC trainer.

About Elite Indigo

Elite Indigo Consulting provides corporate training to the semiconductor and manufacturing industries. With a humble beginning of one founding member with passion and desire to share his 20 years of experiences in Smart Manufacturing for global manufacturing facilities, now, we have a strong and competent team of 20 members, all aligned with company mission, vision and core values.

Our Mission

"Transform Data into Insights - Leap Forward"

Our Vision

Be a Global Trusted Advisor in the Areas of Skills Development, Consultancy & Software Solutions specialising in Semiconductor & Manufacturing industries.

Our Core Values