

DONBOSCO Technical Institute



offers AUTOMATION Courses for PLC/HMI

The candidates learn how to program and troubleshoot PLC and HMI system with hand tools on products during the whole course in our BECKHOFF equipped labs.

BECKHOFF specialist will be conducting the course and certification will be given to all candidates who pass the 4 courses.

BECKHOFF New Automation Technology

Duration of the course: 7 months (120 hrs)

Three days per week: Tuesday, Wednesday and Thursday

Time: From 6:00 pm till 8:00 pm

The course is divided into four levels:

- Level 4: (30 hrs) from 00/00/2016 till 00/00/2016
Cost: 500\$

Main SPONSOR:



For more information: 09-478331-2 / 70-120860

Fax :09-478330

DONBOSCO Technical Institute

Sponsored by Industrial Technologies S.A.L (ITEC)

Industrial Automation (PLC)

Syllabus course 2016

By Level

Level 4: OPTION2: Motion Control SYSTEMS

MODULE10 : INTRODUCTION TO MOTION CONTROL

- Introduction to different type of Motors (AC, DC, Stepper and Servo Motors).
- Introduction to different type of encoder (incremental and absolute)
- Introduction to different type of Motion Control (NC PTP, NCI and CNC)
- Explain the structure of a motion control system and demonstrate the properties of all components.
- Explanation of main functions to start working with motion control software.

MODULE11: MOTION CONTROL USING TWINCAT NC

- Operation of Twin CAT NC server
- NC control using MC2 library blocks, cyclic interface, axis blocks
- Twin CAT Scope View: recording of the set value profiles
- Motion Control (MC2) blocks: standardization of axis functions, simplifications in the use of the MC2 blocks, advantages for programming and maintenance.
- Writing a PLC program to configure and manage axes.
- Configuring drives in System Manager
- Managing axes in system manager
- Investigating axes cycle time and tuning tasks to suit application
- Drive error code and IDN documentation
- Using NC ADS Error code documentation
- Twin CAT HMI for NCI and CNC.
- Programming and simulation of an application.

Prerequisites course for level 5

- Should Have Completed Level 1, 2 & 3 training courses or is familiar with Twin CAT PLC Programming.
- Understanding Motion Control (Servo drives/Motor and motion)

Aim of fourth level –Option2:

By completing this option, Students will be able to develop Motion Control application using Twin CAT NC.

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Industrial Automation (PLC) Syllabus course 2016

All Courses are presented by Eng. Roy Samia



Roy has over 12 years experience in designing, developing and commissioning complete automation, SCADA and instrumentation systems for different high end market sectors such as oil & Gas, Water & Wastewater, Food & Beverage,...

His areas of special interest include PLCs, SCADA systems, process control and programming.

Having spent many years in programming and troubleshooting PLC and SCADA applications and has extensive experience in multiple well known brands such as BECKHOFF, SIEMENS, ABB, SCHNEIDER ELECTRIC, ALLEN BRADLEY, WONDERWARE,...

Roy is an active member of ISA (The International Society of Automation) and is currently heading the Power and Automation division at EMCO Engineering Group specialized in providing water solutions for different market sectors.