



DON BOSCO TECHNIQUE - FIDAR

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: 9 months (104 hrs)

Two days per week: Tuesday and Thursday

Time: From 5:00 pm till 7:00 pm

The course is divided into four levels:

- Level 1: (26 hrs) from 22/10/2013 till 12/12/2013
Cost: 200\$
- Level 2: (26 hrs) from 17/12/2013 till 13/02/2014
Cost: 300\$
- Level 3: (26 hrs) from 18/02/2014 till 03/04/2014
Cost: 400\$
- Level 4: (26 hrs) from 08/04/2014 till 03/06/2014
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 2013-2014

A) General Basic Function and Process Control Syllabus

- I. Introduction to Boolean Variable
- II. Calculation of Binary and Hexadecimal
- III. Explanation of Basic logic function (AND, OR, NOR, XOR,...)
- IV. Introduction to Bistable (RS, SR,...), Counter (CTD, CTU, CTUD), Timer(TON, TOF, TP) and Trigger (Falling and Rising Edge) Functions.
- V. Introduction to Value Type (BOOL, INT, DINT, Word, Real, Time...)
- VI. Introduction and need of automation
- VII. PLC architecture and different topology using BECKHOFF products
- VIII. Introduction to BECKHOFF PLC software and programming languages using IEC 61131-3 tools (IL, LD, FBD, SFC, and ST).
- IX. Introduction to Program, Function and Function Block
- X. Memory structure and different types of Memory module.
- XI. Advance Programming functions of BECKHOFF PLC (Data structure and their types and indirect addressing.
- XII. Different types of Digital Inputs/Outputs and Analog Inputs/Outputs
- XIII. I/O addressing and schedules.
- XIV. Scan I/O Hardware and troubleshooting
- XV. Downloading and uploading of the application software
- XVI. Description and selection of BECKHOFF PLC hardware as per requirement of application
- XVII. Definition of different protocols use in Automation domain. (Profibus, Modbus, Ethernet, EtherCAT,...)

B) HMI/ SCADA Syllabus

- I. Introduction to HMI and SCADA system
- II. Objectives and features of HMI and SCADA.
- III. Design blocks diagrams.
- IV. How to Control and Monitoring Value from PLC
- V. Data transfers to PLC and simulation

C) General information about Motion Control Syllabus

- I. Introduction to different type of Motors (AC, DC, Stepper and Servo Motors).
- II. Introduction to different type of encoder(incremental and absolute)
- III. Introduction to different type of Motion Control (NC PTP, NCI and CNC)
- IV. Explanation of main functions to start working with motion control software.
- V. Programming and simulation of an application.