BAYUBALI LEARNING SOLUTIONS

BASIC DISTILLATION COLUMN: OPERATION AND CONTROL SYSTEM COURSE

Training Dates:	As per schedule	**Training Venue:**	Kuala Lumpur
Basic Fee:	RM3,000.00 + SST per participant (this includes course materials, meals, refreshment and attendance certificate)		

DURATION

21 hours (Three (3) days)

TARGET GROUP

Plant or process operator, field operator, panel man, instrument technician, new engineers, and others who need basic and upgrade the knowledge and a comprehensive review of distillation operation and their control system.

TARGETED INDUSTRY/INDUSTRIES

Oil and gas industries, power plant, petrochemical plant, pump oil plant, food industries and others related industries.

CERTIFICATION

This course can be certified for the continuing professional development program likes the program by the board of engineers Malaysia, TEVT, Malaysia skill certificate and instrumentation competency certificate.

COURSE OVERVIEW

The course exposes participants to the basic process control technology, process characteristics, and basic operation on distillation column and related equipment. The course also covers usage of basic and enhance PID control such as cascade, split range, ratio, override and feedforward control which is commonly used on distillation column. Participants will be taught on PID Tuning for single loop and multiple loop such as cascade, split range, ratio, override and feedforward control.

COURSE OBJECTIVE

The objective of the program is to provide the participants with a good knowledge and skill so that they can perform basic knowledge on distillation operation, process control system safety requirement.

COURSE OUTCOMES

At the end of the course, the participants should be able to:

- Explain the process characteristics. process behaviour and effect of order lag on control system.
- Perform PID controller.
- Perform negative feedback and application on control loop.
- Perform tuning
- Perform basic operation of common distillation column and related equipment.
- Perform operation of reboiler, reflux system and pump around system.
- Identify all variables on distillation column.
- Perform up normal and normal operation of distillation column.
- Apply single loop PID controller on distillation column.
- Tune PID for optimum operating.
- Explain the general guidelines for cascade, split range and ratio control.
- Upgrade the control system to improve the performance.
- Apply feed forward control system on distillation column.
- Differentiate advanced and basic control system.

TRAINING METHODOLOGY

- Lecture
- Classroom discussions
- Short video presentation
- Case study

COURSE CONTENTS

- Process behavior and PID controller.
- Transfer function of close and open loops.
- Optimum control setting.
- Basic operation of distillation tower and related equipment.
- Operation of reflux, reboiler and pump around system
- Normal and up normal indication on operation of distillation column.
- Basic process control on distillation column.
- Cascade control on distillation column.
- Split range control on distillation column.
- Feed forward control on distillation column.
- The need for advance process control on distillation column.

ABOUT THE INSTRUCTOR

Engr. Azahar bin Mat Noor, graduated with Bachelor of Engineering (Honors) in Electrical Engineering and major in control system from the University of Technology Malaysia.
He is a Registered Professional Engineer (Mechanical) with Board of Engineer, Malaysia and a Member, The Institution of Engineers, Malaysia. He also holds an Instrumentation and Control System certificate from YEW Mitaka, Tokyo.

He had working experiences with several companies such as the Institute Technology Petroleum Petronas (INSTEP) and Centre for Instructor and Advanced Skill Training (CIAST). Since the past 20 years in teaching, he had delivered for several courses such as;

- Process Design and Process and Instrumentation for process engineer.
- Process control technology for Instrument Engineer.
- Process control technology and application.
- Control valves service and repair.
- Instrumentation and measurement Engineering.
- Basic Instrumentation and Fundamental of Process Control.