

# Control Engineering

## Scope

This model course aims to meet the mandatory minimum requirements of knowledge, understanding and proficiency in Table A-III/1 of STCW 2010 for the function Electrical, Electronic and Control Engineering at the Operational Level, table A-III/6 of 2010 for the Mandatory minimum requirements for certification of electro-technical officers

## Objectives

1. Learn to Identify Control symbols and P&ID Diagram.
2. Familiarization with different Standard Diagram (American, Japanese, and European) as well as IEEE, ANSI, NEMA, IEC Standards Etc.
3. Learn to connect Full Voltage Starting method & Sequential Control
4. Familiarization with Reduce Voltage Starting Method
5. Discuss the idea of Auto/Manual Sequence using Sensors & Actuators
6. Familiarization with the Electronic Method of Star;
7. Develop an Understanding of sensors use in pressure, level, flow, & Temperature measurements
8. Discuss Calibration techniques & procedures use for sensors and actuators
9. Learn the Signal and Actuations of Final Control Elements.
10. Familiarization with the Function & Operation of PLC
11. Discuss the idea of Analog & Discrete / Digital Module
12. Develop Understanding of PLC Input, Output, and PLC Program
13. Discuss & Learn PLC programming;
14. Familiarization with the Idea of Proportional, Integral, & Derivative Control
15. Discuss the effect of PID in control & its actuators;
16. Learn the Idea of Diesel Engine Control
17. Familiarization with the Boiler Control System

**Duration: 24 HOURS**



***“TRAINING is not an OPTION... It is our SOLUTION...”***