Course Overview:

This training course is to provide instrument engineers, application engineers, site engineers, project managers, operation engineers, maintenance engineers and all those who are involved in the design, realization, maintenance and operation of safety systems with the elementary and necessary knowledge about functional safety.

Course Objective:

- describe the IEC 61511 safety life-cycle and be able to explain the main inputs, procedures and outputs needed for project success
- learn the fundamentals of management planning, effective responsibility assignment, and the procedures that are needed for projects involving functional safety
- relate tolerable risk targets to the ALARP principle of risk reduction, including how Safety Integrity Level (SIL) can be determined
- review the fundamentals of probability and how explain how this applies to equipment failure and SIL verification
- gain an outline understanding of functional safety standard IEC 61508 and SIL-capable hardware and software options
- explain the main elements of a typical SIS, including fault-tolerant architectures of safety instrumented functions (SIF)
- summarise the need and principles of regular inspection and proof testing of SIF and SIS.

Course Outline:

- introduction to safety and the safety instrumented system life-cycle
- key terminology, regulations and standards
- functional safety management, audit and assessment
- hazard, risk and SIL determination
- safety requirements specification
- SIS design, engineering, installation and commissioning
- operation and maintenance of safety instrumented systems.

Who Should Attend:

Process engineers, electrical, control & instrument professionals, operations and maintenance personnel in the process industry, project engineers and managers, SHE/HSE professionals, SIS logic solver system integrators, and safety instrumentation equipment suppliers.

Training Language:

Eng/Ar

Training Methodology:

- Presentation & Slides
- Audio Visual Aids
- Interactive Discussion
- Participatory Exercise
- Action Learning
- Class Activities
- Case Studies
- Workshops
- Simulation