

Process, Piping & Instrumentation and Control Engineering Drawings Interpretation™

Dates: By agreement

Location: onsite or online.

Length: 2 Days (8:00 AM – 4:00 PM).

Certificate: Certificate issue upon completion.

Fee: by agreement.

This course includes a full handbook containing actual engineering drawings of typical projects, according to international standards, that can be used as examples for participants in their future work assignments.

Description: This course covers the whole diagrams, schematics, and the drawings required for Instrumentation and Control Systems, as well as their relationships with other disciplines of engineering such as civil, process, mechanical and electrical in a typical multi-disciplinary project. The course includes practical exercises with drawings made by the instrumentation engineer who will give the lecture.

Designed for: engineers, designers, technicians, and university students linked to the sectors of oil & gas, iron and steel, electrical power, sugar refining, paper production, manufacturing companies, consulting engineering companies, as well as food and beverage, among others.

You will learn, but are not limited to, the following:

- To read and interpret all the drawings made by an instrumentation and control engineer.
- Familiarity with the documents used to define instrument and control systems including: process flow diagrams, piping & instrumentation drawings, instrument lists, safety location plans, installation details, and loop diagrams.
- To interpret the type of information included on each drawing.
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- To interpret the use and application of international standards: ISA, ANSI, NFPA, NEC, IEEE, among others.
- The sequence of drawings development in a typical project.
- To work in consulting engineering companies, in construction plants, and in maintenance and operations.

General Content:

- Fundamentals for engineering drawings.
- Instrumentation and control engineering drawings.
- Processes flow diagrams (PFDs).
- Piping & instrumentation diagrams (P&IDs).
- Symbolology: according to international standards.
- Location plants and basic knowledge of hazardous area classification
- Electrical and pneumatics routes.
- Schematics, interconnection and loop diagrams.
- Installation Details.

Methodology and exercises:

Using several actual projects, participants will learn to read and interpret drawings of PFDs, P&IDs, location plans, electrical and pneumatic routes, interconnection drawings, loop diagrams, and installation details.

INSTRUCTOR: Mr. Argenis Garcia, a specialist in instrumentation & control, is an electrical engineer (University of Colorado), with a specialization in project management (Andres Bello Catholic University, UCAB, Venezuela), +25 years of experience off-on shore in design, maintenance, construction, commissioning, operations, and technical training. He has worked in cryogenics, refineries, petrochemicals orimulsion and oil dehydration plants, the sweetening of gas, gas compressor plants, tank farms, pump stations, flow stations and on oil and gas pipelines. Duties included management of all stages of projects and engineering, specifications and selection of instruments, and drawings design, QAQC, HAZOP, purchasing, and construction specs. He served as a member of specialist teams to develop and review instrumentation standards according to the Manual of Engineering and Design of PDVSA. He has served as a technical instructor of standards engineering design at the International Center of Education and Development of PDVSA-CIED. He served as an IEEE Officer of the student chapter at the University of Colorado (1983). He has trained over 2000 people including engineers, technicians, and operators.

INSTRUCTOR: Mr. Vicente Santana, an Specialist in piping engineering, is a mechanical engineer (University of the East, UDO, Venezuela). +28 years of experience in project management in PDVSA, Venezuela, on offshore platforms SONANGOL, Angola. Participation in the implementation of Process Safety Management (GSP) for San Tomé, with certification as a HAZOP leader and Safety Auditor. Design and construction of compressor plants, flow and discharge stations, transfer and multiphase pump stations, oil pipelines, gas pipelines, aqueducts, salt water injection plant, gas compression and treatment operating centers, fire protection systems, air conditioning systems, compressed air systems, alternate steam injection plants for stimulation of oil producing wells, drinking water treatment plants, sludge collection systems. The work included: coordination, supervision and execution of projects in all its phases. Quality Assurance and Control of QAQC Engineer, Risk Analysis. Duties included procurement and construction specifications, selection of materials, valves, pipe connections, selection of pumps, compressors, and equipment design: (atmospheric tanks, pressure vessels), flexibility review of piping systems, mechanical plans for construction. Santana advised the teaching team at UNEFA during the period 2008-2018, preparing professionals in the area of mechanical engineering. As well as in degree work. Santana has trained more than 100 professionals as mechanical engineers.

For your registration, please fill out the attached application form and send it to:
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