



**Chemical, Mechanical Engineering**



**SCANDINAVIAN ACADEMY**  
Training and Development

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# Course: Instrumentation Engineering Practices for Facilities Personnel

Code	City	hotel	Start	End	price	Hours
560	Barcelona (Spain)	Hotel Meeting Room	2024-08-12	2024-08-16	5950 €	25

## About this course

An exercise is developed throughout the session to illustrate the process of instrumentation selection and specification for a pressure vessel. The required documentation is identified and developed for incorporation in a BPCS (basic process control system). The exercise does not require formal instrument engineering training but prior field experience is very helpful. Through the use of individual and team problem solving you will learn about instrumentation on a vessel, developing required documentation, reviewing end devices, control valves, process control basics and discussing the various interfaces between facilities engineers, contractors and maintenance personnel. Participants will gain a better understanding of the instrumentation process and what is important to this discipline.

## Who should attend?

Oil and gas Facilities and Project, Electrical or Instrumentation and Controls Engineers with two or more years of field experience who want to further improve their practical understanding of Instrumentation/Controls systems within oil and gas facilities. Attendees should have good working knowledge of instrumentation and control fundamentals.

## Course Outcomes

By the end of this course participants will learn :

- Instrumentation project management
- Instrumentation project documentation
- Loop diagrams, electrical and pneumatic
- Review end devices such as pressure, temperature, level, IP converters
- Valve types, shutdown, control, relief
- Process control basics
- P and D diagrams and interpretation

## Course Content



- Introduction
- Basic project management
- Front end engineering design (FEED)
- Final design activities
- Construction and commissioning
- Weekly project design activities
- Instrumentation weekly project that instruments a vessel
- Develop associated documentation to hook the instruments to a BPCS
- Loop diagram development
- Review of field devices in the form of pressure, temperature, level transmitters or switches
- Process control basics and their associated control elements
- Review of PLC, SCADA systems
- Review hazardous areas classification for electronic instruments
- Discussion of bid documentation and construction management



**The Scandinavian Academy employs modern methods in training and skills development, enhancing the efficiency of human resource development. We follow these practices:**

- **Theoretical Lectures:**
  - We deliver knowledge through advanced presentations such as PowerPoint and visual materials, including videos and short films.
- **Scientific Assessment:**
  - We evaluate trainees skills before and after the course to ensure their progress.
- **Brainstorming and Interaction:**
  - We encourage active participation through brainstorming sessions and applying concepts through role play.
- **Practical Cases:**
  - We provide practical cases that align with the scientific content and the participants specific needs.
- **Examinations:**
  - Tests are conducted at the end of the program to assess knowledge retention.
- **Educational Materials:**
  - We provide both printed and digital scientific and practical materials to participants.
- **Attendance and Final Result Reports:**
  - We prepare detailed attendance reports for participants and offer a comprehensive program evaluation.
- **Professionals and Experts:**
  - The programs scientific content is prepared by the best professors and trainers in various fields.
- **Professional Completion Certificate:**
  - Participants receive a professional completion certificate issued by the Scandinavian Academy for Training and Development in the Kingdom of Sweden, with the option for international authentication.
- **Program Timings:**
  - Training programs are held from 10:00 AM to 2:00 PM and include buffet sessions for light meals during lectures.