FACT SHEET (LIVE COURSE)

Instrumentation Design fundamentals

Instrumentation design for Process Plants: Fundamentals, Representation in PID's, Instruments mounting, Wiring, Drawings, Routing, Auxiliary equipment.

Who Should Attend?

This course is intended for graduates (or soon to be), designers, freelancers, technicians and engineers involved in: calculation, design, selection, manufacturing, safety, quality and maintenance of systems and equipment in industrial processes.

Previous knowledge of this subject is not required to attend to the course.

Training Objectives

The main objective of this course is to transfer to participants the theoretical and practical skills required in projects, obtained from experience and sound engineering practices.

Methodology

Instructor-led training course in adult learning format with discussions, individual exercises and simplified case studies, providing practical knowledge to implement in the field.

Duration

The duration of this training course is **16 hours**, divided into several sessions to facilitate the learning process.

What to expect?

Acquire the vocabulary and fundamentals

Recognize different type of instruments

Understand P&ID's representation

Understand the different mounting schemes

Get familiar with applicable design codes

Comprehend mounting standards

Benefit from best practices

Develop instrument layout drawings

Develop instrument wiring sketches

Contents

Intro to the different types of instruments

Temperature indicators

Pressure indicators

Flow meters

Level indicators

P&ID instruments representation

Temperature indicators

Pressure indicators

Flow meters

Level indicators

Mounting of instruments

Applicable design codes

Mounting standards

Best practices

Electronic instruments wiring

Flow meters

Level indicators

Instruments wiring in general

Drawings

Best practices

Junction boxes

Installation

Pneumatic instruments layout drawings

Pneumatic instruments layout drawings

Wiring routing

Wiring routing

Auxiliary equipment sizing

Auxiliary equipment sizing

Case studies in the classroom:

Elaboration questions to fix concepts

Instruments wire's cross section calculation

Maximum feed distance calculation

Wire trays sizing

Wire trenches sizing

Process/pneumatic hookups specification

Instructor

More than thirteen (13) years of experience in multidisciplinary engineering and construction projects, in fields such as Oil & Gas, Energy and Industrial processes in general, from both the Engineering (EPC) and the end user (Production) point of views, in positions like Instrumentation and Process Control Discipline Lead and Functional Safety Manager.

Vast experience as Coach and Trainer (Instrumentation and Process Control, Industrial Electricity, Risk Analysis, Functional Safety, SIS…), having taught at the University and training courses for experienced professionals to EPCs and Manufacturing and Production Companies globally.

Co-author of the book "Seguridad Funcional en Instalaciones de Proceso: Sistemas Instrumentados de Seguridad y Análisis SIL", edited in June 2012 by Diaz de Santos and ISA-Spain.

Arveng Training

Arveng Training has developed effective and practical courses for the needs of today's industrial challenges by delivering specific and high-quality engineering training courses utilizing all three approaches: classroom, on-line and tailored training. We are proud to have imparted more than 100 classroom courses, 200 online courses and over 15 in-company sessions. Our training activities has benefited over 1,500 professionals. Our greatest pride is in the letters of recommendation we receive from so many of our customers in this area.

We consider the time of our students as the most valuable. For this reason, all our courses have been designed with the main objective of quickly the professional skills of the participants, through our expert instructors in different disciplines. **We stimulate creativity, innovation and initiative to make the participants inquisitive to bring good engineering practices and lessons learned to the field that benefits their employers in the long term.**

Tailored Training

The most effective training is one that satisfies the needs of each company's business focus and deliverables. **We adapt our training programs to each specific requirement, offering bespoke solutions for each need.** The result, 100% tailored programs, developed to maximize the time investment and deliver tangible and intangible returns to the work teams.

After an assessment phase, a tailored training plan is de-signed jointly with the client. This plan is specifically tailored to meet the client's needs, focusing on effectively enhancing the capabilities of the work team. **We provide practical, dynamic and hands-on training,** making available the best instructors in each subject.

Our Company

Arveng Training & Engineering SL is a leading company providing Training and Engineering services based in Madrid, Spain. Our mission and vision are to be a leading training and engineering services company. We are a team of highly motivated, talented high qualified professionals with more than 20 years of experience. Our main goal is to provide our clients, the best training and engineering services and to exceed their expectations in all their spheres of industrial activity, through our renowned services which are based on efficient, innovative, cost-effective and transparent principles.

Established in July 2010, mainly oriented to the industrial sector, from the very beginning Arveng has always worked with closeness, responsibility and commitment in the different areas of activity.