AZ TECH

An ISO 9001:2015 & ISO 29990:2010
Certified Company

Design Criteria in Instrumentation Engineering

A Crucial Component of the Oil & Gas Industries

11 - 15 November 2018
10 - 14 February 2019
10 - 14 November 2019
Dubai, United Arab Emirates

ACS REGISTRARS Quality Assurance ISO 9001
ACS REGISTRARS ISO 29990
iosh Accredited Course Provider
NACE INTERNATIONAL IRON CORPORATE MEMBER
Institute of Asset Management IAM CORPORATE MEMBER
IAM endorsed TRAINER
THE GLOBAL COMPACT United Nations Global Compact

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Why Choose this Training Course?

Take full advantage of the opportunity to attend one of the most beneficial training courses, presently being run. AZTech is proud to announce a 5-day training course, jam packed with all you need to know, with respect to instrumentation design specific for the oil and gas industries. The control of a plant determines the efficiency of that plant. Therefore, the design of the instrumentation equipment used in the plant (used for measurement and control) is absolutely vital. This would be both from an operational as well as a safety point of view.

This training course focuses on getting the plant instrumentation component selection and integration just right. It progresses from selection, documentation, classification, and right through to final project management. At all times, it is actively presented, to fit in with the working environment of the delegates.

This training course will feature:

- Crucial instrumentation design documentation (including data sheets, schedules, P&IDs, etc.)
- Control philosophy, with respect to selected instrumentation
- Equipment and instrumentation tagging philosophy
- Hazardous area classification and appropriate certification
- Instrumentation and final control element (valve) selection and sizing
- Project management

Who is this Training Course for?

It is irrelevant whether delegate instrumentation design knowledge and experience ranges from novice to advanced. The workshop starts from basic principles, and builds up, with the emphasis on delegate participation. Instructor guidance is delivered on a personal level, and delegates are encouraged to ask as many questions as necessary.

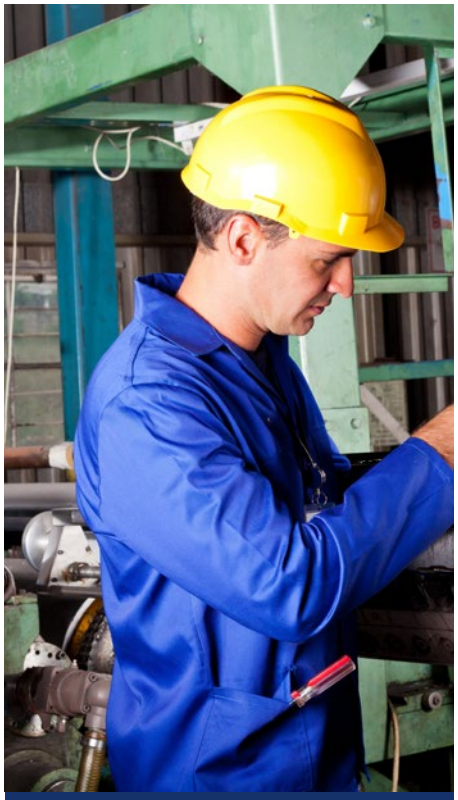
This training course is suitable to a wide range of professionals but will greatly benefit:

- Instrumentation, electrical, mechanical, process and other engineers, specialists and staff
- Management
- Design teams
- Budgeting and financial staff
- Team leaders, supervisors and foremen

How will this Training Course be Presented?

This training course starts off from basics and works its way through to the final management of the project. None-the-less, it is presented in such a way that all delegates (regardless of background) feel comfortable from the very beginning. No-one is left behind, and the instructor takes pride in guiding all delegates along the way, with personal assistance, where required.

Delegates are encouraged to keep an open mind and to immerse themselves in all exercises and discussions, to ensure that maximum learning takes place. Preference will always be given to applications and examples that tie up with the working environment encountered by the delegates. At least 50% of the course is made up of demonstrations/discussions/simulations/exercises.



Course Schedule:

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What are the Goals?

By the end of this training course, participants will be able to:

- Assist in crucial decisions for instrument design and selection
- Interpret drawing and diagrams related to newly designed instrumentation
- Have a full understanding of the various process control strategies, and how to implement them
- Implement hazardous area zones, and select appropriate instrumentation and equipment for them
- Manage a project appropriately, from design to handover

THE COURSE CONTENT

DAY ONE:

Signals, FDS, Vendors Interaction & P&IDs

- Understanding instrumentation signals
- Understanding process diagrams (including block, flow and where the P&ID fits in)
- Functional Design Specification (FDS) and drawing standards
- Vendor pre-qualification, interaction and quotation request
- Tag numbering and naming conventions
- Reading and creating P&IDs, including assorted P&ID symbology

DAY TWO:

Instrumentation, Electrical and Pneumatic Diagrams, and Designing for Proper Acceptance Testing

- Instrumentation drawings and documents, including:
  - Instrument selection report, instrument specification, data sheets, loop diagrams & schematics, cable schedules, hook-up diagrams, junction box wiring diagrams, cable racking layout, cable routing diagram, instrumentation index, history sheets, I/O lists, panel layout, power distribution, earthing diagrams and philosophy, PLC schematics, trip/alarm schedules, instrumentation detail, etc.
- Electrical schematics (related to instrumentation projects), including:
  - Load lists, main & control circuits, electrical layout, single line diagrams, etc.
- Pneumatic and hydraulic instrumentation schematics
- Acceptance testing

DAY THREE:

HMI Design Considerations, Area Classification, SIS and Instrumentation Selection & Sizing

- PLC, SCADA and DCS design criteria and specification
- Area and classification
- Instrument classification
- Safety Instrumented Systems (SIS) and SIS requirements, from a design point of view
- Instrumentation selection and sizing (including equipment for the most common measurements)

DAY FOUR:

Intelligent Communication, Valve Sizing, Protection & Material Selection

- Smart devices, HART and Fieldbus considerations for instrumentation plant design
- Digital data communication aspects
- Control valves and actuators, including selection and sizing
- Equipment protection
- Material selection

DAY FIVE:

Redundancy, Control Philosophy and Project Management

- Spares philosophy
- Design considerations for future expansion
- Redundancy and loss of power considerations
- Control philosophy, including:
  - Feedback, feed forward, on/off, regulatory, cascade, ratio, advanced control, etc.
- Project management, including:
  - Project life cycles, scope, time, cost and quality management, risk, etc.

The Certificate

AZTech Certificate of Completion for delegates who attend and complete the course.

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Complete & send by fax/mail to address given below. Please use BLOCK CAPITALS.

This fee is inclusive of Documentation, Lunch and Refreshments

Date	Venue	Fees(USD)	Book your seat
11 - 15 Nov 2018	Dubai - UAE	$4,950	**Register Now**
10 - 14 Feb 2019	Dubai - UAE	$5,950	**Register Now**
10 - 14 Nov 2019	Dubai - UAE	$5,950	**Register Now**

VAT Announcement: The Government of UAE have introduced Value Added Tax (VAT) on goods and services from 01-January-2018. In compliance with the legislation issued by the UAE Government, we will be applying a 5% VAT on the fees for all our programs and services offered from January 2018 as applicable and stipulated in the FTA circulars.

REGISTRATION DETAILS

Family Name:_____ First Name:_____

Position:_____ Company:_____

Mailing Address:_____

Telephone:_____Mobile:_____Fax:_____Email:_____

AUTHORISATION

Authorised by:_____Position:_____

Telephone:_____Fax:_____Email:_____

Postal Address:_____

MODE OF PAYMENT

☐ **Please invoice my company** ☐ **Please invoice me** ☐ **Please find enclosed a cheque payable to AZTECH**

HOTEL ACCOMMODATION

Hotel accommodation is not included in the Registration Fee. A reduced corporate rate and a limited number of rooms are available for attendees wishing to stay at the hotel venue. Please make your request for accommodation at least **3 weeks prior** to the commencement of the course.

EVENT DISCLAIMER

We reserve the right to cancel or postpone a seminar or related event, change venue, substitution of the Instructor at our sole discretion. If this occurs, our responsibility is limited to a refund of any registration fee(s) already paid. We are not responsible for airline tickets, hotels costs, other tickets or payments, or any similar fee penalties or related or unrelated losses, costs and/or expenses registrant may incur or have incurred as a result of any trip cancellations or changes.

DOWNLOAD TRAINING PLAN 2018

Scan this code with your smart phone to download Training Plan 2018

Our training portfolio will provide you a number of seminars and courses to choose from depending on your organisational goals and personal development objectives.

CANCELLATIONS & SUBSTITUTIONS

You must notify the Registrar of cancellations at least 2 weeks before a scheduled seminar in order to be eligible for a credit. If you cannot attend, you may send a replacement from your organisation at no charge. There is a $250 handling charge for all cancellations or rescheduling. We reserve the right to cancel a seminar due to low enrollment. All registrants will be notified in advance and a full refund will be provided upon request.

4 WAYS TO REGISTER

Toll Free: 800-AZTECH
Telephone: ..... +971 4 427 5400
Fax Number: ..... +971 4 427 5401
Email Address: ..... info@aztechtraining.com
Visit our website: ..... www.aztechtraining.com

CERTIFICATION

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