



# AL131: Instrumental Analysis in Petroleum Industry



## Training Description:

The efficient use of the advance analytical methods and modern analytical instruments are very imperative tools to solve any laboratory problem. The course provides the basic and advance of analytical analysis methods of most used instruments. In addition, it provides elegant tools for obtaining qualitative and quantitative data techniques with practice work on analysis software.

## Training Objective:

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

- ✓ Have an understanding of Principles and practices of the modern instruments' technique

## Training Designed for:

This course is intended for any person working in any analytical laboratory. The course for Chemists, Lab Technicians, Chemical Engineers, Instrument Engineers and Supervisors who work in Laboratory.

## Training Program:

### FIVE DAYS:

- ❖ PRE-TEST
- ❖ Introduction
- ❖ Laboratory Analytical Instrumentation
  - Spectrometric Instruments
    - Molecular Spectrometry
      - Ultraviolet, Visible and Near Infrared
      - Infrared and Raman
      - Luminescence
      - Nuclear Magnetic Resonance
      - Mass Spectrometry
    - Atomic Spectrometry
      - Atomic Absorption and Atomic Fluorescence Spectrometry
      - Flam photometer Spectrometry
      - Inductively Coupled Plasma – Optical Emission Spectrometry
      - Inductively Coupled Plasma – Mass Spectrometry
      - X-ray (Fluorescence – Diffraction)
    - Separation Instruments
      - Gas Chromatography
      - High Performance Liquid Chromatography
      - Ion Chromatography
    - Electrochemical Instruments
      - Potentiometry
      - Voltammetry
      - Amperometry
      - Conductimetry
    - Other Instruments



- ❖ **PORTABLE ANALYTICAL INSTRUMENTATION**
  - **Portable Instruments in the Laboratory**
    - Spectrometric Instruments
    - Separation Instruments
    - Electrochemical Instruments
  - **Portable Instruments in Various Applications**
    - Environmental Applications
    - Water Quality Monitoring
    - Soil and Sediment Testing
    - Air Monitoring
    - Other Applications
- ❖ **PROCESS ANALYTICAL INSTRUMENTATION**
  - **In-Process Sampling**
  - **In-Process Analysis**
    - Flow Injection Analysis
    - Spectroscopic Analysis
    - Separation Analysis
    - Imaging Analysis
    - Electrochemical Analysis
- ❖ **Course Conclusion**
- ❖ **POST-TEST and EVALUATION**

### Training Requirements:

“Hands-on practical sessions, equipment and software will be applied during the course if required and as per the client’s request.”

Please note that the above topics can be amended as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

### Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Software & General Discussions
- Pre and Post Test

### Training Certificate(s):

Internationally recognized certificate(s) will be issued to each participant who completed the course.



## Training Fees:

**As per the course location** - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

## Training Timings:

### Daily Timings:

|               |                               |
|---------------|-------------------------------|
| 07:45 - 08:00 | Morning Coffee / Tea          |
| 08:00 - 10:00 | First Session                 |
| 10:00 - 10:20 | Recess (Coffee/Tea/Snacks)    |
| 10:20 - 12:20 | Second Session                |
| 12:20 - 13:30 | Recess (Prayer Break & Lunch) |
| 13:30 - 15:00 | Last Session                  |

**For training registrations or in-house enquiries, please contact:**

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Training & Career Development Department

