



AL116: Basic Principal of Analytical Chemistry

Training Description:

The good and advance analytical laboratory can motivate dispirited teams of chemists and technicians to accomplish high quality work. It is very important for lab staff to learn how to create the success in their lab. This intensive course is designed to provide an introduction and practical application of analytical chemistry in the laboratory. It is designed also to understand concepts of basic principal of analytical chemistry, and how to apply quality standards, how to do health and safety risk assessments, how to develop the technical, and methods in the lab and how to evaluate the lab results.

Training Objective:

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

- ✓ Understand the basic principal of analytical chemistry
- ✓ Provide an understanding of the roles of quality standards, how to develop the technical, and methods in the analytical lab and how to evaluate the lab results

Training Designed for:

This course is intended for all Laboratory Staff, Chemists and Technicians.

Training Program:

FIVE DAYS:

- ❖ PRE-TEST
- ❖ Introduction
- ❖ Chemistry Historical and review
- ❖ Basic Principal and theory
 - Atoms, Molecules, and ions
 - Chemical Bonding
 - The periodic table
 - Light, Photon Energies, and Atomic Spectra
 - Matter and Measurements
 - Units, Measuring
 - Accuracy, Precision, and Significant Figures in Measurement
 - Units for Expressing Concentration
 - Electronic Structure of Matter
 - Physical Properties of Matter
 - Chemistry of the Element
 - Chemistry in solution
 - Acid-Base Chemistry
 - Solvent types and properties
 - Solubility of ionic substances
 - Le Chatelier's Principle
 - Chemical Reactions in Solution
 - Physical Behavior of Solutions
- ❖ Planning to Work in the Laboratory
- ❖ The Sampling Plan, Sample Collection and Preparation



- ❖ Choosing the Right Instrument
- ❖ The Evaluation of Results and Methods
- ❖ Data Analysis
- ❖ Laboratory Report
- ❖ Quality Control and Quality Assurance
- ❖ 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”.

Training Methodology:

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

- 30% Lectures, Concepts, Role Play
- 30% Workshops & Work Presentations, Techniques
- 20% Based on Case Studies & Practical Exercises
- 20% Videos, 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

