



AL039: Quality Assurance of Chemical Measurements





Training Description:

Very often there are quality issues in the laboratory, which affect the standards that are intended and mean that quality can be in doubt for our clients. During various stages of processing we need to use quality tools to maintain confidence in the products. The analysis of each stage means that total confidence can also be achieved. This course is designed specifically for Laboratory technicians and those involved with quality control during the chemical process utilizing the most accurate tools and terms of measure for control. It contains full explanations in an easy to understand format and regular discussions to reinforce learning throughout.

Training Objectives:

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

- ✓ Apply quality assurance in the laboratory and how principles of measurement are understood and utilized
- ✓ Identify the principles of chemical measurement and the principles of quality assurance involved and used to their maximum
- ✓ Calculate accurate measurement and recording of analysis and results of sampling of each step of chemical processes using quality tools

Training Designed for:

This course is intended for all Laboratory Supervisors, Technicians and those involved with laboratory quality systems and controls.

Training Program:

DAY ONE:

- ❖ PRE-TEST
- ❖ Introduction
 - Philosophies
 - Modern lab role
 - Historical quality changes
- ❖ Fundamentals of Quality Assurance (QA)
 - QA=QA/QC, QA hierarchy, costs/benefits of providing quality lab data and validation
 - Budgeting and planning, QA location/function, quality cycles, external/internal data validation
 - Strategy of meeting user quality needs, specifications for QA leader
 - Glossary of terms and acronyms, safety-OSHA lab standard

DAY TWO:

- ❖ Basic QA Statistics: A Brief Overview
 - Process merits, uncertainty types, comparing data, comparing labs, control charts (SPC)
 - Systematic/random error, outliers/assignable cause/detection methods
 - Lab vs field sampling error, accuracy/precision, significant figures/reporting data





❖ **Measurement as A Process**

- Design/implement/monitor lab QA, macro/micro auditing, Internal and external lab auditing
- Screening and confirmatory analysis, analyst certification, keeping staff current
- Development of QA programs
- Standards and reference materials, independent calibration verification
- Lab responsibilities, user responsibilities, data handling/review/archiving/maintenance
- Lab certifications/accreditation

DAY THREE:

❖ **Sampling**

- General principles, criteria for developing sampling plans
- Sampling methods, fluids/solids, required information on samples

❖ **Sample Handling**

- Labeling, containers, filtering
- Preservation, holding times, conditions, transporting
- Blanks, chain-of-custody

DAY FOUR:

❖ **Sample Preparation**

- Procedures and protocols, reagent blank, miscellaneous topics

❖ **Instrumental Analysis**

- Instrument log, signal-to-noise ratio, instrumental parameters
- Calibration initial and continuing
- Causes and minimization of calibration drift
- Training of staff, cross-training
- Maintenance log, documentation, validation

DAY FIVE:

❖ **Standard Operating Procedures (SOP)**

- Preparation recommendations, five W's, record keeping
- Changes to SOP, archives, distribution, OSHA and EPA compliance

❖ **Course Conclusion**

❖ **POST-TEST and EVALUATION**

Training Requirement:

“Hand’s 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:

Aisha Relativo: aisha@cmc-me.com

Tel.: +971 2 665 3945 or +971 2 643 6653 | Mob.: +971 52 2954615

Training & Career Development Department

