



# AL163: ISO/IEC 17025:2017 - *General Requirements for the Competence of Testing & Calibration of Laboratories*

## Training Description:

This intensive training course is an introductory look at ISO/IEC 17025 and its requirements for demonstrating the technical competence of testing and calibration laboratories. In this course, participants will be introduced to the accreditation process and they will also gain insight into the interpretation of the requirements of this international laboratory standard.

### ISO – International Standards Organization

### IEC – International Electro Technical Commission

The course will illustrate the ISO17025 requirements for testing laboratories, relevant to the operation of their management system, technical competency, validity of analytical results, and the use of Laboratory Information Management Systems (LIMS) as a tool in satisfying the above. In particular, the importance of LIMS implementation in meeting the traceability requirements of ISO 17025 will be addressed.

Further, the course will also demonstrate the compliance of ISO 17025 with those ISO 9001 and GLP (Good Laboratory Practice) requirements that are relevant to the scope of testing services. In addition, Management and Technical personnel of analytical laboratories will recognize the dire need of implementation of the Standard within their Organization in order to satisfy the needs of their customers and general market needs (e.g. Regulatory Authorities and organizations providing recognition).

### The course will highlight:

- Management requirements of ISO 17025 quality manual, document control, tenders, suppliers, service to the customer, internal audits
- Technical requirements of ISO 17025 personnel, equipment, traceability, reference standards, sampling, quality assurance of results, test certificates, O & I's
- Definition of laboratory accreditation: Accreditation Bodies (AB's) and Multilateral Agreements (MLA, MRA, ILAC) on cross frontier recognition of accreditation
- Basic guidelines on the design of a LIMS
- Implementation of a LIMS, in the context of ISO 17025

## Training Objectives:

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

- ✓ Understand and implement Good Laboratory Practice (GLP) in their organizations
- ✓ Comprehend the importance of assuring quality of test and calibration results
- ✓ Apply traceability from sample receipt and analysis scheduling until delivery of results, through the implementation of LIMS
- ✓ Design LIMS on the basis of ISO 17025 requirements
- ✓ Realize the need for continuous review and improvement of LIMS systems, based on market and regulatory requirements

### Personal Impact:

- ✓ ISO 17025 will help drive individual development of systematic processes that consider the broader context, taking into account the risks, opportunities, legal requirements and more, which will help to embed lab safety and compliance firmly to improve OH&S performance.

- ✓ Participants will take an active role in 17025 compliance helping to reduce lost time due to accidents or ill health – creating a better working environment for your lab personnel and reducing costs and downtime in the process.

#### Organisational Impact:

- ✓ Increase of confidence in Testing/ Calibration data and of personnel performing work
- ✓ Better control of laboratory operations and feedback to laboratories as to whether they have sound Quality Assurance System and are technically competent
- ✓ Potential increase in business due to enhanced customer confidence and satisfaction
- ✓ Customers can search and identify the laboratories accredited by The Accreditation Member Body for their specific requirements from their website or Directory of Accredited Laboratories
- ✓ Users of accredited laboratories will enjoy greater access for their products, in both domestic and international markets, when tested by accredited laboratories
- ✓ Savings in terms of time and money due to reduction or elimination of the need for re-testing of products
- ✓ Improved national and global reputation and image of the laboratory
- ✓ Continually improving data quality and laboratory effectiveness
- ✓ It Qualified ISO 17025 experts working in your laboratory
- ✓ Confidence in continuing compliance with ISO 17025
- ✓ More efficient and accurate testing and calibration processes
- ✓ Increased stakeholder trust in your quality control

#### Training Designed for:

This course is intended for a wide range of professionals involved in Quality Assurance (QA) in analytical laboratories, but will greatly benefit Management and Technical Personnel of analytical laboratories, in a wide spectrum of activities (e.g. oil refinery, food and utility industries including potable and wastewater treatment plants, and commercial analytical laboratories), Technicians, Specialists and other Personnel involved in laboratories, those laboratories that are in the process of obtaining ISO 17025 accreditation and those planning to implement a LIMS, newly recruited Laboratory Scientific Personnel, and Laboratory Accreditation Consultants.

#### Training Program:

##### DAY ONE:

- ❖ PRE-TEST
- ❖ Introduction to ISO 17025 Requirements
  - ISO 17025 contents
  - Organization – Responsibilities
  - Introduction to control of documents & records – Use of LIMS for managing records
  - Requests for tenders
  - Suppliers/Subcontractors – Detailed record keeping through LIMS
  - LIMS design – Basic considerations

##### DAY TWO:

- ❖ Service to the Customer & Internal Audits as a Tool for Quality Assurance
  - Service to the customer – Complaints



- Control of non-conforming work/testing
- Corrective/Preventive actions – Implementation & monitoring of corrective actions
- Control of records
- Internal auditing as a tool for addressing complaints & implementing a proactive strategy
- Management review

#### DAY THREE:

##### ❖ Technical Requirements – Personnel and Test Method Development

- Technical records – LIMS as a unique traceability tool
- Personnel (scientific, technical, administrative)
- Accommodation & Environmental conditions
- Test methods & Method validation – Estimation of uncertainty of measurement
- Selection of methods – Laboratory-developed methods, non-standard methods
- Control of data for all above topics – Use of LIMS as a data recording tool

#### DAY FOUR:

##### ❖ Technical Requirements – Equipment and Quality Assurance

- Measurement traceability through LIMS
- Equipment – Measurement traceability, Reference standards & Reference materials
- Sampling – Handling of test items & The role of LIMS as the first link in the sample traceability chain (from sample login to issue of Test Certificate)
- In-house testing & subcontracted analysis. Issuing of relevant working forms using the LIMS
- Quality Assurance (QA) of test results & Ways of reporting the test results – The LIMS contribution to assuring traceability of QA and Analytical data

#### DAY FIVE:

##### ❖ Technical requirements – Test reports, Implementation of LIMS & Accreditation Requirements

- Format of test certificates & amendments of test certificates – Use of LIMS for issuing test certificates and keeping track of changes
- Opinions & Interpretations (O&I's) on test certificates
- Electronic transmission of results – LIMS contribution to assist in speedy, targeted and foolproof delivery of results
- Preparation & application for accreditation
- Role playing – Internal/external audits exercise

##### ❖ 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 01<sup>st</sup> 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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