Measurement Uncertainty for Analytical Laboratories

by K.M. Gabuji / Andy Wong & Jason Wong

Date: 19 - 20 December 2019

Organized by

Hong Kong Association for Testing, Inspection and Certification Ltd.

This course 1) explains the basic statistics & the concept of measurement uncertainty (MU) and 2) provides training for the estimation of MU in chemical laboratories.
Objective

The purpose of a measurement is to determine a value of quantity of interest. Whenever any measurement is made the measurement process involves the use of standards, instruments, persons, procedures and environment. This causes inherent variation, which is known as the uncertainty of measurement.

This two-day course is designed for laboratory personnel who are interested in the concept of measurement uncertainty (MU), how it affects all laboratory results and possible compliance decisions. As such the course is particularly suitable for senior laboratory staff, supervisors, approved signatories and laboratory managers.

This course looks at what MU is, why & how it arises, what the sources of MU are, why it is required to be quantified and how it affects decisions based on results. It focuses on chemical laboratories but also provides the concepts in related topics such as equipment calibration, microbiological testing and physical testing.

The basic statistics frequently encountered in the estimation of MU will also be covered to facilitate the comprehension of the estimation by participants with different mathematics background.

A mix of classroom presentations, group discussions, case studies and exercises will be used. Participants are encouraged to relate to their situations.

Outline

1. Understanding the concept of measurement uncertainty (MU)
2. What causes MU
3. Needs of MU
4. APLAC guidelines on the estimation of MU
5. Basic statistics
6. ISO Guide to the Expression of Uncertainty in Measurement (GUM) principles
7. EURACHEM approach
8. Sources of MU in chemical tests
9. Approaches in the evaluation of the MU of
   - chemical tests in different types of measurements and
   - calibrations with emphasis on chemical testing
10. Compliance decisions
11. Relationship of MU and quality control checks criteria
Date and Time
19 - 20 December 2019
9:30am to 5:00pm

Registration deadline: 12 December 2019

Venue
Near Chai Wan MTR station
To be announced 1 week before the training via email

Instructor
Mr. K.M. Gabuji / Mr. Andy Wong
Mr. Jason WONG Hung Fai

Language
Chinese or English as appropriate with English slides

No. of Participants
Maximum 14 people

Fee
HK$ 3,000 for HKTIC members
HK$ 3,300 for others
Including course notes and refreshments

Fee will be refunded for unsuccessful registration and course cancellation.

Assessment and Awards
There will be a written examination at the end of the training.

A ‘Certificate of Achievement’ will be awarded to those who have satisfactory attendance and pass the examination.

A ‘Certificate of Attendance’ will be awarded to those who have satisfactory attendance only.

Registration
1. Email the completed registration form to
   training.qmshk@gmail.com
2. Prepare a signed crossed cheque payable to
   "Hong Kong Association for Testing, Inspection and Certification Ltd."
3. Before the deadline, post the completed registration form and signed crossed cheque to
   HKTIC Secretariat
   1/F., CMA Building,
   64-66 Connaught Road Central,
   Hong Kong.

Enquiry and Advance Seat Reservation
Email: training.qmshk@gmail.com
Tel.: +852 6306 1959
HKTIC Organized

Measurement Uncertainty
for Analytical Laboratories

Registration Form

Participants: Suitable for laboratory manager, senior laboratory staff, supervisor and (HKAS) approved signatory

Course Content: Please refer to the detail course outline

Date and Time: 19 - 20 December 2019, 9:30am – 5:00pm

Venue: Near Chai Wan MTR station; to be announced 1 week before the training via email

Participant:

Dr. / Ir. / Mr. / Mrs. / Ms. / Miss 
Name to be shown on the certificate Full name in block letters, surname first

Organization:

Position / Job Title:

Mobile No. / Phone:

Participant Admin., HR, etc., if applicable

Email:

Participant Admin., HR, etc., if applicable

Fee (HK$): Please tick one HKTIC member $3,000 □ Others $3,300 □

Payment:

Cheque No. Bank Amount

Receipt Recipient: Please tick one Organization □ Participant □

Mailing address: 

Address to be used for receiving the certificate and receipt

For registration, please

1) email the completed registration form to training.qmshk@gmail.com;

2) prepare a signed crossed cheque payable to "Hong Kong Association for Testing, Inspection and Certification Ltd."; and

3) post the completed registration form and signed crossed cheque on or before 12 December 2019 to HKTIC Secretariat, 1/F., CMA Building, 64-66 Connaught Road Central, Hong Kong.

For enquiry and advance seat reservation, please write to or call

Email: training.qmshk@gmail.com
Tel.: +852 6306 1959