Introduction

The Measurement of Uncertainty in the microbiological laboratory is increasingly a requirement of industry accreditations internationally, in particular for laboratories accredited to the ISO/IEC 17025 standard (or equivalents like ISO/IEC16159).

The estimation of uncertainty of measurement provides a quantitative estimate of the quality of a measurement value, and is thus an essential component of a quality management system for laboratories.

This course is designed to help laboratories engaged in routine microbiological analysis to calculate uncertainties of their test or measurement results. The workshops take participants through the process of evaluating uncertainty in microbiology with hands-on formulae (APLAC method) being provided as well as an appreciation of a European method which follows closely the generic GUM.

Objectives

1. Understand the factors contributing to the overall uncertainties
2. Identify the accreditation body requirements for determining expanded uncertainty of measurements
3. Enable analysts/microbiologist to carry out an uncertainty evaluation for their own laboratory methods

Who Should Attend

Practitioners in chemical and microbiological laboratories, microbiologists, food technologists, and others involve in the food and microbiological testing.

(Participants preferably should have some knowledge of or attended the uncertainty of measurement course on metrology or chemical testing before)

Course Contents

Day 1
- Introduction & Definitions
- Interpretation & Guidance
- Principles of estimating the uncertainties
  o Standard uncertainty
  o Calculating the combined uncertainty
  o Expanded uncertainty
- Experimental Protocol
- Interpretation for microbiological testing
- Poisson/Bias
- Uncertainty arise from sampling

Day 2
- Estimation uncertainty step-by-step
  o Simplest approach
  o Alternative data
- Fish Bone Diagram
- Estimation of the components of uncertainty
- Mathematical models of microbiological test results and uncertainties
- Cochran's test
- Reporting measurement uncertainty
- Measurement uncertainty for low count

Workshops on Examples using various methods including method recommended for APLAC countries. Some hands-on formulae would also be provided.

Course Presenter

DR. STEPHEN WONG KAM SUN – is a HRDC Accredited Trainer and an IQM Certified Expert in ISO/IEC 17025:2017 Standard for Testing, Calibration, and Sampling laboratories. He is a competent Quality Consultant, Trainer and qualified Lead Assessor/Auditor for both ISO 9000 and ISO/IEC 17025.

He is also an effective business management trainer. He holds at least six degrees/professional qualifications, namely, PhD (Sunway University), MBA degree (University of Wales, UK), Chemistry degree (University Malaya), Diploma in Marketing (CIM, UK) and Certified Diploma in Accounting & Finance (ACCA, UK). He has 38 years of management & training experience, including 32 years in quality training and consultancy.

He was the Hon. Secretary (16 years) for the Institute of Quality Malaysia, an approved Quality Trainer for SIRIM and a Quality and Management Consultant to many companies in Malaysia. He was a Council Member of the Malaysian Institute of Management and a well-recognized trainer for MIM. He was also the Gen. Secretary of Malaysia Register of Certificated Auditors (MRCA).

He was a member (1991-2002) of the Malaysian National Accreditation Council of the Department of Standards Malaysia and sat on seven other national committees on ISO. Dr. Stephen Wong had been a key member of the TC 176 and TC 207 national committees responsible to CASCO for the development of the ISO 9001, ISO/IEC 17025 and ISO 14001 standards and other conformity assessment standards. He was also a member of the IATCA (now IPC) representing MRCA in the development of the ISO 19011 Auditing Standard for the ISO 9001 and the ISO 14001.

Registration Form

Please register the following for the course on "Uncertainty of Measurement in Microbiology"

Name: _____
Designation: _____

Name: _____
Designation: _____

(please attached extra list if more than two participants)

Reminder: Participants need to bring a laptop and scientific calculator for this course.

Name & Address of Company:
_____
_____
_____
_____
_____

Contact Person: _____
Designation: _____
Tel: No: _____ Fax: _____
E-mail: _____

Signature: _____
Date: _____

Method of Payment:
Please made cheque payable to **WKS HOLDINGS SDN BHD** or transfer the payment to our **Public Bank account no: 3078894831** and send us a copy of the transfer slip.

Payment by HRDC grant must be approved before training starts.

WKS reserves the right to cancel or postpone the course in the event of unforeseen circumstances.

UMMB211027

Registration Guidelines & Procedures

1. Early registration is encouraged. Participants shall be registered on a first-come-first-served basis.
2. Register by completing attached form and return by e-mail to admin@wks-h.com
3. Payment of fee should be made 4 days before course commence.
4. Please made cheque payable to WKS HOLDINGS SDN BHD or transfer the payment to our Public Bank account no: 3078894831 and send us a copy of the transfer slip.
5. Notification of cancellation must be in writing received 4 working days prior to commencement of course (20% of course fee will be retained). Otherwise, full fee will still be charged.
6. WKS reserves the right to cancel or postpone the course in the event of unforeseen circumstances. However, in such an event, participants would be informed as early as it could possibly permit.

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Uncertainty of Measurement in Microbiology

Administrative Details

Date: 13 – 15 May 2025
Time: 0900 – 1700
Venue: Plaza Mayang, Petaling Jaya
Fees: RM 1,650 per participant HRD Corp Claimable Course

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WKS HOLDINGS SDN BHD

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