
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.

Who Should Attend

Practitioners in chemical and microbiological laboratories, microbiologists, food technologists, and others involve in the food and microbiological testing. *(Since this is a 2-day course, participants preferably should have some knowledge of or attended the uncertainty course on metrology or chemical testing before)*

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

Course Contents

Principles of estimating the uncertainties

- Type A and Type B estimations of uncertainty
- Calculating the combined uncertainty
- Uncertainty in Analytical Measurement

Metrological characteristics of microbiological cultural methods

- Common basic equations
- The one-plate instrument
- The multiple-plate instrument
- The one-dilution MPN instrument
- The multiple-dilution MPN instrument

Estimation of the components of uncertainty

Mathematical models of microbiological test results and uncertainties

Systematic corrections and uncertainties

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

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 fax or e-mail.
3. Payment by crossed cheque / postal order made payable to WKS HOLDINGS SDN BHD together with registration form, to be received at least 4 days before the course commences.
4. 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.
5. A registration fee is inclusive of course materials, refreshments and lunch.
6. Closing date is 4 days before commencement of the course.

Course Presenter

STEPHEN WONG – is a **Certified Trainer by the Human Resource Department (HRD) of the Ministry of Human Resource, Malaysia**. He is an excellent Quality Consultant and trainer for ISO 9000 and ISO/IEC 17025 for many companies and laboratories. He is also an effective management trainer. He holds a degree in Chemistry (UM), Diploma in Marketing (CIM, UK) and Certified Diploma in Accounting & Finance (ACCA, UK). A qualified Lead Assessor for both the ISO 9000 and ISO/IEC 17025. He did his Business Management Studies in the Cranfield School of Management, UK. He has 28 years of management & training experience, including 18 years in quality training and consultancy. He has more than 30 years of working experience, mostly in top management and entrepreneurial development.

He was the Hon. Secretary (16 years) for the Institute of Quality Malaysia, an approved Quality Trainer for SIRIM since 1989 and a Quality and Management Consultant to some companies in Malaysia. He is a Council Member (since 1989) of the Malaysian Institute of Management and is also a well recognized trainer for MIM. He is also the Gen. Secretary of Malaysia Register of Certificated Auditors (MRCA) since its inception in 1998.

He was a member (1991-2002) of the Malaysian National Accreditation Council of the Department of Standards Malaysia under the Ministry of Science, Technology and Environment and still sits on three other national committees on Quality and Environmental in relation to ISO. Mr. Stephen Wong has been a key member of the TC 176 and TC 207 national committees responsible to CASCO for the development of the ISO 9001:2008, ISO/IEC 17025 and ISO 14001 standards and other conformity assessment standards. He is also a member of the IATCA (now IPC) representing MRCA in the development of the ISO 19011 Auditing Standard for the ISO 9000 and the ISO 14000.

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 scientific
calculator for this course.**

Name & Address of Company:

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

I/We enclosed a cheque no: _____ amount to
RM _____ made payable to WKS HOLDINGS
SDN BHD.

Signature: _____
Date: _____

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: 8 – 9 April 2010
Time: 0900 – 1715
Venue: Plaza Mayang, PJ
Fees: RM 980 per participant

Organized & Management by

WKS HOLDINGS SDN BHD

