Course Code: TLM5

2 Days course (Certificate of completion/attendance)

Laboratory Quality Management System

ISO/IEC 17025:2017

Measurement Uncertainty for Chemical testing

COURSE AIM

To have a clear understanding of international regulatory authority regulations and gain the background knowledge to effectively plan on measurement uncertainty for the chemical testing.

ENTRY REQUIREMENT

This course is recommended for those interested in and currently working in chemical testing laboratories, especially for technician / chemist who is performing the uncertainty measurement for new development testing method, operations manager, professional and technical staff, quality manager, internal auditor, authorized representatives and approved signatory.

Learning Outcome

- identify the source of uncertainty for a test method.
- understand the procedure to perform for the uncertainty measurement on chemical testing.
- apply the uncertainty result of testing method for decision rule.

GENERAL INFORMATION

Venue:	ACI Training Venue
Duration:	2 Days
Language:	Cantonese supplemented with English Material
Methodology:	Presentation and experience sharing
Certificate:	Certificate of successful Completion will be awarded to delegates who have attended full course

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COURSE CONTENT

Measurement Uncertainty:

The principles

- Concept of measurement uncertainty and sources of errors.
- HOKLAS guidelines on estimation of measurement uncertainty
- Statistics for measurement uncertainty estimation
- Steps on uncertainty measurement (Top-down and Bottom-up approach)
- Evaluation and calculation of an uncertainty budget in a test method using spreadsheets.
- General criteria for calculated uncertainty on a test method
- Establishment of decision rule

The Practices

- Using data from validation and PT result
- Case study on the Uncertainty measurement

Emerging Technologies

"Decision rule" is introduced in the new version of ISO/IEC 17025:2017. The awareness of uncertainty and method validation are essential elements to establish a proper decision rule to identify the dispersion of the measurand. The confidence level and margin/boundary are used to identify the conformity of the result.

REMARK

- After completion of all TLM1, TLM3, TLM5 & TLM6, he or she is eligible for applying Professional Certificate of Laboratory Technical Officer.

- After completion of all TLM1, TLM3, TLM4, he or she is eligible for applying Professional Certificate of Laboratory Auditor.

課程編號: TLM5

2天 (證書: 高出席率之學員將獲頒發課程完成證書乙張)

實驗室品質管理系統

ISO/IEC 17025:2017

測量化學測試中的不確定性

培訓目的

清楚了解國際監管機構的法規，掌握相關背景知識，有效規劃及測量化學測試中的不確定性。

培訓要求

任何有興趣和目前在化學測試實驗室工作的人，特別是執行新開發測試方法的不確定性測量的技術員及化學家、營運經理、專業技術人員、品質經理、內部審計師、授權代表和獲批准的簽署人。

學習成果

- 確定測試方法的不確定性來源
- 了解測量化學測試中的不確定性的程序
- 將測試方法的不確定性結果應用於決策規則

培訓詳情

地點: ACI 訓練中心

時間: 二天

課程語言: 廣東話授課輔以英語教材

上課模式: 講解、工作小組討論與練習

證書: 高出席率之學員將獲頒發課程完成證書乙張

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培訓內容

測量不確定性:

原則

- 測量不確定性的概念和錯誤來源。
- 關於估計測量不確定性的HOKLAS指南
- 測量不確定性估計的統計數據
- 不確定性測量步驟
  （自上而下和自下而上方法）
- 使用電子表格評估和計算測試方法中的不確定度預算
- 測試方法中計算不確定性的一般標準
- 制定決策規則

實踐

- 使用驗證和PT結果的數據
- 不確定性測量案例研究

新興技術

"決策規則"在新版本的ISO/IEC 17025:2017中引入。不確定性意識和方法驗證是建立正確決策規則的基本要素，以確定測量的分散性。信賴水平和邊沿/邊界水平用於識別結果的一致性。

備註

- 在完成所有 TLM1、TLM3、TLM5 和 TLM6 後，他/她有資格申請實驗室技術人員專業證書。
- 完成所有TLM1，TLM3，TLM4後，他/她有資格申請實驗室審核員專業證書。