Quality LearningHub & Consultancy Singapore
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CALIBRATION SYSTEMS

Introduction:

The purpose of measurements is the same whether they be engineering, experimenting or test measurements. It is important to note that every measurement ever made has error associated with it and it must be recognized as part of the measurement process.

This two-day workshop is to share the concept about error and knowledge about a process so that informed decisions can be made.

Course Objectives:

At the end of the workshop, participants will be able to:

- Understand the concept of calibration, the differences between verification, calibration and MSA
- Recognize the distinction between error and uncertainty
- Able to derive and appreciate the numerous values given in a typical calibration certificate and
- Gain the underlying principles of statistics as applied to calibration

Course Contents:

❖ **Calibration and Measurement Fundamentals**

- Measurement and Calibration Overview
- Practical Implementation of Measurement and Calibration Procedure
- Concept of Measurement Uncertainty and Error
- Detection, Evaluation and Expression of Errors
- Errors Reduction
- Tolerances and Accuracy Ratio
- Confidence Interval and Types of Distribution in Metrology and Resolution

❖ **Analysis of Calibration and Measurement Results**

- Calibration and Response
- Evaluation of Measurement Uncertainty
- Evaluation of Uncertainty in Accordance with GUM (The Guide to the Expression of   Uncertainty in Measurement)

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- Calibration and Measurement Step-by-step
- Reporting Results

❖ **Calibration and Measurement Assurance System**

- Different between Quality Management System and Measuring Equipment Quality Assurance requirements
- ISO/IEC GUIDE 17025 Focus
- ISO/IEC 17025 Requirements

❖ **Comparative Study for Inter-laboratory Testing**

- Introduction
- Types of comparative study
- Comparative Study One: Comparing testing results with a given reference or a given standard
- Comparative Study Two: Comparing testing results for two methods, two laboratories or two masters

Who Should Attend:

Inspectors, Technicians, Supervisors, Managers, Executives and Engineers responsible for performing Calibrations, setting up or maintaining calibration programs in their companies.

Award of Certificate:

Participants will be issued with a Certificate of Successful Completion upon meeting 75% of the required course attendance.

Duration:

2 days (14 hours)

Course Fee:

$600 nett per trainee (GST is not applicable).

(Course fee is inclusive of all training materials and light refreshments.)