



*Training Course:
Accuracy (Trueness and Precision) of
Measurement Methods and Results*

*12 - 16 July 2027
Madrid (Spain)*

Training Course: Accuracy (Trueness and Precision) of Measurement Methods and Results

Training Course code: SC234753 From: 12 - 16 July 2027 Venue: Madrid (Spain) - Training Course Fees: 6300 € Euro

Introduction

ISO 5725 uses two terms, "trueness" and "precision", to describe the accuracy of a measurement method.

"Trueness" refers to the closeness of agreement between the expectation of a measurement result and a true value. "Precision" refers to the closeness of agreement between independent measurement results obtained under stipulated conditions.

Course Objectives

Participants for this training course will learn:

- specifies basic methods for estimating the bias of a measurement method and the laboratory bias when a measurement method is applied
- provides a practical approach of a basic method for routine use in estimating the bias of measurement methods and laboratory bias
- provides a brief guidance to all personnel concerned with designing, performing or analyzing the results of the measurements for estimating bias.
- measurement methods which yield measurements on a continuous scale and give a single value as the measurement result, although the single value can be the outcome of a calculation from a set of observations.
- the measurement method has been standardized and all measurements are carried out according to that measurement method.

Target Audience

- This training is designed for individuals seeking to expand their knowledge of measurement accuracy, including trueness and precision of methods and results.
- It is suitable for professionals aiming to understand and evaluate the reliability and validity of measurement outcomes.
- The course targets those working in testing, calibration, quality control, and laboratory environments.
- It is also relevant for engineers, technicians, and specialists involved in measurement and data analysis.
- The program benefits anyone interested in improving measurement quality, consistency, and performance evaluation.

Course Outlines

Day 1

Introduction

- Scope
- Normative references
- Terms and definitions
- Symbols

Day 2

Determination of the bias of a standard measurement method by an interlaboratory experiment

- Experimental design considerations
- Objective
- Layout of the experiment
- Cross-references to ISO 5725-1 and ISO 5725-2
- The statistical model
- Required number of laboratories and measurements

Day 3

Requirements of the accepted reference value

- Approaches to assigning the accepted reference value
- Materials used in the experiment
- Requirements of measurement uncertainty of the accepted reference value

Carrying out the experiment

- Evaluation of precision
- Check of precision
- Estimation of the bias of the standard measurement method
- Example

Day 4

Determination of the laboratory bias of one laboratory using a standard measurement method

- Experimental design considerations
- Objective
- Layout of the experiment
- Cross-references to ISO 5725-1 and ISO 5725-
- The statistical model
- Number of measurement results
- Requirements of the accepted reference values

Day 5

Carrying out the experiment

- Check of the within-laboratory standard deviation
- Estimation of the laboratory bias

Report to the panel and decisions to be taken by the panel

- Cross-reference to ISO 5725-2
- Report by the statistical expert
- Decisions by the panel

Registration form on the Training Course: Accuracy (Trueness and Precision) of Measurement Methods and Results

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