



LABORATORY EXCELLENCE, SAFETY AND ACCREDITATION

Introduction to Measurement Uncertainty

2 day course

Classroom, online or in-house

Course overview

Every measurement carries a doubt, and a result reported without it cannot support a decision about conformity. This course introduces the concept and the arithmetic. Delegates work through the difference between error and uncertainty, identifying the sources that contribute to a result, evaluating them by statistical means and by other means, and combining them into a standard and then an expanded uncertainty. The budget is built by hand on real measurements so delegates can see which contributions matter and which are noise. The course closes on reporting uncertainty in a way a customer and an assessor will both accept, and is the foundation for the applied course that follows it.

What you will learn

- Distinguish measurement error from measurement uncertainty
- Identify the sources contributing to the uncertainty of a result
- Evaluate contributions by statistical means and by other means
- Combine contributions into a standard and an expanded uncertainty
- Apply coverage factors and state a level of confidence
- Build a simple uncertainty budget for a real measurement
- Report uncertainty so a customer and an assessor both accept it

Who should attend

- Laboratory analysts and technicians
- Calibration technicians
- Quality managers in testing and calibration laboratories
- Metrologists new to uncertainty evaluation
- Anyone preparing for an ISO/IEC 17025 assessment

Course outline

- 01 Why a result without an uncertainty cannot support a decision
- 02 Error against uncertainty
- 03 Identifying sources of uncertainty in a measurement
- 04 Evaluation by statistical means
- 05 Evaluation by other means, including certificates and specifications
- 06 Combining contributions and expanded uncertainty
- 07 Building a budget on a real measurement
- 08 Reporting uncertainty on a certificate or report

Upcoming dates

Dates	Venue	Format	Fee per delegate
15 to 16 October 2026	Johannesburg, South Africa	Classroom	R11,950
22 to 23 October 2026	Addis Ababa, Ethiopia	Classroom	USD 795
10 to 11 December 2026	Cape Town, South Africa	Classroom	R11,950
11 to 12 January 2027	Pretoria, South Africa	Classroom	R11,950



Fees and how to register

This 2 day course is **R6,500** per delegate online, **R11,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 795** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit www.afrisciencegroup.com, email info@afriscience.co.za, or WhatsApp us on **+27 63 479 1136**.

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