DIMENSIONAL METROLOGY – PART 2

Aim of Course

This course is designed to build on Part 1 and is focused on the calibration of all devices which rely on the Dimensional Calibration laboratory for traceable measurements. A major goal of this course is to provide laboratory staff already employed in a SANAS Accredited laboratory with the necessary background and skills to enable them to gain a wider and more comprehensive background in the calibration and use of dimensional instruments. There is a strong emphasis on how to evaluate Uncertainties of Measurement in the Dimensional field.

Pre-Requisites for attending this course

• Introduction to Measurement (strongly recommended)
• Method Validation (Calibration) (strongly recommended)
• Dimensional Metrology – Part 1
• Uncertainty of Measurement – GUM (Physical)

Course Overview

• Traceability in Dimensional Metrology
• Error sources in dimensional metrology; thermal expansion, alignment, elastic compression, etc.
• Uncertainty Estimation
• Form measurements; Roundness and Surface Texture
• Laser Interferometers (depending on attendees)
• Procedures and Certificates

Practical Examples will cover the following:

A: Calibration of Gauge blocks by comparison
B: Calibration of a Micrometer
C: Calibration of flatness of a Surface table
C: Calibration of a Screw Plug gauge
D: Calibration of an Angle block with a Sine bar

Who should attend?

(Dimensional) Calibration technicians and metrologists

Course Duration

5 Days

Evaluation

Daily tests and the passing of a final examination are required in order to successfully complete this course.

The examination will be written approximately two weeks after the completion of the course.