

PRESSURE METROLOGY – PART 2



Aim of Course

The aim of the course is to equip metrologists working in calibration laboratories, at the highest level with the requisite skills to be able to perform pressure measurements using dead weight testers and pressure balances. The metrologists will also be able to determine piston effective area, as well as its uncertainty by dimensional method as well as the cross-floating method for the calibration of pressure balances.

Pre-Requisites for attending this course

- A working knowledge of first year university mathematics and physics.
- Pressure Metrology Part 1
- Mass Metrology
- Uncertainty of Measurement – GUM (Physical)

Course Overview

- Pressure balance operation and basic principles
- Pressure balance types and models
- Calculation of generated pressure using the pressure equation
- Effective area determination by dimensional characterization and cross floating
- Calculation of measurement uncertainty for generated pressure
- Calculation of measurement uncertainty for piston/cylinder effective area

Who should attend

- Pressure metrologists intending to generate known pressure by means of pressure balances
- Pressure metrologists intending to calibrate dead weight testers and pressure balances.

Course Duration

5 Days

Evaluation

A combination of marked daily practical exercises/tests as well as a marked, final examination are required to successfully complete this course where the daily tests will make up 30% of the mark and the examination 70% of the mark.

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