



TEMPERATURE MEASUREMENT COURSE

This course covers the measurement of temperature and the calibration of temperature measuring instruments. It incorporates extensive hands-on practical exercises.

Course Objectives

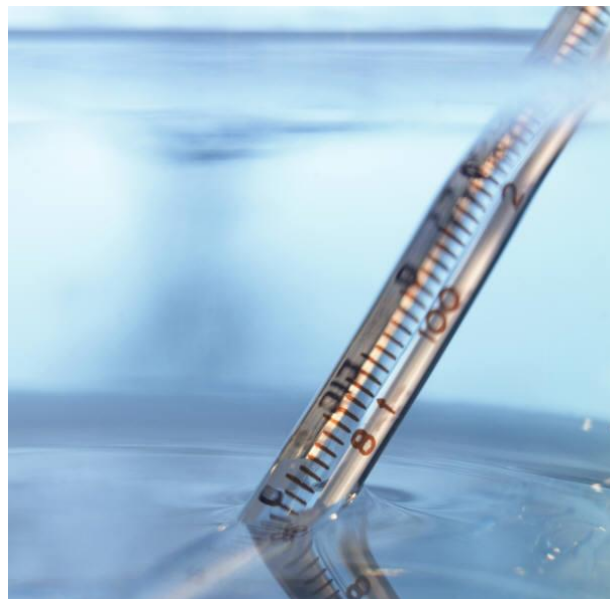
The course provides participants with knowledge and skills to:

- understand the principles of operation of common temperature sensors and their instrumentation, especially thermocouples and resistance, radiation and liquid-in-glass thermometers
- employ suitable processes for calibrating and using temperature measurement equipment
- identify various sources of error that affect temperature measurements
- develop the technical understanding required to become a NATA signatory

Course Outline

The topics covered include:

- physics of temperature measurement
- temperature scale, traceability and international standards
- thermocouple measurement and calibration
- properties of thermocouples and systematic errors
- infrared and general radiation thermometry and their application
- errors and calibration in radiation thermometry
- calibration baths and furnaces
- digital thermometers
- resistance thermometry: associated errors and calibration
- liquid-in-glass thermometry
- estimating measurement uncertainty¹
- extensive hands-on exercises in measurement



¹Participants with limited experience in estimating measurement uncertainty would benefit from first attending the one-day Introduction to Estimating Measurement Uncertainty course.

Course Details

Dates / Venue

Available dates and locations can be found on our [website](#).

Fee / Inclusions

Check the NMI [website](#) for the current pricing, which includes lunch and refreshments and a copy of the below:

- Monograph 5: Thermocouples in Temperature Measurement
- Monograph 9: Liquid-in-Glass Thermometry
- Monograph 11: Platinum Resistance Thermometry
- Monograph 12: Radiation Thermometry

Time

Face-to-face course will start at 9 am and will finish by 5 pm

Past attendees have said...

"I have gained a better understanding of calibration and temperature measurement techniques"

"We have a better understanding of thermocouple theory and will help us to achieve better measurements"

Related Courses

Course name	Duration	Dates
Introduction to estimating measurement uncertainty	1-day	See NMI website
Testing temperature controlled enclosures	1-day	See NMI website
Humidity measurement	1-day	See NMI website

In-house Options

Training may be carried out at your premises for groups of 6+ on a fee for service basis. Consultancies provide advice regarding specific measurement issues or training in advanced measurement techniques. More information is found on our [website](#).

Contact Us

Phone (02) 8467 3796, or send an email to training@measurement.gov.au. For more information about the National Measurement Institute, visit our [website](#).