



# DIMENSIONAL MEASUREMENT

This two-day course presents a comprehensive overview of the fundamental principles in dimensional metrology and geometric dimensioning and tolerancing (GD&T). It is suitable for people new to dimensional metrology and those seeking to improve their skills.

## Course Objectives

The workshop provides participants with the knowledge and skills to:

- use traditional gauges and dimensional measuring equipment
- understand and apply the fundamental principles of 3D coordinate metrology
- understand and interpret GD&T symbols in order to perform appropriate measurements
- identify and minimise the various sources of error that can arise in dimensional metrology

## Course Outline

The topics covered include:

- the use and calibration of gauge blocks, micrometers, digital callipers, dial indicators.
- GD&T concepts, rules and symbols, the interpretation of tolerance frames
- datums, coordinate systems, types of probes, probing strategies, getting the most from a CMM
- the effects of temperature, abbe error, cosine error, aliasing
- surface roughness, filtering
- estimating measurement uncertainty<sup>1</sup>



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

## Past attendees have said...

*"We have acquired the necessary skills and competency for accreditation"*

*"I can now train my staff to avoid fundamental errors"*

## Course Details

### Dates / Venue

Available dates are on our [website](#) and the venue is NMI Melbourne, 1/153 Bertie Street, Port Melbourne, VIC 3207.

### Fee / Inclusions

Check the NMI [website](#) for the current pricing which includes lunch, refreshments and learning materials.

### Time

The course will start at 9 am and will finish by 5 pm.

## Related Courses

Course name	Duration	Dates
Introduction to Estimating Measurement Uncertainty	1-day	<a href="#">See NMI website</a>
Fundamentals of GD&T	3-day	<a href="#">See NMI website</a>

## 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 available on our [website](#).

## Contact Us

Phone (02) 8467 3796, or send an email to [training@measurement.gov.au](mailto:training@measurement.gov.au). For more information about NMI and to enrol, visit our website at [www.measurement.gov.au](http://www.measurement.gov.au)