



PHOTOMETRY AND RADIOMETRY COURSE

This course covers the broad range of equipment and techniques used to measure colour and light output, the basic operating principles involved in radiometry, working techniques, potential problems and their solutions.

Course Objectives

The course provides participants with knowledge and skills to:

- understand the fundamentals of radiometry and photometry
- understand the principles of operation of a range of electrical, optical and mechanical equipment
- identify various sources of error that affect radiometric measurements

Course Outline

The topics covered include:

- terminology and basic concepts
- traceability and international standards
- spectroradiometry
- sources
- colorimetry
- detectors and optical equipment
- primary standards
- electrical equipment
- photometry
- UV radiometry
- laser radiometry
- laboratory demonstrations
- sources of error and calculating measurement uncertainty¹



¹Participants 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...

"Through this course we have gained a greater understanding of radiometry and photometry so we can make more accurate measurement decisions in our lab"

"I am now able to utilize equipment that is not being used to its full potential, which to reduce uncertainty."

Course Details

Dates / Venue

Available dates and locations are on our [website](#).

Fee / Inclusions

Check the NMI [website](#) for the current pricing.

All classes include a copy of Monograph 10: Introduction to Radiometry

Face-to-face classes include lunch and refreshments

Time

Face-to-face 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	See NMI website

Photometry and Radiometry standards

A range of applications requires accurate calibration and the support of specialised expertise in radiometric and photometric measurement:

- industry needs to know the efficiency and colour of lighting systems
- total radiant flux must be known for fire safety measurements
- ultraviolet sources are used for the medical treatment of elevated bilirubin levels in babies, and for curing paint and sterilising water
- lasers may be used for eye surgery or cutting metal
- colour matching for computer graphics displays and TV cameras is vital in the photographic industry



NMI staff have high-level scientific expertise in photometry and radiometry. Recently, they developed a new primary radiation standard with significantly improved accuracy, benefiting clients of NMI's calibration services in optical power, radiant intensity, colour, irradiance luminous flux and several other areas.

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](#).