Title	**Maintain and manage specialist analytical equipment used in industrial processes**		
Level	**5**	**Credits**	**10**

Purpose	This unit standard is intended for use in the training and assessment of industrial measurement and control. It covers maintenance and management of specialist analytical equipment such as spectrophotometers, mass spectrometers, chemiluminescence analysers, and chromatographs, or analytical equipment of similar complexity. People credited with this unit standard are able to: – calibrate specialist analytical equipment; – specify and maintain sample processing system associated with specialist analytical equipment; – diagnose and correct faults in specialist analytical equipment; – carry out routine maintenance procedures on specialist analytical equipment; and – manage maintenance of specialist analytical equipment.

Classification	Industrial Measurement and Control > Industrial Measurement and Control - Maintenance

Available grade	Achieved

Guidance Information

1 This unit standard has been designed for learning and assessment on-job.

2 Range
- a Evidence of one type of specialist analytical equipment, including associated sampling systems, is required from – spectrophotometer, mass spectrometer, chemiluminescence analyser, chromatograph, or analytical equipment of similar complexity.
- b All activities must comply with policies, procedures, and requirements of the organisations involved; the ethical codes and standards of relevant professional bodies; and all relevant legislative and/or regulatory requirements.

Outcomes and performance criteria

Outcome 1

Calibrate specialist analytical equipment.

Performance criteria

1.1 Calibration standards are maintained according to industry standards and specifications.

1.2 Test equipment is selected according to calibration instructions.

1.3 Personal and plant safety precautions are applied according to calibration instructions and site procedures.

1.4 Equipment is calibrated according to calibration instructions and site procedures.

1.5 As-left calibration accuracy is calculated according to calibration instructions and site procedures.

1.6 Test results are reported according to site procedures.

Outcome 2

Specify and maintain sample processing system associated with specialist analytical equipment.

Range typical sample processing systems may include some or all of – sample probe, sample extraction pump, filters, sample coolers, pressure regulation, exhaust processing.

Performance criteria

2.1 Requirements for sample processing are specified in accordance with process requirements and standards relevant to the quantities being measured.

2.2 Routine maintenance checks on sample processing system are carried out in accordance with site procedures.

Outcome 3

Diagnose and correct faults in specialist analytical equipment.

Performance criteria

3.1 The diagnosis makes use of manufacturers' troubleshooting guides.

3.2 Faults are identified and corrected to restore the system to operational condition.

Outcome 4

Carry out routine maintenance procedures on specialist analytical equipment.

Performance criteria

4.1 Routine checks and adjustments are carried out according to manufacturers' specifications and site procedures.

4.2 Routine tests on performance are carried out according to manufacturers' specifications and site procedures.

Outcome 5

Manage maintenance of specialist analytical equipment.

Performance criteria

5.1 Procedures for the maintenance of the analytical equipment and associated sampling systems are in place and up to date. This may include writing the procedures where none exist, or confirmation of effectiveness and updating in other situations.

5.2 Awareness of other maintenance personnel with regard to their part in the maintenance and associated safety procedures is confirmed, and appropriate instruction provided where necessary.

5.3 Supply of spare parts and consumables is managed according to operational requirements.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	28 August 2002	31 December 2013
Review	2	21 August 2009	31 December 2027
Rollover and Revision	3	28 June 2018	31 December 2027
Review	4	30 January 2025	31 December 2027

Consent and Moderation Requirements (CMR) reference	0003

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.