



**Australian Government**

# **MSL50118 Diploma of Laboratory Technology**

**Release 4**

# MSL50118 Diploma of Laboratory Technology

## Modification History

Release	Comments
Release 4	Unit MSL975043 Prepare animal and plant material for display reinstated into the other elective group.
Release 3	Five low use units removed from elective bank as determined at December 2020 AISC meeting in response skills ministers objectives.
Release 2	This version was released in <i>MSL Laboratory Operations Training Package Release 3.0</i> . Supersedes and equivalent to MSL50118 Diploma of Laboratory Technology (Release 1). 1 Elective unit added.
Release 1	This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i> . Supersedes and equivalent to MSL50116 Diploma of Laboratory Technology. Core units changed. Elective choices restricted. Specialisations added. Total number of units required for qualification changed.

## Qualification Description

This qualification reflects the role of workers who apply a range of laboratory technologies to conduct scientific-technical tests in most industry sectors, utilising specialist technical knowledge. They conduct a wide range of routine and complex, specialised tests where atypical samples may be involved and the instrumentation used has a wide range of operating variables. Workers communicate sample requirements to other personnel and may liaise with suppliers to troubleshoot product non-conformance. They may also demonstrate methods to others and train team members to collect samples and conduct basic tests reliably.

Workers contribute to the modification of standard operating procedures (SOPs) and enterprise methods when necessary, they may also have a role in the planning of schedules and monitoring of resources in their work area. Work is carried out according to established procedures, often under the management of laboratory or quality managers, or scientific/medical professionals.

No licensing or certification requirements exist at the time of publication.

## Entry Requirements

Entry into this qualification is open to individuals who:

- hold a Certificate IV in Laboratory Techniques

or

hold a relevant Certificate IV or higher level qualification in a relevant science discipline or

- can demonstrate equivalent skills and knowledge in a relevant science discipline to any of the above qualifications.

## Packaging Rules

**Total number of units = 15**

- 5 core units
- 10 elective units, consisting of:
  - at least 7 units from any of the elective lists below, including at least 5 units coded at 5000 or above
  - up to 3 units from any endorsed Training Package or accredited course – these units must be relevant to the work outcome.

Any combination of electives that meets the rules above can be selected for the award of the *MSL50118 Diploma of Laboratory Technology*. Where appropriate, electives may be packaged to provide a qualification with a specialisation.

Packaging for each specialisation:

- At least 6 Group A electives must be selected for award of *Diploma of Laboratory Technology (Pathology)*
- At least 6 Group B electives must be selected for award of the *Diploma of Laboratory Technology (Chemistry)*
- At least 6 Group C electives must be selected for award of the *Diploma of Laboratory Technology (Construction)*
- At least 6 Group D electives must be selected for award of the *Diploma of Laboratory Technology (Food)*
- At least 6 Group E electives must be selected for award of the *Diploma of Laboratory Technology (Biotechnology)*.

Core units

Unit code	Unit title	Prerequisites
MSL924003	Process and interpret data	
MSL924004	Use laboratory application software	
MSL925004	Analyse data and report results	MSL924003 Process and interpret data
MSL934004	Maintain and calibrate instruments	

Unit code	Unit title	Prerequisites
	and equipment	
MSL935007	Monitor the quality of test results and data	MSL924003 Process and interpret data

Elective units

Group A electives – Pathology specialisation

Unit Code	Unit Title	Prerequisites
MSL954003	Relate anatomical and physiological features to laboratory samples	
MSL974021	Perform biological procedures	
MSL975028	Apply advanced embedding and microtomy skills	MSL975029 Perform histological tests
MSL975029	Perform histological tests	MSL973019 Perform microscopic examination MSL954003 Relate anatomical and physiological features to laboratory samples
MSL975030	Perform immunohaematological tests	
MSL975033	Perform tissue and cell culture techniques	MSL973016 Perform aseptic techniques
MSL975034	Perform molecular biology tests and procedures	MSL973016 Perform aseptic techniques MSL974021 Perform biological procedures
MSL975035	Perform microbiological tests	MSL973016 Perform aseptic techniques MSL973019 Perform microscopic examination
MSL975036	Perform haematological tests	MSL973019 Perform microscopic examination
MSL975037	Perform chemical pathology tests	MSL974021 Perform biological procedures

## Group B electives – Chemistry specialisation

Unit Code	Unit Title	Prerequisites
MSL925003	Determine measurements of uncertainty	
MSL935006	Assist in the maintenance of reference materials	
MSL974019	Perform chemical tests and procedures	
MSL975040	Apply routine chromatographic techniques	MSL974019 Perform chemical tests and procedures
MSL975046	Perform complex tests to measure chemical properties of materials	MSL974019 Perform chemical tests and procedures
MSL975047	Apply complex instrumental techniques	MSL974019 Perform chemical tests and procedures
MSL975048	Apply routine spectrometric techniques	MSL974019 Perform chemical tests and procedures
MSL975049	Apply routine electrometric techniques	MSL974019 Perform chemical tests and procedures

## Group C electives – Construction specialisation

Unit Code	Unit Title	Prerequisites
MSL925003	Determine measurements of uncertainty	
MSL954004	Obtain representative samples in accordance with sampling plan	
MSL974016	Perform physical and mechanical tests	
MSL974018	Conduct geotechnical site investigations	
MSL974026	Perform tests to determine the properties of construction materials	MSL973022 Conduct laboratory-based acceptance tests for construction materials

<b>Unit Code</b>	<b>Unit Title</b>	<b>Prerequisites</b>
MSL974028	Classify soils	MSL973021 Conduct field-based acceptance tests for construction materials MSL973022 Conduct laboratory-based acceptance tests for construction materials
MSL975031	Supervise sampling, inspections and testing at construction sites	MSL954004 Obtain representative samples in accordance with sampling plan MSL973021 Conduct field based acceptance tests for construction materials
MSL975044	Perform complex tests to measure engineering properties of materials	MSL973022 Conduct laboratory-based acceptance tests for construction materials MSL974026 Perform tests to determine the properties of construction materials
MSL975051	Supervise geotechnical site investigations	MSL974018 Conduct geotechnical site investigations
MSL975055	Classify building sites	MSL974028 Classify soils

## Group D electives – Food specialisation

<b>Unit Code</b>	<b>Unit Title</b>	<b>Prerequisites</b>
FBPFST4004	Perform microbiological procedures in the food industry	
MSL934005	Contribute to the ongoing development of HACCP plans	
MSL974019	Perform chemical tests and procedures	
MSL974020	Perform food tests	
MSL975032	Provide input to production trials	
MSL975038	Conduct sensory analysis	

Unit Code	Unit Title	Prerequisites
MSL975040	Apply routine chromatographic techniques	MSL974019 Perform chemical tests and procedures
MSL975048	Apply routine spectrometric techniques	MSL974019 Perform chemical tests and procedures
MSL975050	Perform food analyses	MSL974020 Perform food tests

## Group E electives – Biotechnology specialisation

Unit Code	Unit Title	Prerequisites
MSL974019	Perform chemical tests and procedures	
MSL975033	Perform tissue and cell culture techniques	MSL973016 Perform aseptic techniques
MSL975034	Perform molecular biology tests and procedures	MSL973016 Perform aseptic techniques MSL974021 Perform biological procedures
MSL975035	Perform microbiological tests	MSL973016 Perform aseptic techniques MSL973019 Perform microscopic examination
MSL975039	Apply electrophoretic techniques	MSL974019 Perform chemical tests and procedures
MSL975040	Apply routine chromatographic techniques	MSL974019 Perform chemical tests and procedures
MSL975048	Apply routine spectrometric techniques	MSL974019 Perform chemical tests and procedures

## Other electives

Unit Code	Unit Title	Prerequisites
MSL904002	Perform standard calibrations	
MSL905004	Perform non-standard calibrations	MSL904002 Perform standard

Unit Code	Unit Title	Prerequisites
		calibrations
MSL905005	Create or modify calibration procedures	MSL905004 Perform non-standard calibrations
MSL915003	Provide information to customers	
MSL915004	Schedule laboratory work for a small team	
MSL916006	Develop and maintain laboratory documentation	
MSL916007	Manage and develop teams	
MSL916008	Supervise laboratory operations in work or functional area	
MSL916009	Maintain registration and statutory or legal compliance in work or functional area	
MSL916010	Manage complex projects	
MSL935005	Authorise the issue of test results	MSL925004 Analyse data and report results
MSL935006	Assist in the maintenance of reference materials	
MSL974022	Undertake environmental field-based monitoring	
MSL975041	Perform fire assay techniques	MSL973023 Perform fire pouring techniques
MSL975042	Design and supervise complex environmental field surveys	MSL974022 Undertake environmental field-based monitoring
MSL975043	Prepare animal and plant material for display	
MSL975052	Locate, record and collect forensic samples	
MSMENV47	Implement and monitor environmentally sustainable work	



Unit Code	Unit Title	Prerequisites
2	practices	
MSL974030	Process body fluid specimens using a point of care testing device	

## Qualification Mapping Information

Release 4. Supersedes and equivalent to MSL50118 Diploma of Laboratory Technology (Release 3). 1 Elective unit reinstated.

Release 3. Supersedes and equivalent to MSL50118 Diploma of Laboratory Technology (Release 2).

Release 2. Supersedes and equivalent to MSL50118 Diploma of Laboratory Technology (Release 1). 1 Elective unit added.

Release 1. Supersedes and equivalent to MSL50116 Diploma of Laboratory Technology.

## Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>