Australian Government

MSL60118 Advanced Diploma of Laboratory Operations

Release 2

MSL60118 Advanced Diploma of Laboratory Operations

Modification History

Release	Comments
Release 2	Six low use units removed from elective bank as determined at December 2020 AISC meeting in response skills ministers objectives.
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0.* Supersedes and is equivalent to MSL60116 Advanced Diploma of Laboratory Operations. Unit codes updated

Qualification Description

This qualification covers the skills and knowledge required to supervise laboratory operations within a work area or project team.

Employment outcomes targeted by this qualification include laboratory supervisors, senior technical officers and similar personnel.

Senior technicians or laboratory supervisors are generally responsible for the planning, allocation of tasks, coordination, quality assurance, recording and reporting of laboratory outputs within their section. This requires significant judgement about work sequences, and choice of appropriate technology and procedures to ensure that products and services meet customer expectations and are provided safely and efficiently in keeping with the enterprise business plan. Under broad direction from scientists/medical staff/engineers, the senior technician/supervisor accepts responsibility for the day-to-day operation of his/her work/functional area.

They are often responsible for the effective implementation of operational policies and the technical training of personnel in their work area. They also contribute significantly to the development of these policies through the application of specialised technical knowledge.

The work of laboratory supervisors involves frequent peak periods, multiple and competing demands and frequent interruptions. Immediate decisions are often required. They must be adaptable to deal with the demands brought about by any of a number of causes. For example:

- a range of demanding clients, suppliers or contractors
- changes in technology
- regularly changing priorities.

In the course of their normal work, they:

- plan, allocate and monitor resources for their work area and are responsible for their work group's outputs
- apply in-depth technical knowledge and skills to deliver the variety of products and services associated with the work area
- explain complex instructions and procedures to others
- define and solve complex problems by investigating, developing and testing alternatives in response to vague or ill-defined information that is not readily accessible and requires selective analysis
- make significant contributions to the development of technical and operational policy and procedures within a function or work area
- liaise with outside organisations, customers, suppliers and contractors on technical matters
- provide technical information to internal and external customers
- often provide workplace training and assessment
- implement, maintain and promote work health and safety (WHS), quality and other compliance requirements and conduct audits
- work under the general direction of laboratory or quality managers, or scientific/medical personnel.

They may also undertake a range of complex technical tasks. For example:

- conduct a wide range of complex and specialised tests
- exercise considerable analytical skills and judgement to determine appropriate methods and procedures from a range of alternatives
- modify methods to cope with non-routine tests and analyses where unusual samples could be involved and/or where the instrumental controls require optimisation
- develop or adapt methods and procedures.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

Entrants must have been awarded a Diploma of Laboratory Technology or be able to demonstrate equivalent competency, and have had an appropriate period of relevant employment at an occupational level commensurate with the Diploma of Laboratory Technology.

Packaging Rules

To be awarded the MSL60118 Advanced Diploma of Laboratory Operations competency must be achieved in a total of **thirteen (13)** units of competency, consisting of:

- **seven (7)** core units of competency
- **six (6)** elective units of competency.

Note: Units marked with an asterisk have one or more prerequisite requirements and must be considered in the total number of units. Please refer to individual units for details.

Core units of competency

Select all **seven (7)** of the following units of competency.

Unit code	Unit title
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
MSL936003	Maintain quality system and continuous improvement processes within work or functional area
MSL946002	Implement and monitor WHS and environmental management systems
MSMENV472	Implement and monitor environmentally sustainable work practices

ELECTIVE UNITS

Select **six (6)** elective units of competency from Groups A and B, as specified below:

- a minimum of **three (3)** units must be chosen from Group A
- the remainder may be chosen from Groups A and B, to bring the total number of electives to **six (6)**.

Note that **three (3)** of the elective may be chosen from this Training Package, other endorsed Training Packages and accredited courses where those units are available for inclusion at Advanced Diploma level.

Group A Elective units

Unit code	Unit title	Prerequisites
MSL916010	Manage complex projects	
MSL936004	Conduct an internal audit of the quality system	
MSL976005	Evaluate and select appropriate test methods and/or procedures	

Unit code	Unit title	Prerequisites
MSL977005	Validate test methods	
MSL977006	Contribute to the development of products and applications	MSL976005 Evaluate and select appropriate test methods and/or procedures
MSL977007	Troubleshoot equipment and/or production processes	
MSL977008	Develop or adapt analyses and procedures	MSL976005 Evaluate and select appropriate test methods and/or procedures
MSMENV672	Develop workplace policy and procedures for environmental sustainability	

Group B Elective units

Unit code	Unit title	Prerequisites
MSL904002	Perform standard calibrations	
MSL905004	Perform non-standard calibrations	MSL904002 Perform standard 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	
MSL924003	Process and interpret data	
MSL925004	Analyse data and report results	MSL924003 Process and interpret data
MSL925003	Determine measurements of uncertainty	
MSL934004	Maintain and calibrate instruments and equipment	
MSL935005	Authorise the issue of test results	MSL925004 Analyse data and report results

Unit code	Unit title	Prerequisites
MSL935006	Assist in the maintenance of reference materials	
MSL935007	Monitor the quality of test results and data	MSL924003 Process and interpret data
MSL953004	Operate a robotic sample preparation system	
MSL954004	Obtain representative samples in accordance with sampling plan	
MSL954005	Prepare mineral samples for analysis	
MSL973016	Perform aseptic techniques	
MSL973019	Perform microscopic examination	
MSL973021	Conduct field-based acceptance tests for construction materials	
MSL973022	Conduct laboratory-based acceptance tests for construction materials	
MSL973023	Perform fire pouring techniques	
MSL974016	Perform physical and mechanical tests	
MSL974018	Conduct geotechnical site investigations	
MSL974019	Perform chemical tests and procedures	
MSL974020	Perform food tests	
MSL974021	Perform biological procedures	
MSL974022	Undertake environmental field-based monitoring	
MSL974026	Perform tests to determine the properties of construction materials	MSL973022 Conduct laboratory-based acceptance tests for construction materials
MSL974028	Classify soils	MSL973021 Conduct field-based acceptance tests for construction materials MSL973022 Conduct laboratory-based acceptance

Unit code	Unit title	Prerequisites
		tests for construction materials
MSL975029	Perform histological tests	MSL973019 Perform microscopic examination MSL954003 Relate anatomical and physiological features to laboratory samples
MSL975030	Perform immunohaematological tests	
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
MSL975032	Provide input to production trials	
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	MSL973019 Perform microscopic examination MSL973016 Perform aseptic techniques
MSL975036	Perform haematological tests	MSL973019 Perform microscopic examination
MSL975037	Perform chemical pathology tests	MSL974021 Perform biological procedures
MSL975038	Conduct sensory analysis	

Unit code	Unit title	Prerequisites
MSL975039	Apply electrophoretic techniques	MSL974019 Perform chemical tests and procedures
MSL975040	Apply routine chromatographic techniques	MSL974019 Perform chemical tests and procedures
MSL975041	Perform fire assay techniques	MSL973023 Perform fire pouring techniques
MSL975042	Design and supervise complex environmental field surveys	MSL974022 Undertake environmental field-based monitoring
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
MSL975045	Perform laboratory-based ecological techniques	MSL974021 Perform biological 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
MSL975050	Perform food analyses	MSL974020 Perform food tests
MSL975051	Supervise geotechnical site investigations	MSL974018 Conduct geotechnical site investigations
MSL975052	Locate, record and collect forensic samples	
MSL975055	Classify building sites	MSL974028 Classify soils

Qualification Mapping Information

Release 2. Supersedes and is equivalent to MSL60118 Advanced Diploma of Laboratory Operations (Release 1).

Release 1. Supersedes and is equivalent to MSL60116 Advanced Diploma of Laboratory Operations

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