



Australian Government

**Assessment Requirements for MSL975017
Perform laboratory-based ecological
techniques**

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSL975017A Perform laboratory-based ecological techniques

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- identifying and classifying at least five (5) different animal and plant species for scientific and experimental purposes
- processing, labelling, preserving and storing at least five (5) different kinds of specimens
- performing procedures and analyses to monitor the physiology of organisms/specimens in the experimental environment and maintain their viability on at least three (3) occasions
- taking representative samples for analysis
- not contaminating sterile environments or specimens
- integrating field and laboratory data to provide meaningful results in support of laboratory investigations
- using appropriate scientific terminology and technical concepts to report data and phenomena that may risk viability of individual specimens or cultures or are incompatible with the experimental design parameters
- safely collecting, storing and disposing of waste and minimising contamination of the environment
- following workplace safety procedures.

Knowledge Evidence

- Must provide evidence that demonstrates knowledge of:
- growth requirements of organisms that are subjects of laboratory or greenhouse culture or propagation relevant to job role
- general anatomy of plants and animals that is useful as classification data
- processes that are essential for preservation of plant and animal material for use as reference material
- relationships between field and laboratory data that are useful in giving commentary on the integrity or distress in biological environments
- rationale for selection of techniques used to monitor the experimental environment and the effects of variables on organisms in the experimental environment
- uses of environmental impact statements that incorporate the results of field and laboratory analyses
- workplace and/or legal traceability requirements

relevant hazards, work health and safety (WHS) and environment requirements.

Assessment Conditions

- Judgment of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
 - MSL925001 Analyse data and report results
 - MSL974007 Undertake environmental field-based monitoring
- Holistic assessment methods include:
 - review of data and results obtained by the candidate over time to ensure accuracy and consistency
 - inspection of records and workplace documentation completed by the candidate
 - feedback from supervisors or clients about the candidate's ability to perform laboratory-based ecological techniques in support of laboratory investigations involving animals, plants and related environmental parameters
 - observation of the candidate processing specimens and conducting analyses
 - questioning about procedures that form part of experiments relevant to job role
 - review of the candidate's responses to case studies/scenarios, such as:
 - relating field and laboratory data in an environmental impact statement
 - preservation of plant species and placement in a herbarium
 - plant propagation in a variety of controlled environments
 - maintenance of cultures of protozoans or invertebrates.
- Access is required to instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit, including, but not limited to:
 - equipment and resources for investigating the physiology of plants and animals in the laboratory
 - workplace procedures, sampling plans, test methods and equipment manuals
 - computers and programs for simulated experiments or data analysis
 - items of equipment, reagents, specimens and systems for botanical and zoological techniques

- laboratory information management systems (LIMS), databases, record and filing systems, including specimen accessioning.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competence and currency.
- Technical competence can be demonstrated through:
 - relevant VET or other qualification/Statement of Attainment AND/OR
 - relevant workplace experience
- Currency can be demonstrated through:
 - performing the competency being assessed as part of current employment OR
 - having consulted with a laboratory about performing the competency being assessed within the last twelve months.
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Links

Companion Volume implementation guides are found in VETNet -

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