



Australian Government

AHCARB801 Contextualise diagnostic tests

Release: 1

AHCARB801 Contextualise diagnostic tests

Modification History

Release	TP Version	Comment
1	AHCv1.0	Initial release

Application

This unit of competency describes the skills and knowledge required to contextualise diagnostic testing and execute a diagnostic test project.

This unit applies to individuals with advanced theoretical and technical knowledge and skills for professional or highly skilled work and/or further learning in one or more disciplines or areas of practice. This unit applies to individuals with advanced cognitive, technical and communication skills to provide specialist advice, analyse, generate and transmit solutions to complex problems, and to demonstrate autonomy, well-developed judgement, adaptability and responsibility as a practitioner or learner.

The role involves the self-directed application of knowledge in tree anatomy, physiology, pathology, tree dynamics and the edaphic environment with substantial depth in areas such as diagnostic tool application methods and analysis of diagnostic test results.

No occupational licensing, legislative or certification requirements are known to apply to this unit at the time of publication.

Pre-requisite Unit

Nil.

Unit Sector

Arboriculture (ARB)

Elements and Performance Criteria

Element	Performance criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Research diagnostic testing principles and processes	1.1 Research peer-reviewed documentation and relevant case studies 1.2 Develop competency in correct and functional operation of diagnostic testing equipment

Element	Performance criteria
	1.3 Interpret underpinning scientific principles of test processes 1.4 Determine diagnostic assumptions and limitations of testing process for selected diagnostic tool
2. Analyse requirements and calibrate processes	2.1 Analyse quantification, variance and tolerance requirements for selected diagnostic tool 2.2 Research calibration baselines and seek verification where required 2.3 Verify appropriate calibration processes have been performed
3. Determine project parameters and execute a diagnostic test project	3.1 Select one or more appropriate testing processes for each of the primary domains: tree anatomy, physiology, pathology, tree dynamics and the edaphic environment 3.2 Contextualise testing for each domain with appropriate selection of diagnostic tools 3.3 Define scientific research method using a basis of hypothesis testing, measurement of functional relationships, and observational research as required 3.4 Investigate scientific literature resources referenced by current science of each primary domain 3.5 Describe efficacy of test in terms of primary domain 3.6 Conceive and execute a diagnostic test project
4. Interpret testing results	4.1 Express testing results in performance metrics for each of the selected diagnostic tools 4.2 Interpret results against normal and anticipated ranges 4.3 Confirm predictive responses in terms of pre treatment results to projected post treatment outcomes 4.4 Articulate meaning of results within context of primary domain
5. Provide prognosis and document management plans	5.1 Provide an informed prognosis 5.2 Research management options and lag time 5.3 Formulate a report that documents management plans

Foundation Skills

Foundation Skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Unit Mapping Information

New unit - no equivalent.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCARB801 Contextualise diagnostic tests

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Performance Evidence

The candidate must be assessed on their ability to integrate and apply the performance requirements of this unit in a workplace setting. Performance must be demonstrated consistently over time and in a suitable range of contexts.

It is an industry requirement that competency in this unit requires the analysis of five different diagnostic test results.

The candidate must provide evidence for and demonstrate:

- researching peer reviewed documentation and relevant case studies
- developing competency in correct, functional operation of diagnostic testing equipment
- interpreting the underpinning scientific principles of test processes
- describing the physical and other limits of the testing process
- determining the diagnostic assumptions and limitations of the testing process for the selected diagnostic tool
- analysing quantification, variance and tolerance requirements
- researching calibration baselines and seek verification where required
- verifying appropriate calibration processes have been performed
- selecting one or more appropriate testing processes for each of the primary domains of tree anatomy, physiology, pathology, tree dynamics and the edaphic environment
- contextualising testing for each domain with appropriate selection of diagnostic tools
- defining scientific research method using a basis of hypothesis testing, the measurement of functional relationships, and observational research.
- investigating and determine scientific literature resources referenced by the science of each primary domain
- describing the efficacy of the test in terms of the primary domain
- conceiving and executing a diagnostic test project
- expressing results in performance metrics of selected diagnostic tools
- interpreting results against normal and anticipated ranges
- confirming predictive responses in terms of post treatment to pre treatment results
- articulating meaning of results within context of primary domain
- providing an informed prognosis

- researching management options and lag time
- documenting management plans into report
- monitoring management plans and modify or refine as needed
- use of industry standard terminology to describe arboricultural diagnostic testing processes.

Knowledge Evidence

The candidate must demonstrate knowledge of:

- peer reviewed documentation and case studies
- correct, functional operation of diagnostic testing equipment
- underpinning scientific principles behind the test processes
- physical and other limits of the testing process
- diagnostic assumptions and limitations of tools
- quantification
- baselines
- calibration processes
- tree anatomy
- tree physiology
- tree dynamics
- the edaphic environment of trees
- research methods
- hypothesis testing
- measurement of functional relationships
- verifying efficacy of a test
- performance metrics
- normal anticipated ranges of test result
- scientific research methods
- scientific literature
- diagnostic test projects and processes
- the contextual meaning of tests results
- prognostics
- management of diagnostic outcomes
- management plans
- monitoring management plans.

Assessment Conditions

It is an industry requirement that competency in this unit requires the analysis of a minimum of five different diagnostic test results, one in each of the primary domains of tree anatomy, physiology, pathology, tree dynamics and the edaphic environment.

Assessment must be demonstrated consistently over time in a suitable range of contexts and have a productivity-based outcome. No single assessment event or report is sufficient to achieve competency in this unit.

Assessment may be conducted in a simulated or real work environment, however determination of competency requires the application of work practices under work conditions.

The mandatory equipment and materials used to gather evidence for assessment include:

- equipment:
 - computer
 - word processing software
 - statistical software
 - internet connection
 - diagnostic tools selected for testing
- materials:
 - diagnostic test project
 - diagnostic test project management plan

Assessors must satisfy current standards for RTOs in the assessment of arboriculture units of competency.

Assessment must be conducted only by persons who have:

- arboriculture vocational competencies at least to the level being assessed
- current arboriculture industry skills directly relevant to the unit of competency being assessed

Links

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