



Australian Government

Assessment Requirements for AHCARB806 Research urban forest performance

Release: 1

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Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has researched the performance of an urban forest, including:

- investigated urban forest processes, including:
 - elemental components of urban forests
 - role of urban forests as a component of urban ecosystems
 - threats and resilience of urban forests
 - impact of urban forests on hydrology and water quality
 - relationship of trees on soil biota and chemistry
- determined contribution of trees towards rhizosphere biodiversity, bioremediation and soil health
- investigated energy conservation and microclimate modification systems of trees and urban forests
- researched and analysed heat island effect of an urban area
- evaluated health, social and psychological benefits of urban forests
- prepared a preliminary report on benefits of urban forests
- researched methods and technologies for spatial mapping of urban forests
- analysed carbon sequestration process in urban forests
- analysed methods for sampling urban forests
- evaluated urban forest valuation methodologies
- prepared a preliminary report on valuation of an urban forest
- investigated contribution of urban forest to carbon cycles
- determined local climate, soil and management factors affecting forest growth and carbon sequestration
- investigated forest carbon sequestration to help mitigate climate change
- prepared a report evaluating the contribution of forest for mitigation of climate change
- prepared a report on social, environmental, economic and climatic values of urban forests

- determined challenges of increased urbanisation and urban densification on urban forests
- determined potential benefit of urban forest to help mitigate climate change
- compiled reports and investigations and prepared a final report on urban forest performance, which must include multi-disciplinary solutions to challenges of urbanisation on urban forests.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- principles and impact of urban forest on our ecological and social environment, including:
 - elemental components of urban forests
 - role of urban forests as a primary component of urban ecosystems
 - urban forests in cities, their threats and resilience
- trees and their impact on hydrology and water quality, including:
 - regulation of hydrological processes
 - retention of precipitation
 - mitigation of salinity
- trees and their impact on soils, including:
 - relationship of soil biological network
 - soil chemistry and structure
 - soil stabilisation and erosion control
- interactions of trees in their growing environment and urban setting, including:
 - contribution of trees towards rhizosphere biodiversity, bioremediation and soil health
 - energy conservation and microclimate modification systems of trees and urban forests
 - heat island analyses of an urban area
 - health, social and psychological benefits of urban forests
- capturing, recording and assessing urban forest data and values, including:
 - methods and technologies of spatial mapping of urban forests
 - the carbon cycle, urban forests and carbon economics
 - methods for sampling urban forests
 - urban forest valuation methods
 - contribution of urban forest to carbon cycles and mitigation of climate change
 - influences of climate, soil and management strategies affecting forest growth and carbon sequestration
 - evaluation of urban forest and benefits to climate change
- social, environmental, economic and climatic values of urban forests, including:
 - urbanisation and urban densification on urban forests development
 - solutions to challenges of urbanisation on urban forests.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - urban forest and urban environment
- resources, equipment and materials:
 - computer with word processing and statistical software
 - measurement and data collection tools
- specifications:
 - standard procedures and quality standards for performing tests and conducting assessments
 - urban forest valuation methods and techniques.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards. In particular, assessors must 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

Companion Volumes, including Implementation Guides, are available at VETNet: -

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