



Australian Government

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.

Application

This unit of competency describes the skills and knowledge required to research an urban forest for its processes, benefits, values and impact on climate change, and produce a report on its performance.

The 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 and analysis, and generate and transmit solutions to complex problems. They demonstrate autonomy, well-developed judgement, adaptability and responsibility as a practitioner or learner.

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

Pre-requisite Unit

Nil

Unit Sector

Arboriculture (ARB)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Research urban forest processes	1.1 Investigate and define elemental components of urban forests 1.2 Investigate role of urban forests as a primary component of urban ecosystems 1.3 Investigate threats to and resilience of urban forests in cities

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.4 Investigate effects of trees on hydrology and water quality 1.5 Investigate relationship of trees on soil environment 1.6 Determine contribution of trees towards rhizosphere biodiversity, bioremediation and soil health
2. Evaluate benefits of urban forests	2.1 Investigate energy conservation and microclimate modification systems of trees and urban forests 2.2 Research heat island analyses of an urban area 2.3 Evaluate health, social and psychological benefits of urban forests 2.4 Compile investigations and research into a preliminary report on benefits of urban forests
3. Analyse methods for urban forest valuation and prepare a report	3.1 Investigate current methods and technologies for spatial mapping of urban forests 3.2 Analyse process of carbon sequestration in urban forests 3.3 Analyse methods for sampling urban forests 3.4 Evaluate urban forest valuation methodologies 3.5 Compile investigations and analysis into a preliminary report on methods for valuing an urban forest
4. Evaluate climate change mitigation of urban forests	4.1 Investigate contribution of urban forest to carbon cycles 4.2 Evaluate local climate, soil and management factors affecting forest growth and carbon sequestration 4.3 Investigate forest carbon sequestration to help mitigate climate change 4.4 Prepare a report evaluating the contribution of forest for mitigation of climate change
5. Compile information and prepare a report on urban forest performance	5.1 Prepare a report on the social, environmental, economic and climatic values of urban forests 5.2 Determine challenges of increased urbanisation and urban densification on urban forests 5.3 Determine potential benefit of urban forest to mitigate climate change 5.4 Compile and review reports and investigations 5.5 Prepare and present a final report on urban forest performance

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	Interpret complex texts, research reports and biological references for urban forests and urban climate to extract information relevant to urban forest performance
Writing	Create complex technical reports that include appropriate conventions and stylistic devices to express precise meaning for target audience
Numeracy	Perform complex analytical calculations for testing and evaluating carbon sequestration and energy conservation in urban forests

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCARB806 Research urban forest performance	AHCARB703 Research urban forest performance	Code changed to reflect AQF alignment Elements and performance criteria clarified Foundation skills added Assessment requirements updated	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>