



Australian Government

ACMCAS403 Design, construct and maintain aquascapes

Release: 1

ACMCAS403 Design, construct and maintain aquascapes

Modification History

Release	Comments
Release 1	This version released with ACM Animal Care and Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to design, construct and maintain aquascapes for a range of aquaria, including ponds, waterfalls and water features.

This unit applies to individuals working in the companion animal industry sector where aquascapes are designed, constructed and maintained for clients to house aquatic animals, such as fish, amphibians and some reptiles. These individuals analyse information and exercise judgement to complete a range of skilled activities and demonstrate deep knowledge in a specific technical area. They have accountability for the work of others and analyse, design and communicate solutions to a range of complex problems.

All work is carried out to comply with the design specifications of the aquascape.

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

NOTE: The terms ‘occupational health and safety’ (OHS) and ‘work health and safety’ (WHS) generally have the same meaning in the workplace. In jurisdictions where the national model WHS legislation has not been implemented, RTOs must contextualise the unit of competency by referring to current OHS legislative requirements.

Pre-requisite Unit

Nil

Unit Sector

Companion Animal Sector (CAS)

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>

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1. Identify client needs	1.1 Discuss types of aquaria and proposed species to be housed with client 1.2 Identify location and climatic conditions affecting design 1.3 Confirm special installation and maintenance requirements with client 1.4 Advise client on suitability of species and location
2. Prepare aquascape design	2.1 Select appropriate heating, lighting and filtration according to design parameters 2.2 Select plants, features and substrate materials according to design parameters
3. Establish aquascape	3.1 Select and use tools, equipment and materials appropriate to the job, including personal protective equipment and WHS requirements 3.2 Establish substrate using appropriate materials 3.3 Install and secure aquascape features and plants 3.4 Conduct installation, testing and commissioning of lighting, heating and filtration systems according to manufactures requirements 3.5 Discuss ongoing maintenance requirements with client in preparation for handover 3.6 Collect, treat and dispose of or recycle waste from construction and installation according to workplace and environmental requirements 3.7 Clean worksite, tools and equipment and return to operating order and store according to WHS and workplace requirements
4. Maintain aquascapes	4.1 Conduct water sampling and testing according to species type and environmental requirements 4.2 Prove isolation of electrical equipment prior to maintenance using appropriate techniques, procedures and equipment 4.3 Carry out service and repairs according to manufactures specifications and workplace requirements 4.4 Monitor and report on health of aquaria and plants 4.5 Identify complex faults and refer for specialist advice and remedial action according to workplace requirements 4.6 Maintain accurate records according to workplace policies and

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	procedures

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 plans, diagrams and specifications
Numeracy	- Calculate quantities of materials required to construct aquascapes - Calculate costs of materials for construction of aquascape

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ACMCAS403 Design, construct and maintain aquascapes	ACMCAS403A Design, construct and maintain aquascapes	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b75f4b23-54c9-4cc9-a5db-d3502d154103>

Assessment Requirements for ACMCAS403 Design, construct and maintain aquascapes

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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 designed, constructed and maintained at least two aquascapes, including:

- used safe and environmentally responsible organisational systems and procedures when working with and handling aquatic animals
- installed, secured and tested lighting, heating and filtration systems
- applied correct cleaning and maintenance techniques
- maintained records and documentation.

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:

- fish, reptile and amphibian common names
- aquaria heating, lighting and filtration systems
- aquaria water chemistry, including water quality adjustment procedures and chemicals used to correct water conditions of aquascapes
- aquatic animal biology related to the care and wellbeing of commonly held species
- disinfectants, cleaning agents, cleaning techniques and cleaning equipment and materials used in a companion animal workplace
- environmental requirements for commonly held species
- general maintenance and cleaning techniques of aquaria
- ideal water conditions and quality for a range of aquatic animals, including pH, nitrate, nitrite, ammonia, salinity, calcium and hardness
- normal and abnormal behaviour of aquatic species, including behaviours and conditions that could be indicative of possible aquatic animal health problems
- plants, features and substrate materials suitable for aquascapes
- animal ethics and welfare

- WHS and animal welfare legislative requirements and codes of practice
- safe aquatic animal handling techniques and procedures
- signs of common aquatic animal diseases and parasitic infestations and their transmission between aquatic animals
- species compatibility
- standards, guidelines and approaches to environmental sustainability relevant to the animal care industry
- waste management strategies
- water sampling, testing and analysis procedures and techniques.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - live aquatic animals
 - materials, tools and products for designing, constructing and maintaining aquascapes, including lighting, heating and filtration systems.

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

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