



Australian Government

AHCPER502 Design an integrated permaculture system

Release: 2

AHCPER502 Design an integrated permaculture system

Modification History

Release	TP Version	Comment
1	AHCv1.0	Initial release

Application

This unit of competency describes the skills and knowledge required to design integrated permaculture systems in a range of contexts including developing a design brief, undertaking a site analysis, developing conceptual designs and producing a final design. It includes knowledge of landscape, building and settlement design and working with specialists and professionals. It includes drawing plans and projections by hand as well as using computer aided drafting and design.

The preparation of an integrated permaculture system design requires detailed knowledge of permaculture design principles, the ability to transfer concepts to novel permaculture situations, strong evaluation and planning skills, landscape design skills and research capacities.

All work is carried out to comply with workplace procedures.

This unit applies to individuals who analyse information and exercise judgement to complete a range of advanced 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.

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

Permaculture (PER)

Elements and Performance Criteria

Element	Performance criteria
Elements describe the	Performance criteria describe the performance needed to

Element	Performance criteria
essential outcomes.	demonstrate achievement of the element.
1. Develop a design brief	1.1 Initiate contact with the client when appropriate 1.2 Establish purpose, needs and requirements of design by consulting with client 1.3 Evaluate integrated permaculture design context and consider impacts of design stages, elements, functions and relationships 1.4 Develop a design brief in consultation with the client 1.5 Negotiate cost structures and timelines with the client 1.6 Evaluate and document cost structures and plan for budgeting limits and possibilities
2. Undertake design analysis and base plan	2.1 Obtain existing maps, geospatial data and aerial photographs of site 2.2 Survey and obtain social research data relevant to integrated permaculture design 2.3 Undertake field research supporting integrated permaculture design contexts and specific fields of inquiry, where required 2.4 Include Zones 1, 2, 3, 4 and 5 in the survey area using survey tools and equipment 2.5 Prepare a base plan 2.6 Record site assessment factors on the base plan 2.7 Carry out analysis of the site and bioregional analysis of the local area
3. Interpret site in permaculture terms	3.1 Carry out research of potential permaculture design elements to assess their suitability for the site 3.2 Identify functional interconnections between elements to increase yield and minimise resource use 3.3 Choose permaculture design elements on the basis of research 3.4 Work with architects, builders and planners or other contractors who may be involved in the project 3.5 Revise brief with client in relation to research and analysis
4. Prepare design concepts	4.1 Determine appropriate concepts 4.2 Prepare concept design drawings to illustrate conceptual themes and patterns informing the location and layout of proposed design elements 4.3 Present chosen concepts in a consistent graphic style 4.4 Compile lists of materials and quantities 4.5 Prepare a list of plant and animal species and varieties suitable for chosen concepts 4.6 Prepare a preliminary budget for conceptual design

Element	Performance criteria
5. Review the design concepts	5.1 Review the concepts against permaculture principles and ethics 5.2 Prepare presentations of draft design concept options for the client 5.3 Undertake consultation with the client to agree on options and approaches for design development 5.4 Review and revise concepts, elements, budget and the design brief after taking feedback from the client
6. Produce final design and integrated permaculture report	6.1 Design integrated permaculture system appropriate to the design brief, available budget, research, analysis, chosen elements and concepts 6.2 Produce detailed permaculture design documents 6.3 Present design plans, drawings and permaculture design report documents to the client 6.4 Obtain feedback from the client and revise design as required

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 - equivalent to QLD125DES02C.

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 AHCPER502 Design an integrated permaculture system

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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.

The candidate must provide evidence that they can:

- demonstrate drafting and drawing techniques
- negotiate with clients
- undertake a site analysis and site survey
- provide urban and rural permaculture design solutions
- analyse zones and sectors of a site
- develop concepts
- develop planting schedules and bills of quantity
- develop a design budget
- develop final design drawings including elevations and projections
- design presentations

Knowledge Evidence

The candidate must demonstrate knowledge of:

- elements of integrated permaculture design
- principles of integrated permaculture design
- strategies for urban and rural permaculture design
- strategies for building design and working with builders and architects
- strategies for settlement design and working with planning authorities
- design brief elements
 - statement of scope of design
 - statement of client needs and requirements
 - food production
 - system efficiency

- system production
- fibre, energy and building material production
- water harvesting
- waste treatment
- energy planning and design
- biodiversity habitat
- soil carbon building
- soil fertility
- establishment of financial budget
- establishment of time budget
- maintenance of financial budget
- maintenance of time budget
- design of establishment documents
- maintenance planning
- sustainable commercial enterprises
- social amenities
- cultural considerations
- list of project elements
- list of assessable tasks
- design analysis and research techniques
- plan interpretation and map reading
- site surveying methods and tools
 - onsite measurement of site boundaries
 - mapping of boundaries to scale to a plan drawing
 - onsite layout of 1m contour
 - mapping of contour lines to a scale plan drawing
 - measurement and location of existing infrastructure and natural features on site
 - mapping of existing infrastructure and natural features to a scale plan drawing
 - dumpy level or equivalent surveying instrument for taking vertical measurements on site
 - dumpy level or equivalent surveying instrument for measuring angles on site
 - GPS, satnav
 - measuring tapes for measuring distance on site.
- design concepts and detailed design drawings
 - property boundaries, scale and north point
 - authors of plans, contact details
 - address of site
 - date plan drawn
 - existing infrastructure and natural features
 - drawing to scale

- relevant overlays and drawing numbers
- large format planning (at least A1 or A2)
- overlays such as fire, flora and fauna, soil and geology, local planning ordinances, buffer and riparian zones, use zones
- contour lines or other appropriate indication of slope direction and gradients
- drainage features
- Lot, DP, landowner address and contact details
- permaculture design methods
- conventional design symbols
- design drafting and drawing conventions
- computer-aided drafting and design
- plant and animal selection

Assessment Conditions

Assessors must satisfy current standards for RTOs. Assessors must also have a nationally accredited Diploma of Permaculture. Completion of a Permaculture Design Course (PDC) or non-accredited Permaculture Diploma is NOT sufficient at this level.

Links

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