



Australian Government

AHCAGB516 Select and implement a GIS for sustainable agricultural systems

Release: 1

AHCAGB516 Select and implement a GIS for sustainable agricultural systems

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture, Conservation and Land Management Training Package Version 4.0.

Application

This unit of competency describes the skills and knowledge to identify, select and implement a Geographic Information System (GIS) into a land based production business.

This unit applies to land based production managers who make decisions about production systems and applications, and who need to integrate GIS and Global Positioning Systems (GPS) technology and into land-based, agricultural activities.

All work must be carried out to comply with workplace procedures, work health and safety legislation and codes, and sustainability practices.

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

Pre-requisite Unit

Nil

Unit Sector

Agribusiness (AGB)

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. Identify and assess a GIS to incorporate into the land based business	1.1 Identify appropriate GIS management hardware and software appropriate to a land based business requirement 1.2 Identify purpose and business requirements of GIS for developing a sustainable land management system

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.3 Identify and assess opportunities and limitations for operational improvements that may result from adopting GIS management systems 1.4 Identify potential cost savings benefits as a result of using GIS and adjust enterprise production budgets 1.5 Develop a plan to incorporate use of a GIS into land based business to improve operational efficiency, profitability and sustainability
2.Implement GIS into land based business	2.1 Identify appropriate training requirements for personnel to optimise efficient use of machinery and technology 2.2 Select required machinery and technology to incorporate into production operation 2.3 Collect GPS coordinate data; enterprise and land use management data; and yield data and enter into software program 2.4 Create maps to model outcomes of agricultural and land management activities 2.5 Complete work operations utilising GIS and GPS technology and minimising environmental impacts 2.6 Identify and implement corrective action as a result of precise measurement data provided by satellite imagery
3.Review operations that utilise GIS	3.1 Review production data to identify increases in productivity as a result of using GIS management systems 3.2 Review enterprise operations to identify opportunities for improvements in sustainable production using GIS

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
Get the work done	Access, input and manipulate data using GIS

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCAGB516 Select and implement a GIS for sustainable agricultural systems	AHCAGB509 Select and implement a Geographical Information system (GIS) for sustainable agricultural systems	Title updated Performance criteria clarified Foundation skills added Assessment requirements updated	Equivalent unit

Links

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

Assessment Requirements for AHCAGB516 Select and implement a GIS for sustainable agricultural systems

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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 selected and implemented a Geographic Information Systems (GIS) management system to aid at least one farm management activity, including:

- stored and modelled data for specific site
- analysed maps and models to determine appropriate farm management activity
- implemented one GIS based activity to manage either:
 - yield
 - soil health
 - erosion
 - pests
 - weeds
 - or other crop related factors.

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:

- applications of GIS based technology to assist with managing soil, salinity, erosion, weeds farming systems and biodiversity
- uses of Global Positioning Systems (GPS) equipment and technology associated with GIS
- sources of digital mapping data for local area
- financial management and strategic planning benefits from the implementation of a GIS
- mapping principles of GIS
- spatial calculations using GIS
- relevant machinery and equipment for use in agricultural systems.

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:
 - GIS and GPS technology
 - designated site for land-based production.

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

Links

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