



Australian Government

AHCAGB509 Select and implement a Geographic Information System (GIS) for sustainable agricultural systems

Release: 1

AHCAGB509 Select and implement a Geographic Information System (GIS) for sustainable agricultural systems

Modification History

Release	TP Version	Comment
1	AHCv1.0	Initial release

Application

This unit of competency covers identification and application of current technology, selecting and inputting appropriate data, processing and evaluating information and data produced. This unit assists land managers to make informed decisions in a number of production systems and applications, integrating into an overall holistic planning tool.

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

This unit is applicable to persons who have a role in managing a land based production business. This unit is likely to require consultation with external experts, such as extension officers from State Agricultural Departments and agronomists.

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

Element	Performance criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Select a GIS to incorporate into the land based business	1.1 Identify appropriate GIS management software appropriate to a land based business requirement 1.2 Identify the purpose and business requirements of the GIS for developing a sustainable land management system

Element	Performance criteria
	1.3 Collect enterprise and land use management data requirements from all sources of information and enter into the software program 1.4 Identify and assess opportunities and limitations for operational improvements that may result from adopting GIS 1.5 Identify potential cost savings benefits as a result of using GIS and adjust enterprise production budgets 1.6 Develop a plan to incorporate the use of a GIS into the land based business to improve operational efficiency, profitability and sustainability
2. Implement GIS into the land based business	2.1 Identify appropriate training requirements for personnel to optimise the efficient use of machinery and technology 2.2 Select required machinery and technology to incorporate into production operation 2.3 Complete work operations to minimise environmental impacts by improving soil profile and productivity 2.4 Identify and implement corrective action as a result of precise measurement data provided by satellite imagery
3. Review production data using GIS	3.1 Review enterprise operations regularly to identify opportunities for improvements in sustainable production systems using GIS 3.2 Monitor and assess impact of natural conditions on enterprise to maximise sustainability of land-based business 3.3 Review production data to identify increases in productivity and reduced input costs 3.4 Review monitoring procedures and recorded operating costs against production cash flow budget

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 VBP153 Select and implement a Geographic Information System (GIS) for sustainable agricultural systems.

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 AHCAGB509 Select and implement a Geographic Information System (GIS) for sustainable agricultural systems

Modification History

Release	TP Version	Comment
1	AHCv1.0	Initial release

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:

- identify a range of software systems and how to apply them into a production system
- interpret production and land management maps to apply into everyday farming management
- identify erosion, soil management techniques, salinity, farming systems, bio-diversity and weeds by using GIS
- apply solutions to erosion, soil management techniques, salinity, farming systems, bio-diversity and weeds using GIS
- manage and co-ordinate work teams using GIS and associated technology
- complete a cost and benefits analysis
- use a computer, including computer aided drafting
- analysis digital map images
- communicate with staff and other parties on instruction and training in the use of GIS
- use self-diagnosis manuals to identify technical systems faults.

Knowledge Evidence

The candidate must demonstrate knowledge of:

- financial management and strategic planning benefits from the implementation of a GIS
- legal concepts on the gathering of data to be used in GIS applications
- GIS applications and associated technology
- mapping principles of GIS
- computer concepts
- spatial calculations using GIS.

Assessment Conditions

Competency is to be assessed in the workplace or simulated environment that accurately reflects performance in a real workplace setting.

Assessors must satisfy current standards for RTOs.

Links

Companion Volume implementation guides are found in VETNet -

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