

**Modification history**

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

AHCAGB509XX	Select and implement a GIS for sustainable agricultural systems
<b>Application</b>	<p>This unit of competency covers identification, selection and implementation of a Geographic Information System (GIS) into a land based production business.</p> <p>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.</p> <p>All work must be carried out to comply with workplace procedures, work health and safety legislation and codes, and sustainability practices.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
<b>Prerequisite Unit</b>	Nil
<b>Unit Sector</b>	Agribusiness (AGB)

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.Select 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 the purpose and business requirements of the GIS for developing a sustainable land management system 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 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 Collect coordinate data, enterprise and land use management data, yield data from all sources and enter into the software program 2.4 Create maps to model outcomes of agricultural and land management activities 2.4 Complete work operations utilising GIS technology and Global Positioning Systems (GPS) and minimising environmental impacts 2.5 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

<b>Foundation Skills</b>	
<i>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.</i>	
<b>Skill</b>	<b>Description</b>
Learning	<ul style="list-style-type: none"> <li>Digital technology skills to access, input and manipulate data using GIS</li> </ul>

<b>Unit Mapping Information</b>			
<b>Code and title current version</b>	<b>Code and title previous version</b>	<b>Comments</b>	<b>Equivalence status</b>
AHCABG509XX Select and implement a GIS for sustainable agricultural systems	AHCABG509 Select and implement a Geographical Information system (GIS) for sustainable agricultural systems	Title updated. Performance criteria clarified. Foundation skills added. Assessment requirements updated.	Equivalent

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

<b>TITLE</b>	<b>Assessment requirements for AHCAGB509XX Select and implement a GIS for sustainable agricultural systems</b>
<b>Performance Evidence</b>	
<p>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:</p> <ul style="list-style-type: none"> <li>• stored and modelled data for specific site</li> <li>• analysed maps and models to determine appropriate farm management activity</li> <li>• implemented GIS based activity to manage yield, soil health, erosion, pests, weeds or other crop related factors.</li> </ul>	
<b>Knowledge Evidence</b>	
<p>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:</p> <ul style="list-style-type: none"> <li>• applications of GIS based technology to assist with managing soil, salinity, erosion, weeds farming systems and biodiversity</li> <li>• uses of Global Positioning Systems (GPS) equipment and technology associated with GIS</li> <li>• sources of digital mapping data for local area</li> <li>• financial management and strategic planning benefits from the implementation of a GIS</li> <li>• mapping principles of GIS</li> <li>• spatial calculations using GIS.</li> </ul>	
<b>Assessment Conditions</b>	
<p>Assessment of skills must take place under the following conditions:</p> <ul style="list-style-type: none"> <li>• physical conditions:             <ul style="list-style-type: none"> <li>• skills must be demonstrated in an environment that accurately represents workplace conditions</li> </ul> </li> <li>• resources, equipment and materials:             <ul style="list-style-type: none"> <li>• GIS and GPS technology</li> <li>• designated site for land-based production.</li> </ul> </li> </ul> <p>Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.</p>	
<b>Links</b>	<p>Companion Volumes, including Implementation Guides, are available at VETNet:  <a href="https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72">https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72</a></p>