



Australian Government

CPPSIS4025 Collect spatial data using GNSS

Release: 1

CPPSIS4025 Collect spatial data using GNSS

Modification History

Release 1.

Replaces superseded equivalent CPPSIS4025A Collect basic GNSS data.

This version first released with CPP Property Services Training Package Version 3.

Application

This unit of competency specifies the outcomes required to collect spatial data using global navigation satellite system (GNSS) equipment for surveying purposes, using both single point and differential techniques. The unit covers planning work tasks and setting up and operating GNSS equipment to achieve the required accuracy. The unit includes validating data to identify errors.

The unit supports those who work in support positions collecting field surveying data.

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

Pre-requisite Unit

Nil

Unit Sector

Surveying and spatial information services

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.
1. Prepare for spatial data collection.	1.1. Task requirements are reviewed and <i>spatial data</i> collection is planned in consultation with <i>appropriate persons</i> . 1.2. GNSS equipment is selected and checked according to task requirements.
2. Use GNSS equipment to	2.1. Site conditions are checked to identify factors that could obstruct or interfere with GNSS operation and impact on

collect data.	accuracy of data.
	2.2. Conditions for obtaining optimum GNSS positions are determined and basic methods to improve accuracy of GNSS point positioning are applied.
	2.3. GNSS equipment is set up and operated according to organisational requirements.
	2.4. Point positional data is collected, validated and recorded according to task specifications and organisational requirements.
	2.5. Checked data is collected according to organisational requirements.
3. Finalise spatial data collection.	3.1. Data is downloaded and verified, and additional data gathered where required according to organisational requirements.
	3.2. Data is processed, and reports and documentation are completed according to organisational requirements.

Foundation Skills

This section describes the language, literacy, numeracy and employment skills essential to performance in this unit but not explicit in the performance criteria.

Skill	Performance feature
Numeracy skills to:	- perform surveying calculations relating to height, distances, angles and coordinates - set required datum and map projection and other parameters in equipment.
Oral communication skills to:	ask questions to clarify task requirements.
Reading skills to:	- interpret equipment software menus and configurations - interpret three-dimensional (3-D) information.

- Writing skills to:
- compile a short report of data collection task
 - record data legibly by hand.
- Technology skills to:
- use GNSS software to communicate with GNSS receivers.
- Problem-solving skills to:
- recognise and address possible anomalies in collected data.

Range of Conditions

This section specifies work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Bold italicised wording, if used in the performance criteria, is detailed below.

- Spatial data*** must include:
- features and their attributes
 - horizontal position in latitude and longitude, easting and northing
 - vertical height.

- Appropriate persons*** must include at least one of the following:
- experienced colleague
 - qualified surveyor
 - supervisor or line manager.

Unit Mapping Information

CPPSIS4025A Collect basic GNSS data

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

Assessment Requirements for CPPSIS4025 Collect spatial data using GNSS

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Performance Evidence

A person demonstrating competency in this unit must satisfy the requirements of the elements, performance criteria, foundation skills and range of conditions of this unit. The person must also collect spatial data using global navigation satellite systems (GNSS) for two different tasks in consultation with colleagues.

While collecting the above spatial data, the person must:

- collect point positional data and attributes to surveying accuracies for the task, both by single point positioning and differential techniques for designated datum and map projection
- communicate clearly with others to clarify data collection tasks and report task information
- comply with organisational and legislative requirements for identifying hazards and working safely
- operate the equipment specified in the assessment conditions, and comply with industry and organisational methods for data collection
- plan work tasks to take into account factors that affect accuracy of data collection using GNSS
- spatially view collected positional data, and non-spatially view collected attributes
- verify accuracy of a sample of collected points by recollecting points or other suitable method.

Knowledge Evidence

A person demonstrating competency in this unit must demonstrate knowledge of:

- difference in heights and height datums between GNSS heights and heights on Australian Height Datum
- factors that affect accuracy of data collection by GNSS
- methods for checking accuracy of data collected
- purpose of and methods for setting designated datum and map projection
- typical accuracies obtainable with different GNSS techniques.

Assessment Conditions

The following must be present and available to learners during assessment activities:

- equipment:
 - GNSS equipment and any associated software
- specifications:
 - job specifications and plans
 - organisational policies and procedures relating to work health and safety
- relationships with team members and supervisor:
 - working in a team.

Timeframe:

- as specified by task and organisational requirements.

Assessor requirements

As a minimum, assessors must satisfy the assessor requirements in the Standards for Registered Training Organisations (RTOs) current at the time of assessment.

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