



Australian Government

CPPSIS4030 Operate surveying equipment

Release: 1

CPPSIS4030 Operate surveying equipment

Modification History

Release 1.

Replaces superseded equivalent CPPSIS4030A Operate surveying equipment.

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

Application

This unit of competency specifies the outcomes required to operate a range of surveying equipment for data capture or spatial data set-out. The unit covers selecting, setting up and using surveying equipment to perform basic measurements; and recording and calculating horizontal and vertical information. This includes validating and checking data accuracy and performing basic data reductions and manipulation using software. The unit requires the ability to check and adjust equipment to achieve task requirements, and to identify and report faults or problems. It also requires the ability to plan and execute work tasks in consultation with team members, and complete records and documentation.

The unit supports those who work in a surveying team in support positions relating to field data collection.

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.

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|--------------------------|--|
| 1. Plan surveying tasks. | 1.1. Task requirements and principal work activities are identified and clarified with <i>appropriate persons</i> . |
| | 1.2. Design information is reviewed to identify components to be measured in consultation with appropriate persons. |
| | 1.3. Surveying equipment is selected to meet task |

- requirements, and set up according to manufacturer specifications.
- 1.4. Hazards are identified and risks managed, and problems are reported according to organisational requirements.
2. Execute surveying tasks.
- 2.1. Equipment is operated and adjusted as required to measure identified survey components according to task and organisational requirements.
- 2.2. Measured surveying data is reduced for comparison with design and manipulated to meet task and organisational requirements.
- 2.3. Data is checked against task requirements, and errors are identified and resolved in consultation with appropriate persons.
- 2.4. Measurements are validated and recorded according to industry-accepted standards and organisational requirements.
- 2.5. Team activities are performed according to task and organisational requirements.
3. Finalise surveying tasks.
- 3.1. Surveying task is finalised and data processed according to task and organisational requirements.
- 3.2. Documentation is completed and data stored according to organisational requirements.
- 3.3. Equipment is checked, and faults and problems are reported according to manufacturer and organisational requirements.
- 3.4. Equipment is packed up and stored according to manufacturer and 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:	- record and interpret statistics - solve basic problems relating to height, depth, dimension, direction and position.
Oral communication skills to:	ask questions to clarify task requirements.
Reading skills to:	interpret technical and diagrammatic information in task specifications and designs.
Writing skills to:	record clear and accurate measurements, computations and field checks.
Technology skills to:	operate equipment and software to manipulate basic spatial 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.

Appropriate persons must include at least one of the following:

- experienced site personnel
- qualified surveyor
- supervisor or line manager.

Unit Mapping Information

CPPSIS4030A Operate surveying equipment

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 CPPSIS4030 Operate surveying equipment

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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 operate the following surveying equipment for spatial data capture or data set-out for two different surveying tasks:

- hand-held global positioning system (GPS) in single point positioning mode for:
 - determining point position
 - navigating and recording a traverse
 - collecting designated attributes for designated features
- automatic, digital or laser level
- total station.

In addition, while capturing or setting out surveying data for the above surveying tasks, the person must use two of the following pieces of surveying equipment:

- compass
- clinometer
- data recording equipment
- digital or hard copy map or image
- distance measuring wheel
- hand-held laser measuring device
- tape.

While capturing or setting out the above spatial data, the person must:

- plan work activities to meet design and task specifications
- communicate clearly with others to clarify work tasks and report problems and errors relating to data or equipment
- accurately perform the following:
 - checks to validate measurements and identify potential faults and problems with equipment
 - data manipulations and reductions

- measurements and computations that meet industry-accepted standards for accuracy, including calculating horizontal and vertical information
- comply with organisational, legislative and manufacturer requirements in order to work safely, including:
 - using personal protective equipment (PPE)
 - complying with relevant safe work method statements (SWMS)
 - identifying and managing hazards and risks
- cooperate with team members to operate equipment
- follow manufacturer specifications and standard operating procedures to correctly set up, operate, pack up and store surveying equipment and tools
- use organisational proformas to accurately record measurements and data.

Knowledge Evidence

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

- accepted organisational standards for recording metadata
- attributes associated with a spatial dataset
- key features of spatial reference systems
- limitations of the surveying equipment specified in the performance evidence
- methods for downloading spatial data collected using the surveying equipment specified in the performance evidence
- methods for setting up, levelling, calibrating and using the surveying equipment specified in the performance evidence
- organisational policies and procedures relating to surveying data collection and set-out, and storage and retrieval of collected data
- organisational procedures for hazard reporting, and equipment use and maintenance
- surveying data acquisition methodologies using equipment specified in the performance evidence.

Assessment Conditions

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

- equipment:
 - as specified in the performance evidence
- specifications:
 - equipment operating manuals
 - standard operating procedures and documentation relating to work tasks
- 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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