



Australian Government

CPPSIS4024A Collect and set out spatial data

Release 1

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Modification History

Unit revised and not equivalent to CPPSIS4004A Collect and set out basic spatial data
New unit title
Element structure, performance criteria, and critical aspects reviewed to reflect workplace requirements
Skills and knowledge requirements and the range statement updated

Unit Descriptor

This unit of competency specifies the outcomes required to collect and set out basic spatial data. It requires the ability to plan and execute the collection and set out operation in a team environment, often in the lead role. Functions would be carried out under limited supervision and within organisational guidelines.

Application of the Unit

This unit of competency supports the application of organisational, communication and problem-solving skills, and a sound understanding of technology. The skills and knowledge acquired upon completion of this unit would apply to the needs of employees in supporting positions for surveying, town planning, cartography, mapping and geographic information systems.

Licensing/Regulatory Information

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

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

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|---|---|-----|---|
| 1 | Source spatial data to prepare for data set out. | 1.1 | Extent, content, intended use, accuracy, precision and <i>format</i> of required <i>spatial data</i> are clearly identified from the <i>specifications</i> . |
| | | 1.2 | A search is undertaken via a <i>range of media</i> to identify sources of information. |
| | | 1.3 | <i>Metadata</i> for potential spatial data, <i>datasets</i> and <i>attributes</i> are obtained to assist in determining the most appropriate data source. |
| | | 1.4 | Potential sources of spatial data are listed according to <i>organisational guidelines</i> . |
| 2 | Assess spatial data availability and suitability. | 2.1 | Spatial data and datasets are assessed for <i>suitability</i> against the specifications. |
| | | 2.2 | <i>Availability</i> of suitable data is verified with the potential <i>suppliers of spatial data</i> , taking into account any copyright and ownership constraints. |
| | | 2.3 | <i>Constraints</i> on use of spatial data are assessed against the specifications. |
| | | 2.4 | Where required, sample data is obtained and assessed to further ensure its suitability. |
| | | 2.5 | Spatial data indexing, backup and archiving requirements are determined to ensure currency. |

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|---|---|-----|---|
| 3 | Collect suitable spatial data for set out purposes. | 3.1 | Administrative and industry requirements for data collection are complied with and recorded. |
| | | 3.2 | OHS requirements are adhered to. |
| | | 3.3 | Spatial data is collected and set out in line with organisational guidelines. |
| 4 | Document spatial data collection and set out process. | 4.1 | A written assessment of data availability, including cost, licensing conditions and constraints on use is completed according to organisational guidelines. |
| | | 4.2 | A written assessment of the suitability of available data, including comparisons with quality, accuracy, standards and format requirements is completed according to organisational guidelines. |
| | | 4.3 | Remaining documentation requirements are completed according to organisational requirements. |

Required Skills and Knowledge

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills

- analytical skills to determine the data requirements of a spatial project
- communication skills to:
 - discuss vocational issues effectively with colleagues
 - impart knowledge and ideas through oral, written and visual means
- computer skills to complete spatial documentation
- interpret surveying task requirements
- literacy skills to:
 - assess and use workplace information
 - interpret procedural requirements
 - process workplace documentation
 - read and record data, and write technical reports
 - research and access routine sources of spatial data
- numeracy skills to:
 - record and interpret statistics
 - record with accuracy and precision
 - undertake basic computations
- organisational skills to:
 - prepare and administer documentation
 - prioritise activities to meet contractual requirements
 - self-management skills
- spatial skills to:
 - archive and retrieve spatial data
 - manage and manipulate spatial data
 - manage files
- work effectively as part of a team

Required knowledge

- accuracy and precision requirements relating to spatial data documentation
- data license agreements
- data quality and integrity
- data recording and reduction techniques
- existing spatial datasets and dataset sources

- organisational policies and guidelines relating to spatial data collection and set-out processes
- range of basic spatial data capture and data set out methodologies
- spatial control requirements
- spatial data formats, handling and structure
- spatial equipment for data capture and data set out
- spatial reference systems

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Overview of assessment This unit of competency could be assessed on its own or in combination with other units relevant to the job function, for example CPPSIS4021A Maintain spatial systems, CPPSIS4022A Store and retrieve spatial data, and CPPSIS4025A Collect basic GNSS data.

Critical aspects for assessment and evidence required to demonstrate competency in this unit A person who demonstrates competency in this unit must be able to provide evidence of:

- accuracy in:
 - basic measurements
 - spatial data reduction and manipulation
 - resource planning
- knowledge of the design information required to identify the components to be measured
- identifying sources of data and evaluating the suitability of available data against project specifications.

Specific resources for assessment Resource implications for assessment include access to:

- assessment instruments, including personal planner and assessment record book
- assignment instructions, work plans and schedules, policy documents and duty statements
- registered training provider of assessment services
- relevant guidelines, regulations and codes of practice
- suitable venue and equipment.

Access must be provided to appropriate learning and assessment support when required.

Where applicable, physical resources should include equipment modified for people with disabilities.

Context of assessment Holistic: based on the performance criteria, evidence guide, range statement, and required skills and knowledge.

Method of assessment Demonstrated over a period of time and observed by the assessor (or assessment team working together to conduct the assessment).

Demonstrated competency in a range of situations, that may include customer/workplace interruptions and involvement in related activities normally experienced in

the workplace.

Obtained by observing activities in the field and reviewing induction information. If this is not practicable, observation in realistic simulated environments may be substituted.

Guidance information for assessment

Assessment requires that the clients' objectives and industry expectations are met. If the clients' objectives are narrowly defined or not representative of industry needs, it may be necessary to refer to portfolio case studies of a variety of surveying and spatial information services requirements to assess competency.

Oral questioning or written assessment and hypothetical situations (scenarios) may be used to assess underpinning knowledge (in assessment situations where the candidate is offered a preference between oral questioning or written assessment, questions are to be identical).

Supplementary evidence may be obtained from relevant authenticated correspondence from existing supervisors, team leaders or specialist training staff.

All practical demonstration must adhere to the safety and environmental regulations relevant to each State or Territory.

Where assessment is for the purpose of recognition (recognition of current competencies [RCC] or recognition of prior learning [RPL]), the evidence provided will need to be authenticated and show that it represents competency demonstrated over a period of time.

In all cases where practical assessment is used it will be combined with targeted questioning to assess the underpinning knowledge.

Assessment processes will be appropriate to the language and literacy levels of the candidate and any cultural issues that may affect responses to the questions, and will reflect the requirements of the competency and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Format may include:

- electronic information and data management systems, where system refers to computer software
- hardware
- users and other elements.

Spatial data:

- may include data from:

- echo sounder
- global navigation satellite system (GNSS)
- level
- photogrammetry
- remote sensing
- total station
- may relate to:
 - depth
 - dimension
 - direction
 - height
 - position.

- Specifications*** refer to:
- detailed technical descriptions of the survey data and its requirements.
- Range of media*** may include:
- computer-based storage
 - internet spatial data directories
 - services authorities indexes
 - supplier catalogues.
- Metadata*** may include:
- summarised information about a spatial dataset that describes the characteristics of the dataset, including:
 - availability
 - conditions of use
 - coordinate system
 - currency
 - date of acquisition
 - quality
 - source
 - spatial data acquisition methodologies
 - version control.
- Datasets*** may include:
- collection of data arranged in a digital geographic information exchange standard (DIGEST) compliant format used for the bulk exchange of data between producers
 - collection of data that has a specification which pre-defines the content and the DIGEST encapsulation.
- Attributes*** are properties associated with an entity and may include:
- colour
 - layer
 - level
 - line type
 - line width
 - text.
- Organisational guidelines*** may include:
- code of ethics
 - company policy
 - legislation relevant to the work or service function
 - manuals
 - OHS policies and procedures
 - personnel practices and guidelines outlining work roles and responsibilities.
- Suitability:***
- assessment of whether the spatial data will meet:
 - accuracy
 - completeness
 - coverage
 - density

- logical consistency
 - specifications.
- Availability** includes:
- assessment of whether the spatial data can be obtained and used for client requirements.
- Suppliers of spatial data** may include:
- brokers
 - government agencies
 - internal
 - private.
- Constraints** may include:
- contractual arrangements
 - resource availability
 - time.
- OHS** may include:
- Australian standards
 - development of site safety plan
 - identification of potential hazards
 - inspection of work sites
 - training staff in OHS requirements
 - use of personal protective clothing
 - use of safety equipment and signage.
- Documentation required** may include:
- electronic or paper-based correspondence with client
 - field records
 - final reports
 - records of conversation
 - survey plots
 - organisational work activity sheets.

Unit Sector(s)

Surveying and spatial information services

Custom Content Section

Not applicable.