



Australian Government

CPPSIS5036 Integrate spatial datasets

Release: 1

CPPSIS5036 Integrate spatial datasets

Modification History

Release 1.

Replaces superseded equivalent CPPSIS5036A Integrate spatial datasets.

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

Application

This unit of competency specifies the outcomes required to use technology and software applications to integrate spatial datasets for the purpose of providing spatially referenced information. The unit covers obtaining spatial and attribute data, creating datasets, and linking spatial and attribute data to meet client specifications for spatial data solutions. The unit also covers analysing and compiling metadata sets, assessing geographic coverage, establishing filtering parameters, and checking and validating the accuracy and integrity of data. The unit requires the ability to consult with appropriate persons to define project requirements and report outcomes, and use database querying operations and techniques.

The unit supports those who work in a lead role in a surveying or spatial information services team in areas such as surveying, cartography, town planning, mapping or geographic information systems (GIS).

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 to integrate datasets.	1.1. Client specifications are identified and analysed to determine specific needs and required outcomes.
	1.2. Requirements for spatial data and constraints are identified through further consultation with appropriate persons and outcomes are recorded according to

organisational requirements.

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| 2. | Obtain spatial and attribute data. | 2.1. Metadata is used to determine sources of data consistent with project specifications. |
| | | 2.2. Data is obtained and checked for integrity and quality according to project specifications and organisational requirements. |
| | | 2.3. Geographic coverage is assessed for completeness according to project specifications. |
| | | 2.4. Metadata set is compiled based on sourced spatial data. |
| | | 2.5. Exception reports on non-conforming items are referred to appropriate persons according to organisational requirements. |
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| 3. | Create resultant spatial datasets. | 3.1. Filtering parameters are established in line with scientific accuracy, redundancy and project specifications. |
| | | 3.2. Spatial data is translated into a format that satisfies project specifications. |
| | | 3.3. Spatial datasets are populated with edited spatial data according to project specifications and organisational requirements. |
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| 4. | Link spatial and attribute data. | 4.1. Method required for referencing location of attribute data is identified according to organisational requirements. |
| | | 4.2. Spatial and attribute data are linked according to client specifications and organisational requirements. |
| | | 4.3. Spatial queries are carried out on spatial data to access attribute data according to project specifications. |
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| 5. | Test and validate spatial datasets. | 5.1. Test queries are determined and implemented to ensure spatial datasets meet project specifications and organisational requirements. |

- 5.2. Accuracy and integrity of spatial data are checked and validated to ensure correctness of links, and identified problems are resolved or escalated where required according to organisational requirements.
- 5.3. Documentation is completed according to organisational requirements and appropriate persons are notified of project results.

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
Initiative and enterprise skills to:	design spatial data solutions to meet client specifications and organisational requirements.
Numeracy skills to:	analyse and compare metadata and attribute ranges.
Oral communication skills to:	ask questions to clarify client and project requirements.
Reading skills to:	interpret field records, images, and detailed technical descriptions of spatial data.
Writing skills to:	record measurements with accuracy and precision.
Technology skills to:	use a computer and software to manipulate and compare spatial data.
Problem-solving skills to:	identify exceptions and non-conformances within datasets.

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 two of the following:

- client
- end user
- staff
- manager.

Metadata must include at least four of the following:

- availability
- conditions of use
- coordinate system
- currency
- custodian
- data accuracy
- data description
- date of acquisition
- licence
- quality
- source
- spatial data acquisition methodologies
- version control.

Unit Mapping Information

CPPSIS5036A Integrate spatial datasets

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 CPPSIS5036 Integrate spatial datasets

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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 integrate spatial datasets for the purpose of providing spatially referenced information for two different projects.

While integrating the above spatial datasets, the person must:

- select and use industry-accepted software applications to obtain spatial data, create datasets, and link attribute data
- comply with organisational requirements while:
 - communicating with clients and other appropriate persons
 - ensuring quality of datasets
 - recording data and completing documentation
 - working safely when using screen-based equipment
- comply with legal requirements relating to data privacy and information copyright when accessing and using spatial data
- devise and implement functional solutions to spatial datasets
- exercise precision when editing, processing, comparing, manipulating and archiving spatial data
- perform querying techniques to access attribute data and test and validate spatial data
- prepare exception reports to identify non-conforming data
- reference and link the location of attribute data
- translate spatial data into industry-accepted formats
- use approved methods for assessing accuracy and integrity of spatial data and resolving errors
- use filtering parameters, including attribute range accuracy and geographic location to establish accuracy and redundancy of data.

Knowledge Evidence

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

- data acquisition methods
- database querying techniques and languages

- key features of spatial data
- legal requirements for accessing and manipulating spatial data, including copyright
- methods for comparing and checking different spatial datasets
- organisational requirements relating to:
 - work health and safety
 - recording data
 - completing documentation
- principles of data acquisition, including photogrammetry, remote sensing, terrestrial survey and hydrography
- quality guidelines regarding the validity of spatial data
- software applications used to compute spatial datasets
- key features of spatial coordinate and reference systems
- spatial data formats and structures
- spatial database design tools
- key characteristics of spatial database operation
- spatial dataset integration methods, including role of scale in dataset integration.

Assessment Conditions

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

- equipment:
 - computer with software appropriate for integrating spatial datasets
- specifications:
 - organisational policies, procedures and legislation relating to:
 - work health and safety
 - data privacy and information copyright
- physical conditions:
 - access to equipped work station
- 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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