

Draft 0.1

This is a draft update to CPPSIS5064 Coordinate GIS data manipulation and analysis:
<https://training.gov.au/Training/Details/CPPSIS5064>

Expanded GIS acronym in title.

Changed PCs to active voice.

Adopted following licensing statement:

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

Changed 'person' to 'candidate' in PE for consistency.

Unit of Competency

CPPSUR5064 Coordinate geographic information system (GIS) data manipulation and analysis

Modification history

Release	Comments
1	Replaces superseded equivalent CPPSIS5064A Manipulate and analyse GIS data. This version first released with CPP Property Services Training Package Version 3.

Application

This unit specifies the skills and knowledge required to coordinate geographic information system (GIS) data manipulation and analysis to meet client specifications. The unit covers analysing client needs and GIS data format requirements and developing procedures; assessing the applicability of existing tools, models, theories and applications; and developing models to achieve the required outcome, including feasible parameters, equations and assumptions.

The unit also covers verifying data source integrity and manipulating and analysing data for presentation. The unit requires the ability to use computers and GIS software as well as querying and programming languages to capture geographic information, obtain information from databases, and create layers on maps. It also requires the ability to comply with organisational and legal requirements relating to client consultation and data ownership.

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

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

Prerequisite Unit

None

Unit Sector

Surveying and spatial information services

Elements and Performance Criteria

1. Prepare to meet client GIS data needs.	1.1. Determine client requirements and project specifications for GIS data format in consultation with appropriate persons . 1.2. Specify parameters for data manipulation and analysis according to project specifications. 1.3. Document new procedures for manipulating and analysing data to meet project specifications are documented.
2. Establish GIS data models.	2.1. Review applicability of existing tools, models, theories, applications and solutions against project specifications. 2.2. Develop feasible parameters, equations and assumptions according to project specifications. 2.3. Establish models to meet project specifications according to organisational requirements.
3. Manipulate and analyse GIS data.	3.1. Determine and use processes for data manipulation and analysis to meet project specifications.

	<p>3.2. Analyse source data limitations and other restricting factors to ensure data integrity and resolve or manage contingencies for identified problems.</p> <p>3.3. Isolate and retrieve data from source and interrogate to ensure reliability according to project specifications.</p> <p>3.4. Manipulate and prepare data for presentation media and finalise project according to organisational requirements.</p>
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Foundation Skills

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

- initiative and enterprise skills to translate client requirements into model design.
- numeracy skills to perform data reductions.
- oral communication skills to negotiate data solutions with clients.
- reading skills to interpret graphical information in maps and technical information obtained from external datasets.
- writing skills to record details of quality improvements.
- technology skills to:
 - use querying commands to obtain information from databases
 - use a computer and software to create layers on maps.
- problem-solving skills to identify deficiencies in existing procedures and models.

Unit Mapping Information

Supersedes and is equivalent to CPPSIS5064 Coordinate GIS data manipulation and analysis

Links

Companion Volume Implementation Guide:

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

Assessment Requirements for CPPSUR5064 Coordinate geographic information system (GIS) data manipulation and analysis

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Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by:

- coordinating geographic information system (GIS) data manipulation and analysis to meet client needs for two different projects.

While coordinating these GIS data manipulation and analysis projects, the candidate must:

- negotiate with clients regarding data format requirements
- conduct research to source geographic information
- develop parameters, equations and assumptions to meet task requirements
- develop procedures and establish models for data analysis that meet established client specifications for data format
- analyse data sources to verify data integrity to ensure:
 - accuracy
 - completeness
 - confidence limits
 - currency
 - quality
 - resolution
 - scale
- build up elements of a database
- capture geographic information
- manipulate and analyse datasets using general query and programming languages, scripts and command lines
- use GIS software to manipulate and analyse data for display on a map
- comply with organisational and legal requirements for:
 - client consultation
 - data ownership, including accessing and using spatial data, including copyright, intellectual property, data privacy and trade practices
- comply with organisational requirements for recording data and completing documentation and using screen-based equipment.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- data reduction and manipulation techniques
- database structures and spatial features of databases
- line instructions and programming languages to capture geographic information
- methods for creating layers on maps
- querying and browsing techniques for obtaining information from databases
- types of spatial data formats

- organisational and legal requirements for accessing and using spatial data, including copyright, intellectual property, and trade practices
- organisational policies and procedures relating to:
 - accessing, recording and storing spatial data
 - communicating with clients and end users
 - completing records and documentation
 - custodianship of data
 - using computer systems and software to manipulate GIS data.

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

Assessment must be conducted in the workplace or a simulated workplace using realistic conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Candidates must have access to:

- equipment:
 - computer and software appropriate for manipulating GIS data
- specifications:
 - organisational policies, procedures and documentation relating to data privacy and information copyright
- physical conditions:
 - access to equipped work station
- relationships with team members and supervisor:
 - working in a team.
- relationships with clients:
 - client consultation required.

Timeframe:

- as specified by task and organisational requirements

Links

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