Australian Government

CPPSIS4034A Maintain spatial data

Release 1

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Modification History

Unit revised and not equivalent to CPPSIS4014A Maintain spatial data
Element structure, performance criteria, and critical aspects reviewed to reflect workplace requirements
References to sustainability strengthened
Skills and knowledge requirements and the range statement updated

Unit Descriptor

This unit of competency specifies the outcomes required to perform routine and spatial data maintenance, including updating, spatial and aspatial editing, backups and recovery, and archiving. It requires the ability to assess and record information from varied sources and understand the use of technology in problem solving. Functions would be carried out under limited supervision and within organisational guidelines.

Application of the Unit

This unit of competency supports the application of basic analysis, problem-solving and teamwork skills and the use of basic technology for data interpretation and collation. The skills and knowledge acquired upon completion of this unit would support the needs of employees in the surveying and spatial information services (SSIS) industry sector in positions such as field work coordination, data collection and administration.

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

1	Contribute to confirming reliability of the spatial data	1.1	Under the direction of ***relevant personnel***, ***spatial data*** updates are accessed to ensure currency and relevance.
		1.2	Spatial data is checked and edited to ensure it is in an acceptable format.
		1.3	Spatial data is reviewed for compatibility and to ensure it meets job specifications.
		1.4	Updates are recorded according to ***organisational guidelines***.
		1.5	***Entities*** and ***attributes*** are used to display ***spatial information*** that will assist in the delivery of ***spatial information services***.
		1.6	Integrity and consistency of data are maintained.
		1.7	Keyboard and ***computer hardware equipment*** are used to meet functional requirements in regard to speed and accuracy and according to ***OHS requirements***.
2	Contribute to spatial and aspatial data editing and updating.	2.1	Spatial data is amended and replaced to meet ***functional requirements*** under the direction of relevant personnel and according to organisational requirements.
		2.2	Existing data is amended to integrate with new data.
		2.3	New data is edited and prepared for integration with existing data.
		2.4	Spatial datasets are tested and ***validated*** to ensure integrity and quality.

		2.5	*Documentation* is amended and updated according to organisational guidelines.
3	Carry out data backup and recovery.	3.1	Data backups are implemented to ensure copies of data are accessible in *contingency situations*.
		3.2	Backup system is tested to ensure data can be retrieved.
		3.3	Legal and *ethical requirements* are adhered to according to organisational guidelines.
4	Archive data.	4.1	Spatial dataset to be archived is manipulated where necessary under the direction of relevant personnel to ensure completeness.
		4.2	*Metadata* is created according to accepted industry standards.
		4.3	New and existing spatial data is stored in a secure environment according to organisational guidelines.
		4.4	Archival details are recorded according to organisational guidelines.

Required Skills and Knowledge

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

Required skills

- communication skills to:
    - discuss vocational issues effectively with colleagues
    - impart knowledge and ideas through oral, written and visual means
- computer skills to maintain spatial data
- decision making in relation to a limited range of routine areas
- literacy skills to:
    - assess and use workplace information
    - read and interpret datums and projections
    - read and record data
    - research and access routine sources of spatial data
    - use basic workplace documents and user manuals
- numeracy skills to:
    - accurately record and collate
    - undertake basic computations
- organisational skills to:
    - manage information
    - prioritise daily activities
- spatial skills to:
    - archive and retrieve spatial data
    - perform spatial data management and manipulation
    - manage files

Required knowledge

- key features of map projections
- OHS principles and responsibilities, such as ergonomic principles and practices to avoid muscle strain
- operation of relevant software packages
- organisational policies and guidelines
- security management guidelines
- spatial data maintenance and acquisition process
- spatial data storage technology
- spatial information systems

- spatial reference systems
- technical terminology in relation to reading help files and prompts

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 CPPSIS4022A Store and retrieve spatial 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: • using a full cycle of spatial data maintenance, including: • archiving • backup • recovery • updating • knowledge of spatial data features.
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 SIS 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.

Relevant personnel may include:	• managers
	• supervisors
	• technical staff
	• users.

Spatial data may include:	• digital • hard copy • image • text • raster • vector.
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.
Entity refers to a single item created on the screen such as:	• arc • circle • hatch • line • text.
Attributes are properties associated with an entity and may include:	• colour • layer • level • line type • line width • text.
Spatial information refers to:	• virtual data related to the location of objects on the earth.

Spatial information services may include:	• virtual data to be:
	  • analysed
	  • collected
	  • displayed
	  • manipulated
	  • stored
	• virtual images used for planning and implementing the efficient administration and development of natural and built resources.

Computer hardware equipment may include:	• mobile devices such as personal digital assistants or data loggers • multimedia devices • networked systems • personal computers • printers

	• scanners.

OHS requirements may include:	• Australian standards
	 • identification of potential hazards
	 • safety plan
	 • safe use of:
	  • computer equipment
	  • mobile equipment
	  • regulated equipment
	  • screen-based equipment
	  • workstations.

Functional requirements refer to:	• work deliverables.
Validated means reflecting the true state of a test result, including tests for systematic distortions such as:	• confounding bias • information/data bias • observational bias • recall bias • selection bias.
Documentation may include:	• audit trails • naming standards • project management templates • report writing styles • version control.
Contingency situations may include:	• equipment failure • contractual issues • human resource issues • changes in plans.
Ethical requirements may include:	• confidentiality • privacy.
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.

Unit Sector(s)

Surveying and spatial information services

Custom Content Section

Not applicable.