



Australian Government

CPPSIS5039A Produce spatial project deliverables

Release 1

CPPSIS5039A Produce spatial project deliverables

Modification History

Unit revised and not equivalent to CPPSIS5009A Produce spatial project deliverables
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 deliver spatial product or service to meet client requirements, often in a supervisory capacity. It requires highly developed communication skills and the ability to apply in substantial depth skills and knowledge to a wide variety of spatial contexts to meet project deliverables. Functions would be carried out within organisational guidelines.

Application of the Unit

This unit of competency supports the application of organisational, sound communication, negotiation and problem-solving skills; the ability to demonstrate initiative and enterprise; and an understanding of technology. The skills and knowledge acquired upon completion of this unit would support the needs of employees in surveying, cartography, town planning, mapping or 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 | Develop the production plan. | <p>1.1 Required <i>spatial information services (SIS) project deliverables</i> are confirmed with <i>relevant personnel</i>.</p> <p>1.2 <i>Resources, equipment and materials</i> required are determined and organised in consultation with appropriate <i>stakeholders</i>.</p> <p>1.3 Relevant personnel are informed of their involvement in the project, the parameters of their responsibilities, and <i>team liaison</i> processes.</p> <p>1.4 Understanding of project requirements is ensured to enable <i>ongoing assessment</i> according to <i>organisational guidelines</i>.</p> <p>1.5 Reasonable <i>contingencies</i> are considered in the development of a <i>risk management plan</i>.</p> <p>1.6 Relevant <i>legal, statutory and industry standards</i> are considered and planned for.</p> <p>1.7 <i>OHS</i> issues are considered at all times.</p> |
| 2 | Implement the production plan. | <p>2.1 <i>Project management mechanisms</i> are implemented to measure, record and report progress of activities in relation to the agreed schedule and plans.</p> <p>2.2 <i>Computations and analysis</i> are undertaken for product development.</p> <p>2.3 Design is prepared according to <i>project specifications</i> and organisational guidelines.</p> |

- 2.4 Product is **validated** for presentation where appropriate.
 - 2.5 Outputs are validated against **client requirements**.
 - 2.6 **Metadata** is created according to organisational guidelines.
- 3 Monitor and complete the process.
 - 3.1 **Monitoring processes** are followed to ensure work accords with organisational **quality assurance standards** and project specifications.
 - 3.2 **Financial management guidelines and processes** are implemented to monitor actual expenditure and to control costs.
 - 3.3 **Production** process is amended to cater for any irregularities or breakdowns in production.
 - 3.4 Product is checked to ensure it meets specifications.

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|---|-------------------------|-----|---|
| 4 | Complete documentation. | 4.1 | <i>Production documentation</i> is completed according to organisational guidelines. |
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Required Skills and Knowledge

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

Required skills

- communication skills to:
 - consult effectively with clients and colleagues
 - impart knowledge and ideas through oral, written and visual means
- computer skills to complete business documentation
- initiative and enterprise skills to:
 - delegate duties
 - undertake day-to-day human resource management and business negotiation
- literacy skills to:
 - assess and use workplace information
 - manage contracts
 - read and write technical reports
 - research and evaluate
- numeracy skills to:
 - analyse errors
 - conduct image analysis
 - interpret and analyse statistics
 - perform mental calculations
 - record with accuracy and precision
 - undertake computations
- organisational skills to:
 - coordinate technical and human resource inputs to research activities
 - prioritise activities to meet contractual requirements
 - project management, including production planning and management
 - quality assurance
 - resources management
- spatial skills to:
 - exercise precision and accuracy in relation to design imagery
 - archive and retrieve spatial data

- manage and manipulate spatial data
- manage files
- time management skills to conduct spatial project within designated timeframes

Required knowledge

- methods of assessing existing spatial datasets and dataset sources
- organisational policies and guidelines relating to spatial project processes
- procedures for information management
- project management tools, techniques and methodologies
- project review procedures
- quality assurance principles relating to integrity of spatial data
- resource planning and costing
- spatial data capture methodologies
- spatial data presentation methods
- spatial information principles and their application
- SIS project contingencies
- spatial referencing systems
- spatial technologies
- use of metadata

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 CPPSIS5033A Implement a spatial information services project plan, CPPSIS5034A Determine spatial data requirements, CPPSIS5038A Develop a complex spatial and aspatial database, and CPPSIS5041A Monitor and control the spatial components of projects.
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: • determining precise data requirements • applying cost considerations • applying qualitative and quantitative measurements for a project • assessing and acting upon contingencies • coordinating resources, equipment and personnel • knowledge of spatial project deliverables.
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.

SIS project may include:

- administration (e.g. postcodes, suburbs, and federal and state electoral counties)
- analysis of environmental, land and geographic information

- asset management
- cartographic services
- civil engineering
- charts
- designs
- digital data
- digital imagery
- electricity
- emergency services management
- environmental datasets
- formats of electronic data
- geographic information systems (GIS)
- integrated services – environmental, land and geographic related datasets
- land ownership tenure system
- local government
- location-based services
- models
- global positioning
- mapping facilities
- site analysis
- survey marks
- sewerage
- telecommunications
- town planning
- utility services such as water
- water catchment.

Relevant personnel may include:

- administrative staff
- managers
- production workers
- project workers
- supervisors
- team members
- technical staff
- users.

Resources, equipment and materials may include:

- electronic theodolites
- global navigation satellite system (GNSS)
- gyro-theodolite
- human resources
- lasers
- levels
- optical reading instruments
- tapes
- total station.

Stakeholders may include:

- human resource personnel: internal or external
- procurement agency: internal or external management.

Team liaison may include:

- communication
- complementary work practices
- duties
- formal and informal meetings
- mentoring system
- problem solving
- project delivery schedules
- reporting mechanisms
- communication with supervisors
- work allocation.

Ongoing assessment may include assessment of:

- production achievements against targets and milestones
- personnel team output against project specifications
- individuals' performance against their employment contracts and training requirements.

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.

Contingencies may

- equipment failure

include:

- injury to personnel
- personnel turnover
- observation errors
- obstructions to project plan
- weather.

Risk management plan may include:

- effective management
- keeping within budgetary constraints
- keeping within timelines
- project stages clearly identified
- sound internal audit processes.

Legal, statutory and industry standards may include:

- Australian standards
- award and enterprise agreements
- certification requirements
- codes of practice
- duty of care
- environmental standards
- local government requirements
- state statutes and regulations
- quality assurance requirements.

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 equipment and signage.

Project management mechanisms may include:

- communication with stakeholders
- dispute resolution guidelines
- monitoring and adjusting key milestones.

Computation and analysis may include:

- design of subdivision layout and infrastructure such as:
 - roads
 - sewer drainage
 - stormwater drainage
 - water supply
 - GIS analysis.

Project specifications may include:

- detailed technical descriptions of survey data and its requirements
- preparation of cross-sections and plans with all information included.

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.

Client requirements refer to description of outputs and may be contained in:

- contracts
- memos
- tender briefs

- Metadata** may include:
- verbal instructions
 - written instructions.
 - 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.
- Monitoring processes** may include:
- measurement of performance and production against:
 - client expectations
 - deadlines
 - milestones
 - objectives
 - quality standards
 - specifications
 - targets.
- Quality assurance standards** may include:
- internal and external
 - product or service measurement against set criteria
 - standard verification
 - target monitoring.
- Financial management guidelines and processes** may include:
- approval processes
 - communication
 - financial authorisation
 - financial delegation
 - invoice guidelines
 - reporting.
- Production** may include:
- enhancements
 - manual entry
 - preparation of maps or plans
 - spatial data access
 - spatial data editing
 - spatial data integration.
- Production documentation** may include:
- checklists
 - completed dispatch records
 - contingency reports

- production reports.

Unit Sector(s)

Surveying and spatial information services

Custom Content Section

Not applicable.