



Australian Government

CPPSIS5041A Monitor and control the spatial components of projects

Release 1

CPPSIS5041A Monitor and control the spatial components of projects

Modification History

Unit revised and not equivalent to CPPSIS5011A Monitor and control the spatial components of projects

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 monitor and control the spatial components of projects, often in a supervisory capacity. It requires the ability to analyse and plan monitoring approaches to technical issues and management requirements. Functions would be carried out within organisational guidelines.

Application of the Unit

This unit of competency supports the application of theoretical and practical analysis; 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

- | | | |
|---|--------------------|--|
| 1 | Plan the task. | 1.1 <i>Design</i> is interpreted to identify <i>spatial components</i> to be monitored or controlled. |
| | | 1.2 Design is checked for internal consistencies. |
| | | 1.3 <i>Stakeholders</i> are identified and consulted regarding task requirements according to <i>organisational guidelines</i> . |
| | | 1.4 <i>Project resources</i> are identified and obtained. |
| | | 1.5 Pertinent <i>legal and statutory requirements and standards</i> are researched, considered and adhered to. |
| | | 1.6 <i>Environmental impact</i> of task is considered. |
| 2 | Execute the task. | 2.1 Measured spatial data is reduced to project spatial reference system for comparison with design. |
| | | 2.2 Impacts of <i>contingencies</i> are effectively managed. |
| | | 2.3 <i>Measurements</i> are validated and recorded according to project specifications. |
| | | 2.4 Checks are completed according to requirements. |
| | | 2.5 <i>OHS requirements</i> are planned for and adhered to. |
| 3 | Finalise the task. | 3.1 Results are documented according to project specifications. |
| | | 3.2 Relevant parties are informed of the results according to organisational guidelines. |

3.3 Spatial data is archived according to project specifications.

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
 - present business information and progress reports where required
- computer skills to complete business documentation
- initiative and enterprise skills to:
 - delegate duties
 - manage human resources in relation to recruitment and performance setting
- literacy skills to:
 - assess and use workplace information
 - manage information
 - read and write technical reports
 - research and evaluate
- numeracy skills to:
 - analyse errors
 - conduct image analysis
 - estimate costs
 - interpret and analyse statistics
 - perform mental calculations
 - record with accuracy and precision
 - undertake computations
 - use measuring equipment
- organisational skills to:
 - coordinate technical and human resource inputs to research activities
 - plan and prioritise project activities to meet contractual requirements
- project management skills to coordinate spatial components of projects
- spatial skills to:
 - archive and retrieve spatial data
 - manage and manipulate spatial data
 - manage files

Required knowledge

- accuracy and precision requirements
- information management
- legislation as it applies to project work
- limitations of equipment, measuring and analysis guidelines
- measurement techniques
- OHS policies
- project management principles, tools, techniques and methodologies
- quality assurance principles
- relationships to universal locations
- resource management processes
- risk analysis principles
- spatial data reduction and manipulation techniques
- spatial information principles and their application
- spatial information services (SIS) project contingencies
- spatial reference systems
- spatial technologies

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, CPPSIS5039A Produce spatial project deliverables, and CPPSIS6027A Design spatial information services project deliverables.
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: • reducing and manipulating spatial data • accessing and interpreting design information to identify the components to be measured and monitored • planning resources and managing time • managing contingencies • communication skills to consult and negotiate with consultants and staff • flexibility and ability to anticipate problems and modify systems and practices accordingly • knowledge of spatial project components.
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, which 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.

Design may include:

- digital information
- hard copy plans
- maps.

- Spatial components*** may include:
- depth
 - flow rates
 - dimension
 - direction
 - position
 - slope
 - volume.
- Stakeholders*** may include:
- architects
 - clients
 - client representatives
 - community groups
 - contractors
 - engineers
 - government authorities.
- Organisational guidelines*** may include:
- Australian standards, quality assurance and certification requirements
 - award and enterprise agreements and relevant industrial instruments
 - company OHS guidelines
 - enterprise manuals
 - licensing arrangements
 - relevant codes of practice.
- Project resources*** may include:
- equipment specifications
 - operator manuals
 - printed product instructions and information
 - spatial database
 - skills of existing staff
 - staffing resources
 - warranty documents.
- Legal and statutory requirements and standards*** may include:
- Australian standards, quality assurance and certification requirements
 - award and enterprise agreements and relevant industrial instruments
 - licensing arrangements
 - OHS guidelines and environmental issues
 - relevant codes of practice
 - relevant state, territory or federal legislation that affects organisational operations, including:
 - anti-discrimination and diversity
 - industrial relations.
- Environmental impact***
- contamination of soil, groundwater and surface water
 - erosion

may include:

- leakage of chemicals.

Contingencies may include:

- environmental issues
- equipment failure
- personnel turnover
- injury to staff and clients
- observation errors
- obstructions to plan
- weather.

Measurements may include:

- current meter
- echo sounder
- electronic distance measuring (EDM)
- global navigation satellite system (GNSS)
- level
- photogrammetry
- remote sensing
- tape
- digitised theodolite
- tide gauge.

OHS requirements 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.

Unit Sector(s)

Surveying and spatial information services

Custom Content Section

Not applicable.