Australian Government

CPPSIS5062A Conduct photogrammetric mapping

Release 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

CPPSIS5062A Conduct photogrammetric mapping

Modification History

Version	Comment
1	This version first released with CPP07 Property Services Training Package Version 12.

Unit Descriptor

This unit of competency specifies the outcomes required to interpret information from various types of image data to conduct photogrammetric mapping. It requires the ability to identify, analyse and evaluate image data to fulfill project requirements. Functions would be carried out within organisational guidelines.

Application of the Unit

This unit of competency supports the application of accuracy, problem-solving and self-management skills, and an understanding of technological images. The skills and knowledge acquired on completion of this unit would apply to the needs of employees in cartography, mapping and geographic information systems (GIS).

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.

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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	Apply photogrammetric data to project.	1.1	Principles of ***photogrammetric data*** are identified and applied to the ***project plan*** and ***project survey area***.
		1.2	Possible sources of image data for mapping purposes are identified.
		1.3	Properties of different types of image data are identified.
		1.4	***Constraints*** of different types of image data are identified.
		1.5	Spatial reference systems are accessed as required.
		1.6	Process of obtaining ground ***control for photogrammetric mapping*** is reviewed.
2	Calculate information from image data.	2.1	Scale of digital and hard copy image data is determined.
		2.2	Problems involving acquired image data are solved according to ***organisational policies and principles***.
3	Interpret and store image data.	3.1	Information from acquired photogrammetric data is used to fulfil project objectives.
		3.2	Data image problems are resolved where possible.
		3.3	***Required documentation*** is completed according to organisational policies.
		3.4	Captured data is stored according to organisational policies.

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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

- analytical skills for image and data analysis
- literacy skills to:
  - access and use workplace information
  - interpret and understand procedural requirements
  - interpret technical task requirements
  - process workplace documentation
  - read, record data and write technical reports
  - research and access routine sources of spatial data
- numeracy skills to:
  - record and interpret statistics with accuracy and precision
  - undertake computations
- planning and organising skills to:
  - prepare and administer documentation
  - prioritise activities to meet contractual requirements
  - apply quality assurance practices to own work
- spatial skills to:
  - archive and retrieve spatial data
  - interpret basic data imagery
  - manage and manipulate spatial data
  - solve basic problems relating to height, depth, breadth, dimension, direction and position in operational activity and virtual representation
- understand the requirements for ground control in the photogrammetric process
- technology skills to use computers to complete business documentation

Required knowledge

- basic data formats
- basic image data
- organisational policies and guidelines relating to photogrammetric mapping, including those relating to safe work practices
- procedures for information management
- quality assurance principles relating to:
  - planning

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- relevant industry requirements and standards relating to photogrammetric mapping
- spatial reference systems relating to photogrammetric mapping
- photogrammetric control requirements
- photogrammetric operational processes
- surveying requirements for capturing various sources of basic data

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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 CPPSIS5034A Determine spatial data requirements.
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: • accessing and interpreting information to identify the components of image data to be measured and monitored • managing quality processes • planning photogrammetric resources • performing photogrammetric measurements • writing reports and completing documentation.
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 requires that the clients' objectives and industry

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assessment	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.

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.

Photogrammetric data may include:	• 3-D data acquisition and object reconstruction • aerial survey • computer vision • GeoPhoto • geoinformatics • geomatics engineering images • hard copy • stereoplotter • videogrammetry.
Project plan may include:	• evaluation criteria • milestones • performance indicators • project implementation methodology • quality standards • return on investment • risk management strategies • targets.
Project survey area may include:	• aerial photographs • other forms of digital data in the horizontal or vertical plane.

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Constraints may include:	• resource availability • specific survey requirements • time available.
Control for photogrammetric mapping may include:	• pre-marked targets • primary ground control • post-marked targets • secondary control.
Organisational policies and principles may include:	• code of ethics • legislation relevant to the work or service function • operational and equipment manuals • OHS practices, policies and procedures • personnel practices and guidelines outlining work roles and responsibilities • quality assurance principles.
Required documentation may include:	• final product report • project reports.

Unit Sector(s)

Surveying and spatial information services

Custom Content Section

Not applicable.

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