



Australian Government

CPPSIS4037A Produce computer-aided drawings

Release 1

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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 use a range of computer-aided design and drafting (CADD) program functions and features to produce drawings. The skills and knowledge required in this unit focus on the technical skills required to operate CADD, as well as the design skills required to support the needs of employees in surveying and spatial information services (SSIS).

Application of the Unit

This unit of competency supports the application of the skills and knowledge required in technical supporting positions in the SSIS industries.

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	Determine drawing requirements.	1.1	Relevant documentation or <i>information</i> used to determine requirements and processes is accessed and analysed.
		1.2	<i>End users, clients</i> and colleagues are consulted to clarify requirements of the SSIS project.
2	Select and set up CADD package.	2.1	Hardware, software, tools and equipment are selected for the project.
		2.2	Hardware and software are set up according to operating instructions and organisational procedures.
		2.3	Digitised information relevant to the project is identified and retrieved.
3	Gather object parameters and measurements.	3.1	Critical dimensions and data for the required <i>design</i> are established and recorded.
		3.2	<i>Quality requirements</i> are identified and applied to design.
4	Prepare plots or drawings.	4.1	<i>CADD functions and features</i> are accessed and used according to organisational policies.
		4.2	<i>Peripheral equipment</i> required for the <i>CADD project</i> is accessed and used.
		4.3	Preliminary drawings are prepared and reviewed with relevant personnel.

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| 5 | Check drawings and save files. | 5.1 | Designs are checked against the project objectives and specifications. |
| | | 5.2 | Required adjustments to designs are made, reflecting consultation with relevant personnel, end user or client. |
| | | 5.3 | Data files are stored according to operating instructions and organisational procedures. |

Required Skills and Knowledge

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

Required skills

- analytical skills to analyse data layout and design
- communication skills to:
 - consult effectively with clients and colleagues
 - impart knowledge and ideas through oral, written and visual means
- initiative and enterprise skills to:
 - interpret project requirements
 - translate requirements into design
- literacy skills to:
 - interpret and use digital information
 - understand the instructions required to produce computer-aided drawings
 - understand datums and projections
- numeracy skills to perform calculations and measurements to produce computer-aided drawings
- planning and organising skills to:
 - manage information
 - plan and prioritise activities to meet contractual requirements
 - conduct project activity
- self-management skills to maintain attention to detail
- technology skills to use computers to develop computer-aided drawings

Required knowledge

- display principles, including:
 - colour
 - composition
 - font type
 - legends
 - media
 - scale
 - size
 - text and line style
- CADD basic principles
- copyright issues, including:

- intellectual property
- legislation associated with the use of CADD
- database structures, including the relationship of spatial features of database
- requirements relevant to producing computer-aided drawings:
 - accuracy and precision requirements
 - Australian drawing standards
 - data formats
- SSIS reference systems
- SSIS data capture and data set-out methodologies
- use of CADD tools, including:
 - drawing function
 - edit functions
 - plotting and printing
 - view displays
 - working with layers

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.

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:

- producing drawings that meet technical and client specifications
- using the standard features and functions of a CADD program to produce drawings
- knowledge of CADD capabilities and uses in relation to the SSIS industry.

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 CADD program
- 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

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.

Information may include:

- creative objectives
- measurements and dimensions for objects and space
- relevant statutory requirements
- scope for making adjustments
- technical objectives.

End users may include:

- elected members
- general public
- land information authorities
- local government
- real estate agents
- residents
- state and federal government departments
- statutory bodies, including land titles office
- transport companies
- utilities.

Client may include:

- customers with routine or special requests
- external to organisation
- internal to organisation
- regular and new customers, including:
 - business enterprises

- government agencies
 - members of the public
 - suppliers.
- Design** may include:
- building
 - concept
 - graphics
 - object
 - product
 - spatial information.
- Quality requirements** may include:
- accuracy
 - detail
 - format
 - information
 - meeting customer requirements
 - timeframe
 - tolerances.
- CADD functions and features** may include:
- drawing tools
 - arcs
 - dimensions
 - methods for drawing lines
 - polylines
 - texts
 - edit functions
 - plotting and printing
 - view displays
 - working with layers.
- Peripheral equipment** may include:
- plotters
 - printers
 - scanners.
- CADD project** may include:
- 3-D techniques
 - displaying 3-D views
 - entering coordinates
 - integrated environment
 - isometrics perspectives
 - macros
 - use of attributes to make project reports.

Unit Sector(s)

Surveying and spatial information services

Custom Content Section

Not applicable.