



Australian Government

Assessment Requirements for CPPSIS6040 Develop 2-D and 3-D terrain visualisations

Release: 1

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Modification History

Release 1.

Replaces superseded equivalent CPPSIS6040A Develop 2-D and 3-D terrain visualisations.

This version first released with CPP Property Services Training Package Version 3.

Performance Evidence

A person demonstrating competency in this unit must satisfy the requirements of the elements, performance criteria and foundation skills of this unit. The person must also use a geographic information system (GIS) or computer-aided design (CAD) environment to develop two-dimensional (2-D) and three-dimensional (3-D) terrain visualisations that meet specifications for two different projects.

While developing the above 2-D and 3-D terrain visualisations, the person must:

- analyse and define job specifications, constraints and main work activities
- conduct web-based searches to identify available spatial data and verify its suitability to meet drawing specifications
- prepare the CAD environment by setting up the hardware and software system and drawing defaults and customising menus
- design the surface elevation, orientation and views to meet job specifications
- exercise precision and accuracy in relation to terrain visualisations
- select and use spatial computing platforms and software systems to prepare drawings and models that meet specifications relating to:
 - accuracy
 - completeness
 - coverage
 - density
 - logical consistency
- use appropriate interpolation techniques to convert from vector to raster data
- communicate clearly with clients and colleagues to clarify design requirements and detail
- comply with standard operating procedures, drawing standards and organisational requirements relating to:
 - completing records and reporting
 - quality and risk management
 - working safely when using the equipment specified in the assessment conditions
- create and manipulate entities in 3-D space to develop contour, slope and shaded relief maps of an area
- create detailed 2-D views using various scales

- create a digital elevation model in 3-D using mathematically defined surfaces and point or line data
- identify and assess constraints and problems relating to spatial data
- save drawing files in a range of formats.

Knowledge Evidence

A person demonstrating competency in this unit must demonstrate knowledge of:

- computer platforms and software for GIS, CAD and digital elevation models (DEM)
- copyright and ownership constraints relating to spatial data
- data formats and precision and accuracy requirements for preparing terrain visualisations in 2-D drawings and 3-D models
- digital image processing techniques
- display principles, including:
 - colour
 - composition
 - font type
 - legends
 - media
 - scale
 - size
 - text and line style
- existing spatial datasets and dataset sources
- GIS and CAD principles, capabilities and uses in relation to creating terrain visualisations
- methods for validating spatial data sources and constraints on use
- organisational requirements relating to records and reporting
- remote sensing technologies that capture raw elevation data
- key features of spatial referencing systems
- techniques for modifying existing 2-D and 3-D models
- types of products that can be derived from a DEM.

Assessment Conditions

The following must be present and available to learners during assessment activities:

- equipment:
 - personal computer, including GIS or CAD applications and software appropriate for developing 2-D and 3-D terrain visualisations
 - hardware, including printer, scanner, plotter and multimedia devices and peripherals
- specifications:
 - project and design specifications
 - organisational policies, procedures and documentation relating to:
 - quality measures relating to 2-D and 3-D terrain visualisations

- data privacy and information copyright
- physical conditions:
 - access to equipped work station
- relationships with team members and supervisor:
 - lead role in a team
- relationships with client:
 - client consultation required.

Timeframe:

- as specified by the client and project requirements.

Assessor requirements

As a minimum, assessors must satisfy the assessor requirements in the Standards for Registered Training Organisations (RTOs) current at the time of assessment.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>