



**Australian Government**

# **CPPSSI4026 Digitally enhance and process image data**

**Release: 1**

# CPPSSI4026 Digitally enhance and process image data

## Modification History

Release 1 This version first released with CPP Property Services Training Package Release 12.0.

This unit supersedes and is equivalent to CPPSIS4026 Digitally enhance and process image data.

## Application

This unit specifies the skills and knowledge required to extract information from original digital data before processing using remote sensing/geographic information system (GIS) software to manipulate, enhance, classify and process data. The image data can be multispectral or from aircraft, unmanned aerial vehicles or satellites.

This unit is suitable for entry-level technicians who use a broad range of cognitive, technical and communication skills to select and apply a range of methods, tools, materials and information to complete routine and non-routine activities and provide and transmit solutions to a variety of predictable and sometimes unpredictable problems.

Surveying and spatial information skills are applied in a range of industry contexts including town planning, civil construction, mining, engineering, health, agriculture and defence.

All work must be carried out to comply with workplace procedures, in accordance with relevant state/territory regulations that govern surveying work, as well as work health and safety (WHS) legislation and regulations that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

## Pre-requisite Unit

Nil.

## Unit Sector

Surveying and Spatial Information Services

## Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

- |                        |                                                                                                                      |
|------------------------|----------------------------------------------------------------------------------------------------------------------|
| 1 Identify image data. | 1.1 Analyse project specifications to determine study area and image data requirements for task in consultation with |
|------------------------|----------------------------------------------------------------------------------------------------------------------|

- appropriate persons.
- 1.2 Identify potential sources of image data to meet task requirements.
  - 1.3 Identify constraints of different types and formats of image data in relation to task requirements.
- 2 Process and analyse image data.
- 2.1 Access image data and open in software.
  - 2.2 Interpret graphical and technical information, including landscape features within digital images.
  - 2.3 Enhance visual display to analyse image features.
  - 2.4 Classify image data and interpret results to achieve task requirements.
  - 2.5 Check results for accuracy and resolve identified problems.
- 3 Present and document results.
- 3.1 Present results of analysis in map, table or graph form.
  - 3.2 Document results of analysis to meet task and organisational requirements.
  - 3.3 Comply with health and safety requirements when using screen-based equipment and completing records and documentation.
  - 3.4 Comply with legislative and organisational requirements relating to data privacy, copyright and licensing.

## Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

## Unit Mapping Information

Supersedes and is equivalent to CPPSIS4026 Digitally enhance and process image data.

## Links

Companion volumes to this training package are available at the VETNet website -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

# Assessment Requirements for CPPSSI4026 Digitally enhance and process image data

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## Performance Evidence

To demonstrate competency a candidate must meet the elements and performance criteria of this unit by using remote sensing or geographic information system (GIS) applications to digitally enhance, process and classify image data for two projects:

- one project with a built environment focus
- and
- one project with a natural environment focus.

Images may include:

- digital aerial photographs
- digital terrestrial images
- images from an unmanned aerial vehicle (UAV)
- satellite images.

## Knowledge Evidence

To be competent in this unit a candidate must demonstrate knowledge of:

- sources of image data
- basic properties and characteristics of image data used in spatial applications
- image classification techniques used in remote sensing, including unsupervised classification algorithms
- spectral properties of images and key features of spectral signatures
- techniques for enhancing image display, including contrast stretches and common band combinations
- organisational guidelines relating to equipment use, work health and safety (WHS), and accessing and formatting image data and copyright.

## Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting where these skills and knowledge would be performed.

Candidates must have access to:

- computer and software with image enhancement functionality
- organisational policies and procedures relating to:
  - WHS
  - data privacy, copyright and licensing.

## Links

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<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>