

Draft 0.1

This is a draft update to CPPSIS4026 Digitally enhance and process image data:

<https://training.gov.au/Training/Details/CPPSIS4026>.

Code changed to CPPSUR4026.

Changed PCs to active voice.

Changed 'person' to 'candidate' in PE.

Range of Conditions added to Knowledge Evidence.

I've added mapping info.

TAG will need to reassess this as unit is redeveloped.

Unit of Competency

CPPSUR4026 Digitally enhance and process image data

Modification history

Release	Comments
1	Replaces superseded non-equivalent CPPSIS4026A Read and interpret image data. This version first released with CPP Property Services Training Package Version 3.
	Replaces superseded equivalent CPPSIS4026 Digitally enhance and process image data

Application

This unit specifies the skills and knowledge required to enhance and process image data using digital techniques. The unit covers using remote sensing software to manipulate, enhance, classify and process data to reveal geographic patterns and relationships and improve resolution. Image data can be digital, multispectral scanner, or radar. Platforms can be aircraft, unmanned aerial vehicles or satellites at low to high altitudes. The unit requires assessing the survey area and project specifications to determine the types and possible sources of image data to meet requirements.

The unit supports those who work in a spatial information services team in support positions, such as image analyst, geographic information system (GIS) analyst, GIS officer, or cartographer.

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

Prerequisite Unit

None

Unit Sector

Surveying and spatial information services

Elements and Performance Criteria

1. Identify image data.	1.1 Determine project specifications, survey area and types of image data requirements in consultation with appropriate persons. 1.2 Identify possible sources of image data to meet project specifications. 1.3 Identify constraints of different types and formats of image data in relation to project specifications.
2. Process image data.	2.1 Access and analyse image data using digital techniques to clarify features and properties according to project specifications. 2.2 Check ground control targets for photogrammetric mapping to enhance image data. 2.3 Process, analyse and classify image data according to organisational procedures to achieve project specifications.
3. Finalise digital image enhancement tasks.	3.1 Identify and resolve data image problems using enhancement techniques according to organisational requirements. 3.2 Use information from data images to meet project specifications, and documentation is completed according to organisational requirements.

Foundation Skills

Candidates require:

- learning skills to:
 - conduct research to identify image data sources
- numeracy skills to:
 - calculate scale of image data
 - solve problems relating to area, height, depth, dimension, direction and position in actual operational activity and virtual representation
- oral communication skills to:
 - ask questions to clarify data image requirements
- reading skills to:
 - interpret graphical and technical information, including shapes and patterns within digital images
- writing skills to:
 - record clear and accurate measurements and computations.
- technology skills to:
 - use a computer and software to manipulate and enhance image resolution.

Unit Mapping Information

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

Links

Companion Volume Implementation Guide:

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

Assessment Requirements for CPPSUR4026 Digitally enhance and process image data

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Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by using remote sensing applications to digitally enhance, process and classify two of the following types of image data for two different projects:

- digital aerial photographs
- digital terrestrial images
- images from an unmanned aerial vehicle
- light detection and ranging (LiDAR)
- satellite images.

One of the above projects must have a built environment focus, and the other a natural environment focus.

While digitally enhancing and processing the above image data, the candidate must:

- analyse project specifications to clarify types of image data required and to identify possible sources of suitable image data
- apply ground controls to aerial photographs
- calculate information in digital and hard copy image data to measure and identify scale
- communicate clearly with others to clarify and discuss work tasks
- comply with industry-accepted standards for processing remotely sensed data
- comply with legislative and organisational requirements relating to data privacy and information copyright
- comply with organisational requirements relating to health and safety when using screen-based equipment, and completing records and documentation
- georeference images
- identify and resolve constraints and problems relating to image data
- identify ground controls, including targets for horizontal and vertical control
- use software applications to access, analyse and enhance image data.

Knowledge Evidence

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

- basic properties and characteristics of image data used in spatial applications
- key features of spectral signatures, discriminant functions, supervised and unsupervised clustering, and ground trothing
- organisational policies and guidelines relating to equipment use, health and safety, and accessing and formatting image data and copyright
- photogrammetric control requirements relating to three-dimensional (3-D) model image data
- possible sources of image data

- set-out and format requirements for image data
- techniques for enhancing image resolution, including basic interpolation
- appropriate persons:
 - client
 - experienced colleague
 - supervisor or line manager.

Assessment Conditions

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

Assessment must be conducted in the workplace or a simulated workplace using realistic conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Candidates must have access to:

- equipment:
 - computer and software with image enhancement functionality
- specifications:
 - task specifications
- organisational policies and procedures relating to:
 - work health and safety
 - data privacy and information copyright
- physical conditions:
 - access to equipped workstation
- relationships with team members and supervisor:
 - working in a team.

Links

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