



Australian Government

Assessment Requirements for CPPSIS6037 Conduct advanced remote sensing analysis

Release: 1

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Modification History

Release 1.

Replaces superseded equivalent CPPSIS6037A Conduct advanced remote sensing analysis.

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, foundation skills and range of conditions of this unit. The person must also use a computer and remote sensing software system to conduct advanced remote sensing analysis for two different projects.

While conducting the above advanced remote sensing analysis, the person must:

- analyse and define job specifications, constraints and main work activities
- analyse remote sensing data to identify and describe its characteristics, including:
 - metadata
 - soil
 - vegetation bodies
 - water
- select and set up appropriate hardware and software systems to meet remote sensing project specifications
- assess commercially available image processing systems to ensure their suitability in meeting project specifications
- use remote sensing techniques to acquire spatial data from:
 - airborne platforms
 - ground observation
 - satellites
- comply with organisational and legal requirements for accessing and using spatial data, including copyright, intellectual property and trade practices
- comply with organisational requirements and industry-accepted standards relating to:
 - applying classification algorithms
 - quality and risk management
 - working safely when using above equipment
- conduct web-based searches to identify available spatial data and verify its suitability to meet project specifications
- exercise precision and accuracy when analysing and classifying remote sensing data
- identify and assess constraints relating to use of remote sensing data

- perform classifications on datasets using supervised and unsupervised classification algorithms and training samples
- save digital images in a range of formats, including two of the following:
 - band interleaved by line (BIL)
 - band interleaved by pixel (BIP)
 - band sequential (BSQ)
 - run length encoding (RLE)
- use integration and merging techniques to allow remote sensing data to be integrated into GIS
- use digital image processing techniques to enhance and rectify images.

Knowledge Evidence

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

- industry-accepted techniques for applying supervised and unsupervised classification algorithms to remote sensing data
- computer platforms and software systems for advanced remote sensing analysis and GIS integration
- copyright and ownership constraints relating to spatial data
- digital image processing techniques
- digital image data formats, including BIL, BIP, BSQ and RLE
- existing spatial datasets and dataset sources
- image calculations required for transformation routines, including:
 - greenness ratios
 - greenness ratios plus dark value
 - normalised difference vegetation index (NDVI)
- image enhancement, manipulation and merger techniques
- methods for analysing metadata
- methods for assessing commercially available image processing systems, including characteristics and statistics
- methods for validating spatial data sources and constraints on use
- key features of spatial referencing and coordinate systems
- techniques for integrating GIS data, including:
 - cartographic modelling
 - environmental modelling
 - land cover classification.

Assessment Conditions

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

- equipment:

- computer, including computer-aided design (CAD) applications and software appropriate for developing two-dimensional (2-D) and three-dimensional (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 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 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>