



Australian Government

CPPSSI5058 Conduct geodetic surveys

Release: 1

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Modification History

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

This unit supersedes and is equivalent to CPPSIS5058 Conduct geodetic surveys.

Application

This unit specifies the skills and knowledge required to conduct a survey of a land area in which corrections are made for the curvature of the earth's surface. It includes applying reference surfaces and projection planes to geodetic components and performing geodetic calculations. The unit also includes using a range of coordinate systems, such as Map Grid of Australia and Geocentric Datum of Australia to manage surveying data.

This unit is suitable for skilled surveying technicians and skilled spatial information system (SIS) technicians who use a broad range of cognitive, technical and communication skills to select and apply methods and technologies to analyse information and provide solutions to sometimes complex surveying/spatial information 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.

Cadastral surveying must be undertaken under the supervision of a registered surveyor. Users must check with the relevant regulatory state/territory authority before delivery.

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.

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|---------------------------------------|-----|---|
| 1 Prepare for geodetic survey. | 1.1 | Analyse standards, specifications and information in plans and drawings to determine survey requirements. |
| | 1.2 | Schedule key activities and timelines according to available resources, and project and organisational requirements. |
| | 1.3 | Apply safe work practices, use of personal protective equipment (PPE) and strategies to manage risk and contingencies according to organisational requirements. |
| | 1.4 | Determine specialised equipment required for geodetic survey according to project specifications. |
| | 1.5 | Check equipment for correct operation and functionality according to manufacturer specifications. |
| 2 Plan geodetic survey. | | |
| | 2.1 | Select relevant reference surface and projection plane for geodetic components to meet project requirements. |
| | 2.2 | Obtain and validate existing survey control data according to project and organisational requirements. |
| 3 Carry out geodetic surveying tasks. | | |
| | 3.1 | Measure identified surveying components according to project specifications. |
| | 3.2 | Reduce measured surveying data according to project requirements and specifications. |
| | 3.3 | Validate and record measurements according to project specifications and industry-accepted standards. |
| | 3.4 | Identify and resolve discrepancies between specifications and actual results according to organisational requirements. |
| 4 Finalise geodetic survey. | | |
| | 4.1 | Check survey for compliance with project and organisational requirements. |
| | 4.2 | Notify appropriate persons of survey results according to organisational requirements. |
| | 4.3 | Check and store surveying equipment in accordance with manufacturer specifications and organisational |

requirements.

- 4.4 Record technical information, complete survey documentation and archive data according to organisational requirements.

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 CPPSIS5058 Conduct geodetic surveys.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

Assessment Requirements for CPPSSI5058 Conduct geodetic surveys

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Performance Evidence

To demonstrate competency a candidate must meet the elements and performance criteria of this unit by conducting two different geodetic surveys.

The following equipment must be used:

- total station
- global navigation satellite system (GNSS) software.

Each survey must include:

- application of relevant geodetic coordinate systems and reference points to survey activities
- use of coordinate systems, including Map Grid of Australia and Geocentric Datum of Australia to manage surveying data.

Knowledge Evidence

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

- graphical and technical information in project specifications
- common terms used in geodetic surveying calculations
- standard survey plan design and presentation conventions
- geodetic formulas for point-to-point calculations on Map Grid of Australia
- reference surfaces, projection planes and coordinate systems for geodetic components
- measurements and calculations relating to shape and size of the earth
- data reduction techniques
- concepts of algebra, geometry and trigonometry
- accuracy and precision requirements for geodetic surveying data
- coordinate systems that are compatible with GNSS
- industry-accepted methods for error analysis and standards of accuracy
- industry-accepted techniques for survey control.

Assessment Conditions

Assessors must satisfy 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:

- equipment to conduct geodetic surveys
 - personal protective equipment (PPE)
 - survey specifications, including relevant plans and drawings.

Links

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