



Australian Government

CPPSSI6036 Monitor engineering structures

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 CPPSIS6036 Monitor engineering structures.

Application

This unit specifies the skills and knowledge required to monitor engineering structures using surveying methods. It includes analysing project specifications and design information to identify components to be measured and monitored, and planning monitoring activities. The unit also includes implementing risk management and reviewing work outcomes against specifications. It also includes setting up and using surveying equipment to measure, record and reduce surveying data using spatial coordinate and reference systems.

This unit is suitable for surveyors who use broad theoretical and technical knowledge to analyse information as well as interpret and provide solutions to unpredictable and sometimes complex surveying/spatial information problems. The unit supports those who work in a technical management role in a surveying team.

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.

Licensing, legislative or certification requirements apply to this unit in some states/territories where mining surveying must be undertaken under the supervision of a registered surveyor. Relevant state and territory regulatory authorities should be consulted to confirm those requirements.

Pre-requisite Unit

Nil.

Unit Sector

Surveying and Spatial Information Services

Elements and Performance Criteria

Elements describe the Performance criteria describe what needs to be done to

essential outcomes.	demonstrate achievement of the element.
1 Prepare to monitor engineering structure.	1.1 Interpret project specifications and engineering design information to identify components to be measured and accuracy and precision tolerances to be applied in consultation with appropriate persons. 1.2 Identify site hazards, assess risks and implement control measures according to legislative requirements for working safely. 1.3 Identify any special equipment and resource requirements according to project specifications and operating environment. 1.4 Select and check data collection equipment is functioning correctly. 1.5 Designate organisation of project resources, equipment, materials and transport to appropriate persons.
2 Develop project plan to monitor engineering structure.	2.1 Document project deliverables, principal work activities, resources required and any constraints according to project specifications. 2.2 Document hazards, risks and control measures in project plan. 2.3 Specify validation processes to verify integrity of required spatial data in project plan. 2.4 Allocate work responsibilities and implement supervisory processes, checks and measures.
3 Implement monitoring tasks.	3.1 Control hazards and manage risks associated with monitoring activities to comply with legislative requirements. 3.2 Apply industry-accepted standards for using surveying equipment and performing surveying measurements and computations. 3.3 Reduce measured spatial data to project spatial reference system for comparison with design. 3.4 Validate, record and process measurements according to

- industry-accepted standards.
- 3.5 Identify and resolve non-conformities between engineering structure and project specifications and manage contingencies according to organisational requirements.
- 4 Finalise and report monitoring results.
- 4.1 Compile monitoring results and review against project specifications.
- 4.2 Report findings to appropriate persons according to organisational requirements.
- 4.3 Complete documentation and store spatial 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 CPPSIS6036 Monitor engineering structures.

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 CPPSSI6036 Monitor engineering structures

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Performance Evidence

To demonstrate competency a candidate must meet the elements and performance criteria of this unit by monitoring engineering structures for two projects.

For each project, the candidate must conduct measurements and calculations to meet engineering specifications using three of the following pieces of equipment:

- current meter
- global navigation satellite system (GNSS)
- level
- tape
- theodolite
- total station.

Knowledge Evidence

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

- reference and coordinate systems for surveying data, including Australian Height Datum and Map Grid of Australia
- project zone design
- graphical and technical information in engineering plans
- accuracy and precision requirements and tolerances for engineering structures
- data formatting, processing and reduction techniques
- industry-accepted standards and methods for validating data to identify errors and discrepancies
- legislative requirements and industry standards relating to monitoring engineering structures
- work health and safety (WHS) relating to survey activities and work on construction sites
- processes to establish and use high-level survey control
- use and application of network and traverse adjustments

- methods for calculating surveying data and verifying its accuracy using spatial reference systems
- methods for connecting equipment to coordinate systems
- methods for setting up, levelling and calibrating surveying equipment
- methods for identifying and reporting non-conformities.

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:

- equipment for monitoring engineering structures
- survey specifications, including relevant engineering plans and drawings.

Links

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