

Draft 0.1

This is a draft update to CPPSIS5048 Conduct engineering surveys:

<https://training.gov.au/Training/Details/CPPSIS5048>.

Code changed to CPPSUR5048.

Changed PCs to active voice.

Reference to: 'two different engineering surveys' in first sentence of PE may be problematic at audit as no specific details provided

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

CPPSUR5048 Conduct engineering surveys

Modification history

Release	Comments
1	Replaces superseded equivalent CPPSIS5048A Conduct an engineering survey. This version first released with CPP Property Services Training Package Version 3.
	Replaces superseded equivalent CPPSIS5048 Conduct engineering surveys

Application

This unit specifies the skills and knowledge required to conduct an engineering survey based on specifications and information in construction or engineering designs. The unit covers using surveying equipment to measure, record and reduce surveying data. It requires the ability to validate the accuracy of data and identify discrepancies between specifications and actual activities.

The unit supports those who work under limited supervision in a surveying team.

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. Prepare for engineering survey.	<ul style="list-style-type: none">1.1 Identify and analyse project requirements and specifications to determine surveying data requirements in consultation with appropriate persons.1.2 Plan key survey activities according to available resources, project and organisational requirements.1.3 Plan compliance with legal and statutory standards according to project requirements.
2. Carry out engineering surveying tasks.	<ul style="list-style-type: none">2.1 Select, calibrate and check surveying equipment to ensure correct operation and functionality, and report or resolve problems according to manufacturer specifications.2.2 Measure identified survey components according to project requirements and specifications.2.3 Reduce measured surveying data according to project requirements and specifications.2.4 Validate and record measurements according to project specifications and organisational requirements.2.5 Identify and resolve problems and manage contingencies according to organisational requirements.
3. Finalise and report engineering survey results.	<ul style="list-style-type: none">3.1 Finalise and check survey for compliance with project and organisational requirements.3.2 Notify appropriate persons of survey results according to organisational requirements.

	3.3 Complete survey documentation and archive data according to project and organisational requirements.
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Foundation Skills

Candidates require:

- planning and organising skills to:
 - plan and prioritise work to meet survey timeframes and resource constraints
- numeracy skills to:
 - conduct precise measurements and computations relating to length, angle, elevation, area and volume
- oral communication skills to:
 - ask questions to clarify client requirements
 - explain and discuss survey results with appropriate persons
- reading skills to:
 - analyse graphical and technical information in construction and engineering drawings
- writing skills to:
 - prepare conformance and non-conformance reports
 - record technical information in organisational documentation
- technology skills to:
 - calibrate specialised surveying equipment
- problem-solving skills to:
 - select appropriate validation methods to verify accuracy of data.

Unit Mapping Information

Supersedes and is equivalent to CPPSIS5048 Conduct engineering surveys

Links

Companion Volume Implementation Guide:

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

Assessment Requirements for CPPSUR5048 Conduct engineering surveys

Modification history

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Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by conducting two different engineering surveys.

While conducting the above engineering surveys, the candidate must:

- plan and document data collection methodologies that allow for contingencies
- analyse survey specifications, including:
 - cross-sections and plans
 - technical descriptions of surveying data and their requirements
- collect data appropriate to surveying specifications using three of the following pieces of surveying equipment:
 - echo sounder
 - global navigation satellite system (GNSS)
 - level
 - tape
 - total station
- communicate clearly with others to clarify and report work information
- comply with organisational and legal requirements for:
 - applying industry-accepted standards to measurements and computations
 - completing records and documentation
 - recording, storing and filing data
 - using, checking and storing surveying equipment
 - working safely and using personal protective equipment (PPE)
- interpret design information to identify components to be measured
- comply with industry-accepted standards for validating accuracy of surveying data and identifying errors and discrepancies
- schedule work tasks to meet survey timeframes.

Knowledge Evidence

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

- accuracy and precision requirements for surveying data
- data reduction techniques
- industry-accepted methods for validating data to identify errors and discrepancies
- methods for calibrating surveying equipment
- methods for identifying and reporting non-conformities in collected surveying data
- organisational policies and procedures relating to:
 - health and safety relating to survey activities and work on construction sites
 - reporting and documentation
 - using the surveying equipment specified in the performance evidence

- project management techniques for scheduling work tasks and planning for contingencies
- key features of reference systems for surveying data
- appropriate persons:
 - client
 - colleague
 - end user
 - engineer
 - manager
 - registered or qualified surveyor.

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:
 - as specified in the performance evidence, including PPE
- specifications:
 - survey specifications, including relevant construction or engineering plans and drawings
 - organisational policies, procedures and documentation relating to work health and safety
- relationships with team members and supervisor:
 - working in a team.

Links

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