

Draft 0.1

This is a draft update to CPPSIS5047 Conduct GNSS surveys:

<https://training.gov.au/Training/Details/CPPSIS5047>.

Code changed to CPPSUR5047.

Expanded acronym 'GNSS' in title to read: 'global navigation satellite system'.

Changed PCs to active voice.

Reference to: 'two different projects' 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

CPPSUR5047 Conduct global navigation satellite system (GNSS) surveys

Modification history

Release	Comments
1	Replaces superseded equivalent CPPSIS5047A Conduct an advanced GNSS data collection and set out survey. This version first released with CPP Property Services Training Package Version 3.
	Replaces superseded equivalent CPPSIS5047 Conduct GNSS surveys

Application

This unit specifies the skills and knowledge required to conduct global navigation satellite system (GNSS) surveys for data collection and engineering set-outs, using GNSS equipment and suitable software to communicate with GNSS receivers. The unit covers project managing data collection activities, including planning collection methodologies and allocating work tasks in a team environment. The unit 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 GNSS survey.	<ul style="list-style-type: none">1.1 Identify and analyse GNSS survey specifications and organisational requirements, and schedule key activities and timelines according to available resources.1.2 Prepare equipment according to survey and organisational requirements.1.3 Plan survey methodology to meet survey specifications and organisational requirements.1.4 Obtain and validate existing survey control data according to organisational requirements.1.5 Collate, validate and manipulate set-out data and upload into GNSS receiver.1.6 Allocate and communicate work responsibilities to appropriate persons according to survey and organisational requirements.
2. Carry out GNSS surveying tasks.	<ul style="list-style-type: none">2.1 Operate GNSS equipment according to survey specifications and organisational requirements.2.2 Relate GNSS instruments to a reference system based on survey specifications.2.3 Collect GNSS data using planned methodology according to survey specifications and organisational requirements.

	2.4 Validate and record GNSS measurements on the reference system according to specifications.
3. Finalise GNSS survey.	3.1 Use GNSS software to process data according to survey specifications and organisational requirements. 3.2 Complete validation checks according to specifications and organisational requirements. 3.3 Identify and address discrepancies between specifications and actual data according to survey specifications and organisational requirements. 3.4 Finalise survey and complete documentation according to organisational requirements.

Foundation Skills

Candidates require:

- initiative and enterprise skills to:
 - analyse and decide GNSS data collection methods
- planning and organising skills to:
 - plan and prioritise work to meet survey timeframes and resource constraints
- numeracy skills to:
 - analyse metadata and positional data, and set-out positional accuracy
 - solve problems relating to height, dimension, direction and position in actual operational activity and virtual representation
- oral communication skills to:
 - ask questions to clarify colleagues' understanding of delegated tasks
- reading skills to:
 - analyse graphical and technical information in maps, engineering drawings, field records and survey plots
- writing skills to:
 - record technical information in organisational documentation
- technology skills to:
 - access, manipulate, retrieve and archive data
 - calibrate and validate GNSS equipment
- problem-solving skills to:
 - select appropriate validation methods to verify accuracy of data.

Unit Mapping Information

Supersedes and is equivalent to CPPSIS5047 Conduct GNSS surveys

Links

Companion Volume Implementation Guide:

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

Assessment Requirements for CPPSUR5047 Conduct GNSS surveys

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Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by planning and conducting a global navigation satellite system (GNSS) survey for data collection and engineering set-outs for two different projects.

While conducting the above GNSS surveys, the candidate must:

- plan and document data collection methodologies that account for the following:
 - accessibility of marks
 - environmental considerations
 - field reconnaissance
 - GNSS methodology to be used
 - network design
 - placement of survey marks
 - work health and safety considerations
- schedule and allocate resources and work tasks
- collect data for GNSS positions, including differential methods
- operate GNSS equipment and software, as specified in the assessment conditions, to collect data appropriate to survey specifications
- communicate clearly with others to clarify and report work information
- analyse survey specifications, including:
 - cross-sections and plans
 - technical descriptions of surveying data and their requirements
- apply projection and datum parameters when using GNSS equipment and software
- comply with industry-accepted standards for validating accuracy of GNSS data
- comply with organisational requirements for:
 - completing records and documentation
 - recording, storing and filing data
 - using and storing GNSS equipment
 - working safely and using personal protective equipment (PPE)
- use industry-accepted validation methods to test accuracy of data and identify errors and discrepancies.

Knowledge Evidence

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

- accuracy and precision requirements for GNSS data and network surveys
- GNSS data formats and collection methods
- industry-accepted methods for validating data to identify errors and discrepancies
- methods for accessing, manipulating, retrieving and archiving GNSS data

- organisational policies and procedures relating to:
 - health and safety relating to survey activities
 - reporting and documentation
 - using and allocating resources
 - using GNSS equipment and software
- projection and datum parameters required for GNSS equipment and processing software
- reference systems for GNSS data
- techniques for project management
- types of GNSS equipment and software and their uses.

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:
 - geodetic GNSS receiver
 - GNSS equipment, including equipment capable of differential and real time modes of operation
 - GNSS software application
 - PPE
- specifications:
 - survey specifications
 - organisational policies, procedures and documentation relating to work health and safety
- relationships with team members and supervisor:
 - working in a team.

Links

Companion Volume Implementation Guide:

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