

Draft 0.1

This is a draft update to CPPSIS4040 Collect spatial data using terrestrial technologies:
<https://training.gov.au/Training/Details/CPPSIS4040>.

Code changed to CPPSUR4040.

Changed PCs to active voice.

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

CPPSUR4040 Collect spatial data using terrestrial technologies

Modification history

Release	Comments
1	Replaces superseded non-equivalent CPPSIS4029A Collect and set out basic surveying data. This version first released with CPP Property Services Training Package Version 3.
	Replaces superseded equivalent CPPSIS4040 Collect spatial data using terrestrial technologies

Application

This unit specifies the skills and knowledge required to collect spatial data using terrestrial technologies, including total station. The unit covers planning work tasks to identify control marks, as well as equipment set-up and operation. The unit includes validating data to identify errors, and making corrections and adjustments using industry-accepted methods to achieve required accuracy range.

The unit supports those who work in support positions in a surveying and spatial information services team in areas such as surveying, town planning, cartography, mapping and geographic information systems (GIS).

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 spatial data collection.	1.1 Review project specifications, information and control marks and plan surveying tasks planned in consultation with appropriate persons. 1.2 Select terrestrial technologies according to project requirements. 1.3 Check site conditions to identify factors that could impact on operation of terrestrial technologies and accuracy of data.
2. Operate terrestrial technologies.	2.1 Set up equipment according to manufacturer specifications. 2.2 Operate equipment to collect data and attributes according to job specifications. 2.3 Measure identified survey components and reduce data according to job specifications. 2.4 Validate and record measurements according to job specifications and data collection plan.
3. Finalise spatial data collection.	3.1 Check and make adjustments to data to identify and correct errors, and take additional measurements where required. 3.2 Download data and complete project documentation according to organisational requirements.

Foundation Skills

Candidates require:

- numeracy skills to:
 - perform surveying calculations relating to height, distances, angles and coordinates
 - set required datums
- oral communication skills to:
 - ask questions to clarify task requirements
- reading skills to:
 - interpret equipment software menus and configurations
- writing skills to:
 - record legible measurements and computations by hand
- technology skills to:
 - format data using equipment software
- problem-solving skills to:
 - identify optimum equipment positions to improve accuracy of measurements.

Unit Mapping Information

Supersedes and is equivalent to CPPSIS4040 Collect spatial data using terrestrial technologies

Links

Companion Volume Implementation Guide:

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

Assessment Requirements for CPPSUR4040 Collect spatial data using terrestrial technologies

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Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by:

- collecting spatial data using terrestrial technologies for two different projects in consultation with colleagues.

While collecting the above spatial data, the candidate must:

- plan work tasks by checking control marks and ensuring site conditions are appropriate for surveying tasks
- use a total station to collect the spatial data and related attributes
- measure and calculate basic spatial data based on control marks and set coordinates
- communicate clearly with others to clarify and report project information
- comply with organisational and legislative requirements for:
 - identifying hazards and working safely
 - recording, storing and filing data
- comply with manufacturer specifications when using above equipment
- use industry-accepted standards and procedures for checking accuracy of spatial data.

Knowledge Evidence

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

- accuracy ranges that can be achieved using terrestrial technologies
- formats and documentation used for recording spatial data collected using terrestrial technologies
- mathematical concepts relating to algebra, trigonometry and geometry and their use in calculating basic spatial measurements
- methods for calculating spatial data and verifying its accuracy using terrestrial technologies
- methods for downloading data collected using terrestrial technologies
- methods for setting up, levelling and calibrating equipment
- appropriate persons:
 - experienced colleague
 - qualified surveyor
 - supervisor or line manager.

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:
 - total station
- specifications:
 - job specifications and plans
 - organisational policies and procedures relating to:
 - work health and safety
 - recording and storing spatial data
- relationships with team members and supervisor:
 - working in a team.

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