

Draft 0.1

This is a draft update to CPPSIS3020 Perform basic surveying computations:

<https://training.gov.au/Training/Details/CPPSIS3020>.

Code changed to CPPSUR3020.

Changed PCs to active voice.

Changed 'person' to 'candidate' in PE.

'Heights' added to first dot point 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

CPPSUR3020 Perform basic surveying computations

Modification history

Release	Comments
1	Replaces superseded equivalent CPPSIS3020A Perform basic surveying computations. This version first released with CPP Property Services Training Package Version 3.
	Replaces superseded equivalent CPPSIS3020

Application

This unit specifies the skills and knowledge required to perform basic surveying computations in a plane coordinate system. The unit covers computations and conversions based on basic mathematical concepts of algebra, geometry and trigonometry. Computations are done on simple regular geometric figures, traverses, angles, bearings, distances, plane coordinates, heights, perimeter and area.

The unit supports those who work under supervision in a surveying and spatial information services team to perform basic computations associated with field work and data collection.

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 basic surveying computations.	1.1 Identify computational requirements in consultation with appropriate persons. 1.2 Identify computational procedures according to industry and organisational requirements. 1.3 Select computational equipment according to computational and organisational requirements.
2. Calculate basic surveying data.	2.1 Perform computations on angles and bearings according to computational requirements and using computational equipment. 2.2 Perform conversions between polar and rectangular coordinates according to computational requirements. 2.3 Perform computations on the coordinates of a simple closed traverse.
3. Finalise work processes.	3.1 Finalise computations and conversions and confirm their accuracy according to computational requirements. 3.2 Record data according to organisational requirements.

Foundation Skills

Candidates require:

- numeracy skills to:
 - apply the basic concepts of algebra, geometry and trigonometry to plane geometry and measuring simple regular figures
 - perform calculations relating to geometric figures, area, angles, bearings, distances, traverses, plane coordinates, heights and perimeter
- oral communication skills to:
 - ask questions to clarify work task requirements and computational formulas
 - discuss computational methods
- reading skills to:
 - interpret computational data provided in diagrammatic form
 - interpret written computational tasks
- writing skills to:
 - record computations and results in line with industry requirements and in an appropriate format
- problem-solving skills to:
 - identify errors in computations.

Unit Mapping Information

Supersedes and is equivalent to CPPSIS3020 Perform basic surveying computations

Links

Companion Volume Implementation Guide:

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

Assessment Requirements for CPPSUR3020 Perform basic surveying computations

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Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by accurately performing basic computations for two different surveying computational tasks, demonstrating the ability to:

- calculate perimeter and areas of simple regular figures, including heights
- calculate adjusted coordinates of points on a closed traverse
- convert between:
 - polar and rectangular coordinates
 - vertical angles and gradients and vice versa
- check accuracy of above computations.

During the above surveying computational tasks, the candidate must:

- communicate clearly with others to clarify work tasks and computational results
- comply with organisational requirements and industry-accepted methods for systematically and legibly laying out computations
- use organisational documents to complete required records.

Knowledge Evidence

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

- common surveying and mathematical terms used in basic surveying computations
- industry-accepted methods for performing and laying out different types of basic surveying computations
- organisational policies and procedures for completing surveying records and documentation
- appropriate persons:
 - experienced computational 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:

- scientific or programmable calculator or software application
- specifications:
 - task specifications
- relationships with team members and supervisor:
 - working under supervision.

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