



Australian Government

FSKNUM032 Use and calculate with complex measurements for work

Release: 1

FSKNUM032 Use and calculate with complex measurements for work

Modification History

Release	Comments
Release 1	This version first released with FSK Foundation Skills Training Package Version 2.0.

Application

This unit describes the skills and knowledge to use and calculate with complex measurements. This includes extracting and analysing highly complex workplace measurement information, completing workplace measurement tasks with a range of highly developed mathematical and problem solving strategies and techniques, and communicating workplace mathematical information.

An individual performing these tasks works autonomously and accesses and evaluates support from a broad range of sources as needed.

This unit applies to individuals who use, or are preparing to use, numeracy skills to complete workplace activities. This includes existing workers and individuals preparing for employment through vocational education and training. This unit should be integrated and contextualised with vocational training to support achievement of vocational competency.

This unit is aligned to, but does not fully address, the Australian Core Skills Framework (ACSF) numeracy core skill indicators .09, .10 and .11 at level 5 in the workplace and employment domain of communication.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Numeracy

Elements and Performance Criteria

Element	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Extract and analyse workplace measurement	1.1 Extract highly embedded specialised measurement information

Element	Performance Criteria
information	from a range of complex workplace texts and tasks 1.2 Analyse and synthesise complex measurement information required to complete workplace task 1.3 Incorporate information from other sources to inform and support analysis of the extracted information, where necessary
2. Undertake mathematical processes using measurement	2.1 Select method of solution from an expanded range of highly developed mathematical problem solving strategies and processes to complete workplace measurement task 2.2 Estimate measurements and outcomes to complete workplace tasks 2.3 Select and use relevant measurement equipment to take accurate workplace measurements against specified tolerances where required 2.4 Calculate with measurements to complete complex workplace tasks, including conversions of metric units and with imperial units where required 2.5 Check outcomes and critically review mathematics used and implications of results using developed estimation and evaluation techniques
3. Communicate workplace measurement information	3.1 Use formal and specialised written mathematical representation and symbolism to document, interpret and communicate workplace measurement processes, results and implications 3.2 Use specialised mathematical and general language to discuss, explain and interpret the workplace measurement processes, results and implications

Foundation Skills

This section describes language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Technology	• Uses a scientific calculator

Mapping Information

Supersedes and is equivalent to FSKNUM32 Use and calculate with complex measurements for work.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=f572fe10-a855-4986-9295-3852c771f178>

Assessment Requirements for FSKNUM032 Use and calculate with complex measurements for work

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- extract and analyse measurement information and units of measurement highly embedded in a complex workplace text or task related to each of the following:
 - complex areas
 - complex volumes
 - measurement formulae
- perform a broad range of complex measurements to complete a workplace task, including:
 - identifying, selecting and using relevant measurement tools and equipment appropriate to the workplace task
 - estimating the expected outcome prior to undertaking measurement and calculation
 - performing calculations with measurements, including:
 - calculating surface areas of complex shapes with measurement formulae
 - calculating volumes of complex shapes with measurement formulae
 - converting between a range of metric units and, where relevant, non-metric units.

In the course of the above the candidate must demonstrate use of relevant technology, such as CAS calculator, spreadsheets or other mathematical or workplace software.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- purpose of workplace measurement relevant to meeting workplace objectives
- purpose, function, selection, set up and safe use of routine measurement tools and equipment
- methods to estimate, measure and calculate measurements
- properties of a broad range of complex shapes
- purpose and application of relevant area and volume formulas

- purpose and use of relevant technology and workplace software
- developed estimation and evaluation processes
- implications of calculations and results for workplace tasks
- specialised and formal mathematical written language and symbolism relevant to workplace task
- specialised mathematical oral language relevant to workplace task.
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Assessment Conditions

Competency is to be assessed in the workplace, a workplace simulated environment or a vocational training context.

Assistive technologies can be utilised to assist with oral and written communication.

Skills must be demonstrated using highly complex texts and tasks that reflect those typically found in a workplace.

The following resources are to be made available:

- a calculator
- measuring equipment relevant to workplace
- own familiar support resources.

Assessors must:

- satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards, and
- have sound knowledge of the ACSF and performance features of the ACSF level being assessed, and
- have demonstrable expertise, knowledge and skills in the vocational contextualisation and assessment of the core skill, numeracy, and
- have completed the following or equivalent:
 - TAESS00009 Address Foundation Skills in Vocational Practice Skill Set; or
 - a higher level education qualification, such as:
 - TAE80113 Graduate Diploma of Adult Language, Literacy and Numeracy Practice (and its equivalent TAE70111); or
 - Bachelor of Education, Graduate Certificate or Graduate Diploma of Education, or higher. This may include qualifications relating to TESOL, adult education or vocational education.
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