



Australian Government

FSKNUM031 Apply specialised mathematical calculations for work

Release: 1

FSKNUM031 Apply specialised mathematical calculations 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 extract and analyse a range of complex mathematical information and complete specialised mathematical calculations and processes in workplace tasks. This includes extracting and analysing complex workplace mathematical information, using rational and relevant irrational numbers, and performing calculations from specialist areas of mathematics applicable to the workplace, 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 designed for integration and contextualisation with vocational units 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</i>	<i>Performance criteria describe the performance needed to</i>

Element	Performance Criteria
<i>essential outcomes.</i>	<i>demonstrate achievement of the element.</i>
1. Extract and analyse complex workplace mathematical information	1.1 Extract highly embedded specialised mathematical information from a range of complex workplace texts and tasks 1.2 Analyse and synthesise specialised mathematical information needed to complete workplace task 1.3 Incorporate information from other sources to inform and support analysis of the extracted information, where necessary
2. Use highly developed mathematical problem solving processes	2.1 Select method of solution from an expanded range of highly developed, specialised mathematical problem solving strategies and processes to complete workplace task 2.2 Estimate outcome of calculations related to using specialised mathematical problem solving strategies and processes to complete workplace task 2.3 Use specialised mathematical problem solving strategies and processes to perform workplace task 2.4 Check and reflect on mathematical problem solving processes and outcomes in relation to initial estimates and the workplace context
3. Communicate workplace mathematical information	3.1 Use formal, specialised and general mathematical representation to document and communicate mathematical thinking, problem solving process, outcomes and implications 3.2 Use specialised and general mathematical language to discuss, explain and interpret the 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 FSKNUM31 Apply a wide range of mathematical calculations 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 FSKNUM031 Apply specialised mathematical calculations for work

Modification History

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

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:

- perform a broad range of multi-step mathematical problem solving processes with rational and irrational numbers to complete a sophisticated workplace task, including at least two of the following:
 - apply and transpose relevant formulas
 - use and apply laws of indices and powers
 - manipulate and simplify rational and irrational numbers
 - perform applications or calculations from a specialist area of mathematics
- make estimations to check problem solving outcomes and determine appropriate accuracy required for above task
- critically review mathematic processes and outcomes obtained during the above, evaluating real-world implications.

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:

- at least two of the following:
 - use and application of rational and irrational numbers
 - purpose of indices and powers and application of index laws
 - use, application and interpretation of relevant complex formulas and their transposition
 - use, application and interpretation of relevant calculations from a specialist area of mathematics
- problem solving techniques to analyse results

- purpose, function and use of relevant technology such as CAS calculator, spreadsheets or other mathematical or workplace software
- implications of calculations and results for workplace tasks
- specialised and formal mathematical language and symbolism relevant to workplace task
- specialised mathematical oral language relevant to workplace task.
-

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 independently, using highly complex texts and tasks that reflect those typically found in a workplace.

The following resources are to be made available:

- a calculator
- 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.
-

Links

Companion Volume Implementation Guide is found on VETNet -

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