

Field Engineering and Technology**Review of *Mechanical Engineering* unit standards**

Subfield	Domain	ID
Mechanical Engineering	Engineering Core Skills	22897, 22898, 22900
	Engineering - Fabrication	25708, 25709, 25711, 25712
	Maintenance and Diagnostics in Mechanical Engineering	2400, 2407-2409, 19874, 22905
	Welding	2687, 2695, 2696

Competenz has completed the review of the unit standards listed above.

Date new versions published

August 2017

Planned review date

December 2022

Summary

The unit standards were reviewed and new unit standards were written to align with the recently registered [New Zealand Certificate in Mechanical Engineering \(Level 3\)](#) [Ref: 2715] and [New Zealand Certificate in Mechanical Engineering \(Trade\) \(Level 4\)](#) [Ref: 2714] and to meet Competenz's ongoing unit standard review schedule.

The review was carried out during May – June 2017. Any feedback that was received about the unit standards from assessors, industry training managers, technical experts, and users was collated. A full day consultation with a technical advisory group representative group of mechanical engineering industry technical experts and training providers was held. Subsequent detail development was carried out by email and phone. Changes were endorsed by the industry technical group.

Main changes

- Changes were made to outcome statements, performance criteria, and range statements to clarify assessment requirements, remove duplication, and ensure alignment with current industry requirements.
- Titles were amended to align with outcomes and changes.
- Levels were adjusted to reflect changes made or to re-calibrate the units with the level descriptors.
- 12 unit standards were retained.
- Two unit standards were replaced by two new unit standards.
- Three unit standards were set to expire without replacement.
- Three new unit standards were registered including the two replacement unit standards.

Category C and D unit standards will expire at the end of December 2022

The last date for assessment of superseded versions of Category B unit standards is December 2022

Detailed list of unit standards – classification, title, level, and credits

All changes are in **bold**.

Key to review category	
A	Dates changed, but no other changes are made - the new version of the standard carries the same ID and a new version number
B	Changes made, but the overall outcome remains the same - the new version of the standard carries the same ID and a new version number
C	Major changes that necessitate the registration of a replacement standard with a new ID
D	Standard will expire and not be replaced

Engineering and Technology > Mechanical Engineering > Engineering Core Skills

ID	Title	Level	Credit	Review Category
22897	Demonstrate and apply knowledge of mechanical fitting	3	5	D
22898	Demonstrate and apply knowledge of machine levelling and alignment	3	3	B
22900	Demonstrate knowledge of job costing in mechanical engineering	4	2	D
30472	Demonstrate knowledge of engineering job planning and costing	3	3	NEW

Engineering and Technology > Mechanical Engineering > Engineering - Fabrication

ID	Title	Level	Credit	Review Category
25708	Demonstrate and apply knowledge of advanced light fabrication trade practice	4	12	B
25709	Demonstrate and apply knowledge of advanced heavy fabrication trade practice	4	12	B
25711	Demonstrate knowledge of basic CNC concepts and applications in the fabrication industry	3	4	C
30473	Demonstrate and apply knowledge of computerised manufacturing for engineering fabrication	2	4	
25712	Demonstrate knowledge of pressure vessels and pressure piping for fabrication trades	4	4	B
30474	Set up and operate a CNC machine for engineering fabrication	3	3	New

Engineering and Technology > Mechanical Engineering > Maintenance and Diagnostics in Mechanical Engineering

ID	Title	Level	Credit	Review Category
2400	Describe the principles of static and dynamic balancing, and carry out static balancing	3	4	D
2407	Monitor the condition of machinery and equipment Monitor the condition of mechanical machinery	4	10	B
2408	Align machinery and equipment Align mechanical machinery	4	8 6	B

ID	Title	Level	Credit	Review Category
2409	Level machinery and equipment Level mechanical machinery	3	4 3	B
19874	Service and replace bearings in machines and equipment Service and replace bearings in mechanical machinery	4	12 8	B
22905	Perform planned maintenance work on mechanical equipment	4	5	B

Engineering and Technology > Mechanical Engineering > Welding

ID	Title	Level	Credit	Review Category
2687	Weld stainless steel sheet and plate in all positions using the gas metal arc or flux cored arc welding process Weld stainless steel sheet and plate in position using the gas metal arc or flux cored arc welding process	4	10	B
2695	Weld steel pressure pipe using the gas tungsten arc and manual metal arc welding processes	4	20 15	B
2696	Weld steel or stainless steel pressure pipe in all positions using the gas tungsten arc welding process	4	12	B