

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

Subfield	Domain	ID
Mechanical Engineering	Applied Principles of Mechanical Engineering	11385, 11386, 11392, 11393, 11398, 14866, 21277, 21772-21779, 21781- 21785, 21787-21789, 22918- 22922, 24530-24535

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

Date new versions published

October 2016

Planned review date

December 2021

Summary

The unit standards were reviewed to align with the recently registered New Zealand Certificates in Mechanical Engineering and to meet Competenz' s ongoing unit standard review schedule.

The review was carried out in consultation with mechanical engineering industry technical experts and the changes were endorsed by the industry technical group.

Main changes

- Changes were made to outcome statements, evidence requirements, and range statements to clarify assessment requirements, ensure alignment with current industry requirements, and to correct grammatical errors.
- 14 low use unit standards have been set to expire without replacement.

Category D unit standards will expire at the end of December 2016

The last date of assessment for the most recent superseded versions of Category B unit standards is December 2021

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

Engineering and Technology > Mechanical Engineering > Applied Principles of Mechanical Engineering

ID	Title	Level	Credit	Review Category
11385	Demonstrate and apply knowledge of fluid mechanics in mechanical engineering Demonstrate and apply knowledge of fluid mechanics	6	15	B
11386	Apply principles of lubrication to rotating and sliding machine elements	6	10	B

ID	Title	Level	Credit	Review Category
11392	Apply mechanical engineering principles to mechanical power transmission	5	10	B
11393	Apply principles of vibration and acoustics to mechanical engineering systems	6	10	D
11398	Select and specify materials handling systems for mechanical engineering	6	20	D
14866	Demonstrate workshop skills for mechanical engineering	2	12	B
21277	Demonstrate and apply knowledge of the mechanics of machines in mechanical engineering	6	15	B
21772	Apply sketching techniques and produce drawings for mechanical engineering	4	11	B
21773	Demonstrate and apply knowledge of mechanical statics for mechanical engineering Demonstrate and apply knowledge of mechanical statics	4	15	B
21774	Demonstrate and apply knowledge of mechanical dynamics for mechanical engineering Demonstrate and apply knowledge of mechanical dynamics	4	15	B
21775	Demonstrate knowledge of mathematical principles for mechanical engineering	3	15	B
21776	Apply knowledge of calculus and data analysis for mechanical engineering Demonstrate and apply knowledge of calculus and data analysis for mechanical engineering	4	15	B
21777	Apply knowledge of quality and reliability for mechanical engineering production	6	15	D
21778	Demonstrate and apply knowledge of mechanical engineering operations management	6	15	D
21779	Demonstrate and apply knowledge of mechanical engineering planning	5	15	B
21781	Explain and apply laws of thermodynamics in mechanical engineering Explain and apply laws of thermodynamics to mechanical engineering	5	15	B
21782	Demonstrate and apply advanced knowledge of principles of thermodynamics in mechanical engineering	6	15	B
21783	Demonstrate and apply knowledge of strength of materials in mechanical engineering	5	15	B
21784	Demonstrate and apply advanced knowledge of strength of materials in mechanical engineering	6	15	B

ID	Title	Level	Credit	Review Category
21785	Demonstrate knowledge of and test materials for mechanical engineering applications Demonstrate knowledge of, and test, material properties used in mechanical engineering applications	5	15	B
21787	Demonstrate and apply electrical and electronic knowledge to mechanical engineering Demonstrate and apply electrical and electronic knowledge to mechanical engineering systems	5	15	B
21788	Demonstrate and apply knowledge of manufacturing processes and equipment for mechanical engineering	5	15	B
21789	Demonstrate and apply knowledge of maintenance planning for mechanical engineering	6	15	B
22918	Demonstrate and apply knowledge of project management in mechanical engineering	6	15	B
22919	Demonstrate and apply knowledge of control system engineering in mechanical engineering	6	15	D
22920	Demonstrate and apply knowledge of fluid power in mechanical engineering	6	15	D
22921	Demonstrate knowledge of management in mechanical engineering	6	15	D
22922	Demonstrate knowledge of advanced manufacturing processes and equipment	6	15	D
24530	Demonstrate and apply knowledge of water-based system design for HVAC applications	6	15	D
24531	Demonstrate and apply knowledge of piped services system design	6	15	D
24532	Demonstrate and apply knowledge of air handling system design for HVAC applications	6	15	D
24533	Demonstrate and apply knowledge of HVAC control and building management system design	6	15	D
24534	Demonstrate and apply knowledge of commercial and light industrial RAC system design	6	15	D
24535	Demonstrate and apply knowledge of industrial refrigeration system design	6	15	D