

<b>Title</b>	<b>Apply knowledge of mathematics and physics to the certification of aeronautical maintenance</b>		
<b>Level</b>	<b>6</b>	<b>Credits</b>	<b>20</b>

<b>Purpose</b>	<p>This knowledge-based unit standard is one of a series intended for people certifying the release to service of aircraft or aeronautical components following maintenance or repair.</p> <p>People credited with this unit standard are able to apply knowledge of: the properties and characteristics of the atmosphere, mathematical principles, principles of matter, principles of mechanics, motion, and dynamics, principles of thermodynamics, optics, and sound to the certification of aeronautical maintenance.</p>
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<b>Classification</b>	Aeronautical Engineering > Aeronautical Maintenance Certification
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 The Civil Aviation Authority of New Zealand (CAA) Aircraft Maintenance Engineer Licence – Examination Subject 1A, Aeronautical Science – Mathematics and Physics is the national standard, and is linked to international standards.
- 2 This unit standard is aligned with the Civil Aviation Authority of New Zealand Advisory Circular AC66-2.1A, Examination Syllabus for Subject 1A, Aeronautical Science – Mathematics and Physics and will be evidenced by meeting these requirements. This is available on the CAA website at <http://www.caa.govt.nz>.
- 3 *Applied knowledge* – will be in the context of aeronautical maintenance as defined by Civil Aviation Rules Part 1 as follows: ‘in relation to an aircraft or aircraft component, means all work and inspections performed to ensure the continued airworthiness of the aircraft or component, and all modifications’; will include making judgements regarding the scope, processes, and quality of maintenance for release to service certification; and will be in accordance with industry texts as defined by the candidate’s workplace or enterprise.
- 4 *Industry texts* include but are not limited to –  
published aeronautical training manuals or text books;  
enterprise exposition;  
manufacturer publications;  
government and local body legislation;  
airworthiness or regulatory authority requirements.

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## Outcomes and performance criteria

### Outcome 1

Apply knowledge of the properties and characteristics of the atmosphere to the certification of aeronautical maintenance.

#### Performance criteria

- 1.1 Knowledge of the properties and characteristics of the atmosphere is applied.
- 1.2 Knowledge of the effects of atmospheric phenomena on aircraft and aircraft operation is applied.

### Outcome 2

Apply knowledge of mathematical principles to the certification of aeronautical maintenance.

#### Performance criteria

- 2.1 Knowledge of mathematical principles is applied.
- 2.2 Knowledge of measurement systems is applied.

### Outcome 3

Apply knowledge of the principles of matter to the certification of aeronautical maintenance.

#### Performance criteria

- 3.1 Knowledge of the characteristics and structure of matter is applied.
- 3.2 Knowledge of the forces acting on solid matter is applied.

### Outcome 4

Apply knowledge of the principles of mechanics, motion, and dynamics to the certification of aeronautical maintenance.

#### Performance criteria

- 4.1 Knowledge of the principles of mechanics is applied.
- 4.2 Knowledge of the principles of motion is applied.
- 4.3 Knowledge of the principles of dynamics is applied.

### Outcome 5

Apply knowledge of the principles of thermodynamics, optics, and sound to the certification of aeronautical maintenance.

### Performance criteria

- 5.1 Knowledge of the principles of thermodynamics is applied.
- 5.2 Knowledge of the principles of optics is applied.
- 5.3 Knowledge of the principles of sound is applied.

<b>Replacement information</b>	This unit standard and unit standard 26964 replaced unit standard 20894.
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<b>Planned review date</b>	31 December 2027
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### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	9 December 2010	31 December 2020
Review	2	28 September 2017	31 December 2024
Review	3	27 October 2022	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0028
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

### Comments on this unit standard

Please contact Ringa Hora Services Workforce Development Council [qualifications@ringahora.nz](mailto:qualifications@ringahora.nz) if you wish to suggest changes to the content of this unit standard.