

Title	Demonstrate knowledge of air navigation and flight planning for private aircraft operations		
Level	3	Credits	5

Purpose	People credited with this unit standard are, for private aircraft operations in accordance with Subject No 6, able to demonstrate knowledge of: fundamentals of air navigation; aeronautical maps and charts; mental dead (deduced) reckoning; flight planning; and visual navigation procedures; and to use a circular slide rule.
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Classification	Aviation > Aircraft Operation
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Available grade	Achieved
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Entry information	
Recommended skills and knowledge	Industry requirements are that the candidate must meet the eligibility requirements of the Civil Aviation Act 1990 and the Civil Aviation Rule Part 61 for a private pilot licence.

Explanatory notes

- 1 This unit standard is aligned with the relevant parts of the prescribed syllabi of the Civil Aviation Authority of New Zealand (CAA) for Subject No 6, for a private pilot licence. Credit will be awarded on meeting the requirements of the CAA approved assessment or examination.
- 2 Private aircraft operations are those which are not performed for hire or reward.
- 3 Definitions, abbreviations, and acronyms used in this unit standard are to be found in:
 - a *Civil Aviation Rules Part 1* on the CAA website at <https://www.caa.govt.nz>, and
 - b *Aeronautical Information Publication (AIP)* published by Aeronautical Information Management (AIM), PO Box 294, Wellington 6140 or on the AIM website at <http://www.aip.net.nz>.
- 4 All references to the CAA refer specifically to the Civil Aviation Authority of New Zealand.
- 5 Industry standards and recommended practices are those set in place by the CAA.
- 6 Industry texts may include but are not limited to – aircraft flight manuals, CAA Rules, CAA Advisory Circulars, NZCAA Flight Test Standard Guides, operator exposition.

- 7 For the purpose of this unit standard, *knowledge* refers to the knowledge, understanding, and application of the subject matter.

Outcomes and evidence requirements

Outcome 1

Demonstrate knowledge of fundamentals of air navigation in accordance with Subject No 6.

Evidence requirements

- 1.1 The form of the earth is described in accordance with industry texts and standards.
- Range may include but is not limited to – general shape, rotation, geographic poles.
- 1.2 Direction on the earth is described in accordance with industry texts and standards.
- Range may include but is not limited to – method of indicating direction, earth's magnetic field.
- 1.3 Distance on the earth is defined and calculated in accordance with industry texts and standards.
- 1.4 Speed is defined in accordance with industry texts and standards.
- 1.5 Position referencing is defined and described in accordance with industry texts and standards.
- 1.6 Altimetry is defined and described in accordance with industry texts and standards.
- 1.7 Principles and terminology of air navigation are defined, described, and applied in accordance with industry texts and standards.
- Range may include but is not limited to – 1:60 rule.
- 1.8 Time is defined and described in accordance with industry texts and standards.
- Range may include but is not limited to – date/time groups; Coordinated Universal Time (UTC), Standard Time (NZST), Daylight Time (NZDT).
- 1.9 Triangle of velocities is defined and calculated in accordance with industry texts and standards.

Outcome 2

Demonstrate knowledge of aeronautical maps and charts in accordance with Subject No 6.

Evidence requirements

- 2.1 Properties and principles of maps and charts are described in accordance with industry texts and standards.
- 2.2 Aeronautical maps and charts are interpreted and described in accordance with industry texts and standards.

Outcome 3

Use a circular slide rule to calculate in accordance with Subject No 6.

Evidence requirements

- 3.1 Computations are calculated in accordance with industry texts and standards.

Range may include but is not limited to – mathematical equations, time and distance, fuel consumption, fuel burn rate, conversions.

Outcome 4

Demonstrate knowledge of mental dead (deduced) reckoning in accordance with Subject No 6.

Evidence requirements

- 4.1 In-flight revisions are estimated in accordance with industry texts and standards.

Range may include but is not limited to – 1:60 rule, driftlines, headings, ETA.

Outcome 5

Demonstrate knowledge of flight planning in accordance with Subject No 6.

Evidence requirements

- 5.1 Route selection requirements are described in accordance with industry texts and standards.
- 5.2 Map preparation is demonstrated in accordance with industry texts and standards.
- 5.3 Flight plan preparation is demonstrated in accordance with industry texts and standards.

5.4 Fuel planning calculations are carried out in accordance with industry texts and standards.

Range may include but is not limited to – expected fuel burn, minimum fuel required.

5.5 Load planning calculations are carried out in accordance with industry texts and standards.

Outcome 6

Demonstrate knowledge of visual navigation procedures in accordance with Subject No 6.

Evidence requirements

6.1 Flight management requirements are described in accordance with industry texts and standards.

6.2 Special procedures are described in accordance with industry texts and standards.

Range may include but is not limited to – re-establishing position if lost, diverting, navigating at low level.

Planned review date	31 December 2021
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	26 March 2007	31 December 2018
Review	2	20 October 2016	N/A

Consent and Moderation Requirements (CMR) reference	0169
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The

CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact ServiceIQ qualifications@serviceiq.org.nz if you wish to suggest changes to the content of this unit standard.