

Title	Demonstrate and apply knowledge of snowpack, weather and terrain in relation to avalanche hazards		
Level	5	Credits	10

Purpose	People credited with this unit standard are able to demonstrate knowledge of avalanche hazards, and demonstrate and apply knowledge of weather, terrain and snowpack in relation to avalanche hazards.
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Classification	Snowsport > Avalanche
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Available grade	Achieved
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Guidance Information

- 1 All learning and assessment against this standard must be carried out in accordance with the following:
 - relevant legislation including Health and Safety at Work Act 2015 and Human Rights Act 1993;
 - relevant Activity Safety Guidelines published by WorkSafe New Zealand and subsequent updates;
 - alpine industry Codes including the *Snow Safety Code* and the *Outdoor Safety Code* (available at <http://www.mountainsafety.org.nz>);
 - a recognised and approved safety management system including organisational policies and procedures including Emergency Action Plans (EAPs), Standard Operating Procedures (SOPs), incident response management plans and the use of personal protective equipment (PPE);
 - relevant industry publications.

- 2 **Definitions**

Current industry good practice means practice that adheres to accepted avalanche risk management practice which is detailed within current industry Codes, guidelines and publications.

Snowsport area policy and procedures are instructions to staff that may be documented and available for reference at each alpine resort in the form of an operations manual and/or policy and procedures manual.

- 3 Graduates working within avalanche terrain must operate within the terrain and supervision requirements defined by the scope statements set in the New Zealand Avalanche Terrain Operating Guidelines for Instructors/Guides, which references the Avalanche Terrain Exposure Scale (ATES).

- 4 Further information regarding industry guidelines, key definitions and other relevant information can be found within the Avalanche programme guidance document. This document should be consulted when developing learning or assessment against this unit standard. It can be found at www.skillsactive.org.nz.
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Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of avalanche hazards.

Performance criteria

- 1.1 Explain the characteristics of avalanches in accordance with current industry good practice.
- 1.2 Describe New Zealand avalanche advisory information.
- 1.3 Describe the effects of avalanches in New Zealand including the dangers to people and property.
- 1.4 Describe avalanche hazard mitigation methods in accordance with current industry good practice.

Outcome 2

Demonstrate knowledge of weather, snowpack and terrain information in relation to avalanche hazards.

Performance criteria

- 2.1 Explain terrain and weather in terms of the effect on the snowpack.
- 2.2 Explain the formation of avalanches in terms of necessary snowpack properties, terrain conditions, and triggers.
- 2.3 Explain the mechanics of a slab avalanche slab avalanche release.
- 2.4 Classify avalanche terrain by describing the avalanche terrain exposure scale (ATES).

Outcome 3

Demonstrate and apply knowledge of weather, snowpack and terrain in relation to avalanche hazards.

Performance criteria

- 3.1 Obtain and interpret weather information from a variety of sources in terms of implications for trip planning.

- 3.2 Observe and record avalanche occurrence data to assist in evaluating snow stability.
- 3.3 Observe and record field weather to forecast snow conditions and determine trends.
- 3.4 Explain objectives, considerations and techniques for collecting snowpack data in accordance with current industry good practice.
- 3.5 Identify layers in the snowpack and explain the significance of any weak layers in terms of potential consequences.
- 3.6 Identify avalanche terrain in accordance with current industry good practice.

Planned review date	31 December 2025
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	17 August 2017	31 December 2022
Revision	2	1 November 2018	31 December 2022
Review	3	25 March 2021	N/A

Consent and Moderation Requirements (CMR) reference	0099
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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 Skills Active Aotearoa Limited info@skillsactive.org.nz if you wish to suggest changes to the content of this unit standard.