



ASSESSMENT GUIDELINE

Demonstrate overnight expedition skills in a mountain environment

Unit Standard: 439

Level: 3 Credit: 8 Version: 7
Published by Sfrito Jan 2007

Purpose:

People credited with this unit standard are able to: prepare for an overnight mountain expedition; travel through low-angled mountain terrain; establish an overnight snow camp; demonstrate care and concern for self, others and the environment; and evaluate the overnight mountain expedition.

Special Notes:

1. For assessment purposes *low-angled mountain terrain* is no more than a 20 degree angle, with safe run-out zones and no possibility of avalanche danger on site or during approach; *overnight mountain expedition* should be at least two walking hours or five kilometres from road vehicle access and must include snow; and *overnight* snow camp is two days and one night.
2. For assessment purposes it is recommended that candidates complete at least three overnight expeditions in different geographic locations before being assessed against this unit standard.
3. It is recommended that assessment against this unit standard take place in conjunction with Unit 18132, *Demonstrate basic movement skills and the use of ice axe and crampons*.
4. All activities must comply with any relevant environmental, legislative and/or regulatory requirements set out in the *New Zealand Environmental Care Code*, Health and Safety in Employment Act 1992, Injury Prevention, Rehabilitation, and Compensation Act 2001, and their subsequent amendments. The *New Zealand Environmental Care Code* is available from the Department of Conservation, Head Office, PO Box 10420, Wellington.
5. *NZMS 260 maps* are topographical maps published by Land Information New Zealand and available from map selling agencies throughout New Zealand.
6. There are minimum assessor requirements for assessment against this unit standard. The details of these requirements are available on the Sfrito website <http://www.sfrito.org.nz/>.

Overview of assessment:

This assessment has 6 tasks

Task 1: Investigate access, camping and information sources for a mountain expedition

Task 2: Organise and pack gear ready for a mountain expedition

Task 3: Travel safely and effectively on mountain terrain

Task 4: Identify present location on a map

Task 5: Set up camp and stay the night

Task 6: Post-trip debrief

Resources for all tasks:

Each candidate will need to have available the gear required for an alpine expedition (ice axe, helmet, boots, personal clothes and waterproof gear, tent, sleeping bag, insulation pad, pack, food, ...).

The group may need additional safety equipment. The equipment carried will depend on the nature of the trip but could include emergency shelter, first aid kit, mountain radio, cellphone, spare warm clothing, cooker...

- Allan, S. (2005). *Bushcraft*. NZ Mountain Safety Council. www.mountainsafety.org.nz
- Cotter, C. and Sedon, M. (2003). *A Climber's Guide*. Adventure Consultants.
- Cox, S. et al. (2003). *Mountaineering: Freedom of the Hills*, 7th edition. The Mountaineers, Seattle, WA
- Dickson, G. and Ogden, C. (2006). *Alpine Guides Technical Manual*, 2nd edition. Available from Alpine Guides or NZAC.
- Wayatt, G. (2005). *Alpine Skills*. NZ Mountain Safety Council. www.mountainsafety.org.nz
- <http://www.avalanche.net.nz/>
- <http://syndication.getoutdoors.com/go/golearn/450> (step-cutting)
- <http://syndication.getoutdoors.com/go/golearn/168> (using an ice axe, self-belay)
- <http://syndication.getoutdoors.com/go/golearn/169> (ascending snow)
- <http://syndication.getoutdoors.com/go/golearn/170> (descending snow)
- <http://syndication.getoutdoors.com/go/golearn/171> (self-arresting)

Task 1: Investigate access, camping and information sources for a mountain expedition (written or oral questions)

Resources:

439 Pre-trip Assessment Questions (attached at the end of this document)

439 Model Answers (available from a Sfrito Client Liaison)

Note to Assessors:

If the candidate answers orally the Questions sheet can be used to record the answers

Instruction to candidate:

For each of the 3 expeditions you will need to:

- Find out about the area from different sources
- Find out about access and camping issues, and deal with them

Element 1: Prepare for an overnight mountain expedition.

| Performance criteria | Evidence/Judgement |
|---|---|
| <p>1.1 Sources are identified that can provide information about the area.</p> <p>Range: may include – Department of Conservation, commercial operators, local users, public avalanche advisory systems.</p> | <p>Completes written or oral questions from 'Pre-trip Assessment Questions'</p> <p>Answers match '439 Model Answers'</p> <p>All questions are answered in full.</p> |
| <p>1.4 The area chosen to travel through is researched and access and camping protocol issues are dealt with.</p> <p>Range: landowners, tangata whenua, Department of Conservation.</p> | |

Task 2: Organise and pack gear ready for a mountain expedition

Overview of task: The focus of this assessment is to show that all of your and the group's equipment and food is adequate for the planned expedition.

Instruction to candidate:

At the start of each of the 3 expeditions you will need to:

- Show the assessor all of your own equipment and talk through why you have brought it
- Show the assessor all group equipment and food, and talk through why you have brought it

Element 1: Prepare for an overnight mountain expedition.

| Performance criteria | Evidence/Judgement |
|---|---|
| <p>1.2 Clothing, equipment and footwear are selected and their selection justified based on the mountain environment, the expedition conditions, and duration.</p> | <p>At the beginning of the expedition everything that the candidate is taking (including group gear that will be carried by other people) is viewed by the assessor.</p> |
| <p>1.3 Food is selected and its selection is justified based on expedition duration and cooking facilities.</p> | <p>The candidate talks the assessor through their equipment and why they have brought it in relation to the location, duration and expected conditions.</p> <p>The candidate has appropriate:</p> <ul style="list-style-type: none"> • Shelter (e.g. a tent) • Insulation (e.g. a sleeping bag and foam pad, clothes that insulate when wet) • Clothing etc that provides shelter from the elements (e.g. raincoat and overtrou, hat and suncream, gaiters) • Footwear (e.g. sturdy boots) • Alpine equipment (e.g. ice axe, crampons) • A pack big enough to carry everything in <p>Is sharing appropriate:</p> <ul style="list-style-type: none"> • Cooking equipment (e.g. burner, fuel and billy) • First aid kit • Navigation equipment (e.g. compass and map) <p>The food and drink for the trip:</p> <ul style="list-style-type: none"> • Is able to safely last for the duration of the trip • Provides adequate nutritional value for the candidate while on the expedition, including an unplanned night out <p>Everything is an appropriate weight and volume to carry e.g. less than 1/4 body weight</p> |

Task 3: Travel safely and effectively on mountain terrain

Overview of task: The focus of this assessment is on walking skills, ice axe skills, safety and teamwork.

Instruction to candidate:

During each of the 3 expeditions you will need to show the following:

- Safe and efficient movement skills on snow and other surfaces
- Self-arresting
- Ability to identify and manage hazards
- Teamwork and communication
- Care for the environment

Element 2: Travel through low-angled mountain terrain.

Element 4: Demonstrate care and concern for self, others and the environment.

| Performance criteria | Evidence/Judgement |
|---|---|
| <p>2.1 Varied mountain terrain is negotiated competently.</p> <p>Range: terrain must include – snow; terrain may include – ice, rock, scree, tussock, riverbeds; competently includes – confidence, level of fitness, ability to pace.</p> | <p>While walking in mixed mountain terrain (must include snow):</p> <ul style="list-style-type: none"> • Time is not wasted e.g. coordinated rest stops; taking advantage of rest stops to adjust clothing or pack • Walks at a pace that suits the group fitness level, taking rest stops according to the group’s agreed plan • Balance is maintained • Steps are kicked in snow to provide a secure footing • Step-kicking is efficient e.g. a single kick produces a good step; use of changing leader in a group to kick steps. Edge, heel, toe and full sole of boot are used to maximise grip in different situations |
| <p>2.2 Steps are kicked and provide secure footing for climbing, descending or traversing a snow slope.</p> | <ul style="list-style-type: none"> • Uses ice axe on snow for balance and security: <ul style="list-style-type: none"> - As a walking stick - As a self-belay |
| <p>2.3 An ice axe is used in a variety of ways to assist and safeguard travel.</p> <p>Range: step-cutting, three step, self arrest.</p> | <ul style="list-style-type: none"> • When using ice axe on steeper snow: <ul style="list-style-type: none"> - Keeps axe in uphill hand - Maintains 2 points of contact with snow (2 feet, or 1 foot and axe) - Changes direction on slope using axe and feet to create a solid stance • Efficiently stows ice axe when not needed e.g. stows between back and pack <p>While self-arresting:</p> <ul style="list-style-type: none"> • Rolls towards the adze • Turns head away • Keeps axe under shoulder |

| | |
|--|---|
| | <ul style="list-style-type: none"> • Keeps weight on axe and knees/feet • Stops in an appropriate time given the slope and surface conditions |
| <p>4.1 A commitment to personal and group safety is shown at all times.</p> <p>4.2 Communication with team leaders and other team members is clear and concise.</p> <p>Range: may include but is not limited to – lines of communication, buddy system, emergency procedures.</p> <p>4.3 Respect for other team members and their property is shown at all times.</p> | <ul style="list-style-type: none"> • Actively identifies and manages hazards. For example: <ul style="list-style-type: none"> – tapes up blister points early – dresses appropriately for the weather – helps others over obstacles – is aware of and acts upon how tired others are • Does not compromise the emotional or physical safety of self and others and demonstrates respect at all times. For example: <ul style="list-style-type: none"> – respects the decisions of others – listens to and follows instructions – looks after their own and other’s property • Communicates in a positive way that is clear and understood by others. For example: <ul style="list-style-type: none"> – shows encouragement and support – contributes to group decision making – passes information on to other members of group |
| <p>4.4 Care for the environment is demonstrated based on the New Zealand Environmental Care Code.</p> | <p>Follows the principles of the Environmental Care Code</p> |

| | |
|--|---|
| <p>Task 4: Identify present location on a map</p> | |
| <p>Instruction to candidate:</p> <p>At some stage during each of the 3 expeditions you will need to identify your present location on a map</p> | |
| <p>Element 2: Travel through low-angled mountain terrain.</p> | |
| <p>Performance criteria</p> | <p>Evidence/Judgement</p> |
| <p>2.4 Present location is identified, using defined features, to within 100 metres on an NZMS 260 topographical map.</p> <p>Range: may include but is not limited to – river, mountain peak, cliff, ridge top.</p> | <p>While on a defined feature or handrail (such as a river, ridge, cliff line or mountain top) the candidate uses tools such as a compass, geographical features or knowledge of the route to identify the group’s present location on an NZMS 260 topo map</p> <p>Accuracy is within 100m, time taken is less than 5 minutes</p> |

Task 5: Set up camp and stay the night

Overview of task: The focus of this assessment is to set up a campsite and prepare food using a stove while looking after safety, hygiene and the environment

Notes to the assessor:

The camp must be in a snowy environment (i.e. there is snow on the ground)

Resources:

<http://www.mountainsafety.org.nz/assets/images/Let%20it%20Breathe%20web.pdf>

Instruction to candidate:

At a campsite on all of the 3 expeditions you will need to:

- Set up camp
- Take care of rubbish, toilets and other waste
- Prepare food using a stove
- Look after safety
- Behave in an environmentally friendly way

Element 3: Establish an overnight snow camp.

Range: may include – snow shelters, tent, rock shelters.

| Performance criteria | Evidence/Judgement |
|--|---|
| <p>3.1 Participation contributes to establish the overnight snow camp.</p> | <ul style="list-style-type: none"> • The campsite is set up for the site and forecasted weather conditions • Candidate actively participates in setting up the camp • A toilet area away from the campsite is agreed upon and used • Rubbish is packed up and stored appropriately e.g. in a plastic bag. • A water / snow collection site is used that is upstream / away from anything that could contaminate water quality (or an established water source is used) • Lighting and operation of a cooker is demonstrated according to manufacturer's recommendations. • Cooker and its fuel is stored, carried, refuelled according to manufacturer's recommendations e.g. during operation fuel containers are closed and kept separate from the cooker • Cookers and other appliances are used in a well-ventilated space; not used in tents • Food/drink is prepared and eaten in a way that is not likely to introduce germs. |
| <p>3.2 Safe cooking and living skills are demonstrated while living in the snow camp.</p> <p>Range: cooking, sleeping, eating, abluting, general hygiene.</p> | |

| | |
|--|--|
| <p>4.4 Care for the environment is demonstrated based on the New Zealand Environmental Care Code.</p> | <p>Follows the principles of the Environmental Care Code</p> |
|--|--|

Task 6: Post-trip debrief

Overview of task: The focus of this assessment is to evaluate the expedition in a debrief, identifying learning outcomes

Instruction to candidate: After each expedition you will need to:

- Participate in a debrief to evaluate the expedition
- Discuss what you learned from the experience

Element 5: Evaluate the overnight mountain expedition.

| Performance criteria | Evidence/Judgement |
|--|--|
| <p>5.1 Participation in a full debrief is demonstrated.</p> | <p>In a discussion at the end of the mountain expedition, the candidate covers for example:</p> <ul style="list-style-type: none"> • The role they played in group tasks and decision making • Their interaction with other people • How the experience fitted into the comfort zone model for them • What they learnt or gained from the experience <p>The candidate reflects accurately on their own actions</p> |
| <p>5.2 Personal learning outcomes from the expedition are identified.</p> | |

| LEVEL | PROCESS | LEARNING DEMAND | RESPONSIBILITY |
|-----------------|--|--|---|
| <p>3</p> | <p>Carry out processes that:</p> <ul style="list-style-type: none"> - require a range of well developed skills - offer a significant choice of procedures - are employed within a range of familiar contexts | <p>Employing:</p> <ul style="list-style-type: none"> - some relevant theoretical knowledge - interpretation of available information - discretion and judgement - a range of known responses to familiar problems | <p>Applied:</p> <ul style="list-style-type: none"> - in directed activity with some autonomy - under general supervision and quality checking - with significant responsibility for the quantity and quality of output - with possible responsibility for the output of others |

Candidate Name _____ NSN _____

**Unit 439 (v 7) Checklist
Demonstrate overnight expedition skills in a mountain environment**

Assessor name: _____

Organisation name: _____

| | C/NYC | | Comments |
|--|--------------|-------|----------|
| Throughout all tasks: | | | |
| | Expedition 1 | Exp.2 | Exp.3 |
| <ul style="list-style-type: none"> Actively identifies and manages hazards. Does not compromise the emotional or physical safety of self and others and demonstrates respect at all times. Communicates in a positive way that is clear and understood by others. | | | |
| Follows the principles of the Environmental Care Code | | | |
| Task 1: Investigate access, camping and information sources for a mountain expedition | | | |
| Completes written or oral questions from 'Pre-trip Assessment Questions'. All questions are answered in full. Answers match Model Answers | | | |
| Task 2: Organise and pack gear ready for a mountain expedition | | | |
| Talks assessor through their equipment and why they brought it in relation to the location, duration and expected conditions. <ul style="list-style-type: none"> Has appropriate: shelter; insulation; clothing etc that provides shelter from the elements; footwear; alpine equipment; pack Is sharing appropriate: cooking equipment; first aid kit; navigation equipment The food and drink for the trip: Is able to safely last for the duration of the trip; provides adequate nutritional value for the candidate Everything is an appropriate weight and volume to carry | | | |
| Task 3: Travel safely and effectively on mountain terrain | | | |
| While walking in mixed mountain terrain (must include snow): <ul style="list-style-type: none"> Time is not wasted; pace suits the group fitness level, rest stops according to agreed plan Balance is maintained Steps are kicked efficiently in snow to provide a secure footing Edge, heel, toe and full sole of boot are used to maximise grip in different situations Uses ice axe on snow for balance and security as a walking stick and as a self-belay When using ice axe on steeper snow: keeps axe in uphill hand; maintains 2 points of contact with snow; changes direction on slope in a solid stance Efficiently stows ice axe when not needed | | | |

| | | Expedition 1 | Exp.2 | Exp.3 | Comments |
|--|------------------------------|-----------------------------|-------|-------|--------------|
| While self-arresting: rolls towards the adze turning head away; keeps axe under shoulder; keeps weight on axe and knees/feet; stops in an appropriate time given the slope and surface conditions | | | | | |
| Task 4: Identify present location on a map | | | | | |
| While on a defined feature or handrail, identifies the group's present location on an NZMS 260 topo map Accuracy is within 100m, time taken is less than 5 minutes | | | | | |
| Task 5: Set up camp and stay the night | | | | | |
| <ul style="list-style-type: none"> The campsite is set up for the site and forecasted weather conditions Candidate actively participates in setting up the camp A toilet area away from the campsite is agreed upon and used Rubbish is packed up and stored appropriately e.g. in a plastic bag. A water / snow collection site is used that is upstream / away from anything that could contaminate water quality (or an established water source is used) Cooker and its fuel is operated, stored, carried, refuelled according to manufacturer's recommendations Food/drink is prepared and eaten in a way that is not likely to introduce germs. | | | | | |
| Task 6: Post-trip debrief | | | | | |
| Reflects accurately on their own actions, covering for example: <ul style="list-style-type: none"> The role they played in group tasks and decision making Their interaction with other people How the experience fitted into the comfort zone model for them What they learnt or gained from the experience | | | | | |
| DATE | CANDIDATE'S SIGNATURE | ASSESSOR'S SIGNATURE | | | C/NYC |
| | | | | | |
| Comments: | | | | | |
| | | | | | |



Pre-trip Assessment Written / Oral Questions

Demonstrate overnight expedition skills in a mountain environment

Unit Standard: 439

Level: 3 Credit: 8 Version: 7

Published by Sfrito Jan 2007

Candidate Name

The purpose of these questions is to check that you are able to find out information about a mountain area that you will travel through, and deal with access and camping issues

Answer all questions in full

Questions meet the requirements for PCs 1.1 and 1.4

- 1. You will need to find out about the area you are going into for your mountain expedition. List at least 3 sources of information about the area, and explain what you have found out.**

Source 1:

Source 2:

Source 3:

2. What are 2 ways that you can get hold of public avalanche advisory information?

3. **To go into a mountain area you will need to find out about access and about camping protocol.**
For the 3 groups listed below explain what you have found out and what you have done to make sure that you are entering the area / camping correctly.

Landowners:

Tangata whenua:

Department of Conservation: