



Australian Government

Department of Education, Employment and Workplace Relations

SISOCLN405A Apply single pitch lead climbing skills on natural surfaces

Release: 2

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Modification History

Not Applicable

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to apply lead climbing skills to single pitch routes on natural surfaces.

This unit also focuses on the application of second climbing and belaying skills suitable for single pitch lead climbing. It does not include the competencies required to instruct or guide others.

Application of the Unit

This unit applies to those working as climbing guides or assistant guides in a range of natural single pitch conditions.

This unit may also apply to leaders working for outdoor education or adventure providers; volunteer groups; not-for-profit organisations or government agencies.

Licensing/Regulatory Information

No licensing, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency.	Elements describe the essential outcomes of a unit of competency.
1. Plan for the climbing activity.	1.1. Identify and plan <i>food and water requirements</i> according to <i>principles of nutrition</i> and the duration of the activity. 1.2. Identify and select an appropriate activity site according to <i>relevant legislation</i> and <i>organisational policies and procedures</i> . 1.3. Identify associated <i>hazards</i> and procedures to minimise <i>risks</i> to climber and belayer on single pitch <i>natural surfaces</i> . 1.4. Access <i>relevant sources</i> to interpret detailed <i>weather and environmental information</i> to determine activity plan. 1.5. Establish a suitable <i>communication system</i> to use while climbing and belaying with other participants. 1.6. Consider <i>contingency plans</i> in the case of <i>unforeseen circumstances</i> .
2. Select a route for the climb.	2.1 Identify suitable access to and egress from the climbing site, according to relevant legislation. 2.2 Select a suitable route for the climb and inspect the position and quality of <i>features</i> according to the <i>capabilities</i> of the climbing party. 2.3 Interpret a <i>route description</i> for the climb. 2.4 Identify and communicate route features, hazards and belay stations with climbing party members. 2.5 Determine the potential need of artificial or natural protection required for the safe ascent of the route.
3. Select and utilise equipment.	3.1. Select and use <i>equipment</i> according to manufacturer's specifications, according to <i>contextual issues</i> . 3.2. Adjust and fit equipment to ensure personal comfort and safety. 3.3. Complete all necessary personal and equipment <i>safety checks</i> , according to organisational policies and procedures, prior to commencement. 3.4. Demonstrate attachment to a suitable <i>belay system</i> at bottom of pitch, in accordance with manufacturer's specifications, and apply correct rope

ELEMENT

PERFORMANCE CRITERIA

- handling and *knot tying* techniques.
- 3.5. Apply safety procedures at the top and bottom of climbing site.

ELEMENT	PERFORMANCE CRITERIA
4. Demonstrate climbing techniques.	<ul style="list-style-type: none">4.1. Display correct posture and fluent <i>climbing techniques</i> suitable to features and possible holds.4.2. Maintain effective communication between climber and belayer throughout climb.4.3. Locate and evaluate the main features of the climb whilst climbing.4.4. Apply safe and correct climbing techniques to minimise injury in the event of a fall or rock fall.4.5. Locate and utilise <i>rest positions</i> to reduce fatigue.4.6. Negotiate <i>obstacles</i> and avoid or remove hazards to climb in a controlled manner.4.7. Use equipment in a manner that minimises damage to the environment.
5. Ascend a single pitch route as a second climber.	<ul style="list-style-type: none">5.1. Demonstrate use of belaying system to maximise climber safety at all times.5.2. Remove artificial <i>protection</i> in a manner which minimises damage to the equipment and environment, with and without the use of a nut tool.5.3. Use slings to optimise a placement and to minimise equipment loss or damage
6. Ascend a single pitch route as a lead climber.	<ul style="list-style-type: none">6.1. Set up <i>anchors</i> and belay system safely and efficiently.6.2. Select and use suitable natural, fixed or artificial protection for the chosen climb and rack protection so that it is accessible during the climb.6.3. Place <i>protection</i> periodically throughout the climb to reduce fall distance, after consideration of the possible direction and magnitude of force during a fall and the second's ability and safety.6.4. Apply correct techniques to minimise rope drag, displacement of artificial protection and injury in the event of a fall.6.5. Retreat from pitches both greater than and less than 25m in length.6.6. Select solid and secure anchors at the top of the pitch, or place artificial protection.6.7. Establish a belay system at the top of the pitch which maximises climber and belayer safety at all times.
7. Demonstrate belaying technique.	<ul style="list-style-type: none">7.1. Establish <i>belaying position</i> by moving body in relation to chosen <i>belay device</i> that allows effective use of belay system.7.2. Demonstrate a safe and efficient escape from belay system.7.3. Perform all safety checks according to

ELEMENT**PERFORMANCE CRITERIA**

- organisational policies and procedures to ensure *belayer safety* in the event of a climber fall or rockfall.
- 7.4. Maintain rope tension to ensure fall distance is minimised whilst not restricting climber movement.
- 7.5. Monitor climber progress constantly and respond appropriately to climber calls.
- 7.6. Arrest falls promptly using technique suitable to the belaying device and situation.
8. Evaluate climbing activity.
- 8.1. Evaluate *relevant aspects* of lead climbing and belaying.
- 8.2. Identify improvements for future second and lead climbing activities.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to inform progress and interact with climber and or belayer whilst participating in activity
- problem-solving skills to:
 - determine type of protection to use and where to place it to minimise fall distance during lead climbing
 - select a suitable route to match participants' ability
- rope handling, rigging and knot tying skills to maintain adequate rope tension when climbing and belaying on a single pitch site
- first aid and emergency response skills appropriate to the location to enable initial response to emergencies and personal health care.

Required knowledge

- relevant legislation and organisational policies and procedures to enable safe conduct of all activities
- minimal impact climbing codes to enable protection of the environment
- equipment types, characteristics and technology used for lead climbing on natural surfaces, the advantages and disadvantages of the range of equipment, and factors affecting appropriate selection of equipment
- care and maintenance of climbing equipment to ensure prolonged life span and safety requirements
- lead climbing techniques and common communication methods and calls used between climbers and belayers to reduce risk during lead climbing on natural surfaces
- belay techniques and devices appropriate for single pitch surfaces
- technical climbing knowledge of various types of protection, ropes, knots and anchors used on single pitch natural surfaces
- weather and environmental information to ascertain possible conditions and their affect on the activity
- hazards and fall factors that may be experienced during lead climbs on natural surfaces
- emergency procedures, potential hazards and obstacles relevant to the location to ensure safety of self and others.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- applies relevant processes to plan for lead climbing activity and describes suitable route to take
- selects and fits equipment independently and carries out safety checks to ensure effective working order
- places protection at sufficient distances apart to reduce the distance of climber fall and removes and safely carries protection during second climbing
- communicates effectively to monitor progress when belaying and to organise climbing group at belay stations safely and efficiently
- negotiates obstacles and hazards during lead climbing, and adapts quickly to problems or issues that may arise to ensure safety of self and other participants
- evaluates and reflects on own lead climbing and belaying performance to identify strengths, weaknesses and areas for improvement.

Context of and specific resources for assessment

Assessment must ensure participation in multiple lead climbing and belaying activities on single pitch natural surfaces to demonstrate competence and consistency of performance.

Assessment must also ensure access to:

- resources and information regarding lead climbing and belaying, to accurately plan for the activity
- suitable natural single pitch climbing sites with obstacles and features that allow participant to demonstrate lead climbing skills and belaying
- other climbing participants, to assist with belaying and second climbing
- equipment such as harnesses, helmets, belay devices, ropes, protection, nut tools, gloves, karabiners, climbing shoes and first aid equipment.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- oral or written questioning to assess knowledge of

relevant legislation and organisational policies and procedures to enable safe conduct of all climbing activities

- observation of safe participation and demonstration of lead climbing skills, such as placing protection periodically and communicating with belayer to inform of progress
- observation of dealing with contingencies, such as equipment failure or change in weather
- third-party reports from a supervisor detailing performance.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SISOVTR301A Perform vertical rescues
- SISOCLN303A Establish belays for climbing on natural surfaces.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Food and water requirements may include:

- range of foods:
 - perishability
 - packaging
 - storage.

Principles of nutrition may include:

- food groups
- dietary guidelines.

Relevant legislation may include:

- occupational health and safety
- permits or permission for access
- environmental regulations.

Organisational policies and procedures may include:

- operating procedures and company or enterprise policies
- occupational health and safety
- use and maintenance of equipment
- communication protocols
- emergency procedures
- code of ethics.

Hazards may include:

- temperature extremes
- slippery or unstable terrain
- dangerous animals and insects
- stinging trees and nettles
- dense vegetation
- group management hazards.

Risks may include:

- hypothermia
- heat exhaustion
- injuries
- exhaustion
- lost party or party member
- equipment failure.

Natural surfaces may include:

- cliffs
- boulders.

Relevant sources may include:

- Bureau of Meteorology
- media
- land managers or agencies

- local knowledge.

Weather and environmental information may include:

- satellite images
- daily and weekly forecasts
- maximum and minimum temperatures
- weather warnings
- event warnings
- river levels
- synoptic charts
- high and low tide predictions.

Communication system may include:

- calls
- radio
- hand signals
- whistles.

Contingency plans may include:

- poor communication conditions
- injuries
- escape or retreat options
- off route possibilities.

Unforeseen circumstances may include:

- equipment failure
- change of route
- unresolvable obstacle or hazard
- dramatic change of weather
- climber or belayer injury.

Features may include:

- aretes
- chimneys
- corners
- cracks
- edges
- flakes
- jugs
- ledges
- overhangs.

Capabilities may include:

- body weight ratio
- strength
- stamina
- flexibility
- balance
- mental perceptions.

Route description may include:

- verbal
- written.

Equipment may include:

- helmets
- karabiners
- harnesses

- climbing shoes
- belay device
- chalk and chalk bag
- tapes and slings
- ropes and cord.
- nuts
- spring loaded camming devices
- quick draws
- hexes
- tut tool

- Contextual issues*** may include:
- weather conditions, including times
 - season
 - transport
 - location
 - trip distance and duration
 - group objectives
 - group size.
- Safety checks*** may include:
- A - anchors - secure and suitable to application
 - B - buckles - locked as per manufacturers recommendations
 - C - connectors - locked, secured and orientated
 - D - devices - threaded correctly and secured
 - E - everything else including end of rope knots, friction hitches, belayer ready, helmet chin strap, clothing, jewellery and hair secured
 - F - friend - cross check.
- Belay system*** may include:
- top belay
 - bottom belay
 - single rope
 - double rope.
- Knot tying*** may include:
- figure eight
 - Bowline.
- Climbing techniques*** may include:
- bridging
 - dynamic movement, such as dead pointing
 - heel hooks
 - jamming
 - lay backing
 - layaways and side pulls
 - mantle
 - pinch grips
 - smearing
 - underclings.
 - crimping
 - chimneying.
- Rest positions*** may include:
- edge to lean against
 - ledge to lean against.
 - No hands rest.
- Obstacles*** may include:
- ledges
 - overhangs
 - squeezes
 - traverses
 - vegetation.

- Anchors*** may include:
- multi-directional
 - uni-directional
 - self-equalising.
- Protection*** may include:
- artificial
 - fixed
 - natural.
- Belaying position*** may include:
- top of the pitch
 - bottom of the pitch.
- Belay device*** may include:
- plate device
 - tube device
 - auto locking device.
 - hitch such as munter or Italian.
- Belayer safety*** may include:
- wearing of helmets
 - attaching to safety ropes
 - standing out of direct line of rock or gear fall.
- Relevant aspects*** may include:
- objectives
 - planning process
 - activity site
 - weather
 - equipment selection
 - clothing selection
 - food selection
 - instructional content
 - instructional technique
 - assessment technique
 - group feedback
 - directing techniques
 - rescue techniques employed.

Unit Sector(s)

Outdoor Recreation

Competency Field

Climbing natural surfaces