



# ASSESSMENT GUIDELINE

## Mountain bike on intermediate to expert terrain

**Unit Standard: 457**

**Level: 2 Credit: 2 Version: 6**

**Published by Sfrito 2006**

### **Purpose:**

People credited with this unit standard are able to: prepare for mountain biking, and complete mountain bike rides, on intermediate to expert terrain.

### **Special Notes:**

1. The bike is suitable if it is road worthy and has a range of gears, and front and rear brakes.
2. Suitable safety helmet for cycling must be worn.
3. For assessment purposes at least two rides lasting at least two hours each must be completed.
4. The rides should be done under supervision, however the role of the supervisor is to participate and only provide leadership if events occur beyond the requirements identified within the unit standard.
5. Intermediate to expert terrain is terrain that includes unmaintained 4WD tracks, rough narrow tracks and very steep slopes (up to 30 degrees with many large obstacles, switchbacks and drop offs).
6. Mountain Bike New Zealand's Off Road Code can be used instead of the New Zealand Environmental Care Code. The Off Road Code is available from the NZMBA- NZ Mountain Bike association, PO Box 13734, Christchurch. <http://www.nzmba.org.nz>
7. This unit standard may be assessed in conjunction with Unit 20138, *Select, set up and maintain a mountain or cycle touring bike.*

### **Overview of assessment:**

This assessment has 3 tasks -

Task 1: Demonstrate knowledge and use of biking equipment

Task 2: Prepare for a ride

Task 3: Complete two mountain bikes rides

### **Notes to Assessor:**

1. The assessor should choose 2 contrasting rides with different terrain, location and conditions. Each ride should last at least two hours.

2. The grading system of Beginner, Intermediate and Expert has been replaced in many areas by a 6 point grading system as follows:

Grade	Description	Previously graded as
1	Flat, smooth, wide track or gravel road. Suitable for all beginners.	Beginner or Easy
2	Gentle slopes (10 degrees maximum), some pot holes and rocks to avoid, 1-3m wide. Requires attention but possible by most beginners	Beginner or Easy
3	Challenging riding with steep slopes and/or tricky obstacles, possibly narrow with drop-offs and tricky stream crossings, etc. Requires riding experience for most.	Intermediate
4	Steep slopes (10-20 degrees), loose track surface, many objects to jump, ride over or avoid. Probably easier to walk.	Expert or Experienced
5	Very steep (up to 30 degrees), many large difficult obstacles, sharp turns, dangerous drop-offs, logs, rocks and/or slippery roots. Crashes very likely, definitely easier to walk. Rated as for experienced riders.	
6	Trials skills needed to clear many gnarly obstacles. High risk level. Only a handful of riders in NZ enjoy this grade, apart from bike 'n' hike enthusiasts.	

The new grading system consists of two parts:

#### 1. OVERALL GRADE

The first number grades the overall difficulty of a ride, and takes into consideration several factors such as, track surface, length, number of tricky challenges, remoteness and navigational difficulty, risk, climatic extremes, slope and altitude gained in climbs.

#### 2. MAXIMUM GRADE

The second number (which is in brackets) shows the technical difficulty of the hardest rideable section (or 'crux problem') of the ride. This section may be very short and can always be walked. It takes into account slope, track surface, complexity, minimum turning radius of corners, line of sight, length, potential fall height and risk of injury. Unquestionably unrideable obstacles such as swingbridges, fences, cliffs, marshlands, etc, are ignored here.

<http://www.mountainbike.co.nz/politics/articles/grading.htm>

## Task 1: Demonstrate knowledge and use of biking equipment

### Resources:

- <http://www.ltsa.govt.nz/road-user-safety/cyclists/framework.html> – Helmet safety
- <http://mountainbike.about.com/od/maintenencerepairs>

### Notes to the Assessor:

This task can be assessed at any time, including just before the trip.

### Instructions to candidate:

During this task you are required to:

- choose an appropriate bike for a mountain biking trip and adjust it to suit your ability and size.
- demonstrate the use of the tools and spares needed for a long duration mountain bike ride.
- safely stow the bike on another vehicle for transportation.

## Element 1: Prepare for mountain biking on intermediate to expert terrain.

Performance criteria	Evidence/Judgement
<p><b>1.5</b> Bike selection and set up are demonstrated and meet the requirements of the terrain and rider.</p> <p>Range: may include but is not limited to – bike size, maintenance check, seat height, seat position, handlebar height, tyre pressure.</p>	<ul style="list-style-type: none"> <li>• Candidate comes prepared with a mountain bike that they can ride for the trip, appropriately sized and maintained.</li> <li>• Demonstrates at least three checks/adjustments to set up and adjust their bike. For example: <ul style="list-style-type: none"> <li>- Chain clean and re-oiled, free from grit/ sand etc</li> <li>- Front and rear brake pads have sufficient depth</li> <li>- Pedals are spinning smoothly</li> <li>- Tyres have sufficient tread</li> <li>- Seat height and position.</li> <li>- Handlebar height set for comfort</li> <li>- Tyre pressure appropriate for terrain</li> </ul> </li> <li>• Set up provides comfortable and safe riding.</li> </ul>
<p><b>1.7</b> Tools and spares to be carried are identified and their use demonstrated.</p> <p>Range: may include but is not limited to – spare tube, pump, puncture repair kit, tyre levers.</p>	<p>Candidate demonstrates:</p> <ul style="list-style-type: none"> <li>• changing an inner tube in a tyre</li> <li>• patching an inner tube with puncture kit</li> <li>• pumping up tyre using hand pump.</li> <li>• using a chain break tool to join a broken chain</li> </ul> <p>(if no actual repairs are required these tasks must be performed regardless)</p>
<p><b>1.8</b> Techniques for safely transporting bikes are demonstrated.</p> <p>Range: may include but is not limited to – trailer, roof rack, bike rack.</p>	<ul style="list-style-type: none"> <li>• Candidate shows how they would stow the bike in or on a vehicle using the most suitable equipment available. (i.e. standard bike rack or roof rack attachment.)</li> <li>• The bike is securely attached with no movement or rubbing on parts that may be damaged</li> </ul>

## Task 2 : Prepare for a mountain bike ride

### Note to the assessor:

1. This task should be assessed immediately prior to a mountain bike ride. It only needs to be assessed before one of the rides.
2. The candidate will need to know beforehand what conditions to expect on the ride. The assessor may brief them on this.
3. First aid equipment does not need to be provided by the candidate. They must identify and justify the contents only.

### Instruction to candidate:

During the task you are required to show the assessor all of your own gear and discuss why you have brought it.

## Element 1: Prepare for mountain biking on intermediate to expert terrain.

Performance criteria	Evidence/Judgement
<p><b>1.1</b> The route is selected using a map and its selection justified.</p> <p>Range: may include but is not limited to – ability, fitness, experience, duration, distance.</p>	<ul style="list-style-type: none"> <li>• Candidate points out on a map the entire route that will be taken for the ride in Task 3</li> <li>• Gives 3 reasons why this route is suitable given the conditions and the individuals in the group</li> </ul>
<p><b>1.2</b> Clothing and footwear are selected and their selection justified based on the weather conditions and environment.</p> <p>Range: safety, comfort, protection.</p>	<p>Before the ride everything that the candidate is taking (including group gear that may be carried by other people) is viewed by the assessor.</p> <ul style="list-style-type: none"> <li>• The candidate talks the assessor through their equipment and why they have it in relation to the location, duration and expected conditions.</li> </ul> <p>The candidate has appropriate:</p> <ul style="list-style-type: none"> <li>• Clothing and footwear, for example                             <ul style="list-style-type: none"> <li>- Shoes with a good tread</li> <li>- Clothes that insulate when wet</li> <li>- Spare clothing if appropriate for the weather</li> <li>- A windbreaker or raincoat</li> </ul> </li> <li>• Food and drink for the two hour ride – a minimum of ½ a litre of water per hour and enough food to provide nutritional and psychological value for the duration of the ride</li> </ul> <p>The first aid equipment carried includes:</p> <ul style="list-style-type: none"> <li>• A bandage, triangular bandage and absorbent bandage.</li> <li>• Tape and dressings.</li> <li>• A survival blanket.</li> </ul>
<p><b>1.3</b> Food and drink to be carried are identified and reasons for their selection are justified based on the length of the ride, the weather conditions and the environment.</p>	
<p><b>1.6</b> First aid equipment to be carried is identified and reasons for its selection provided.</p> <p>Range: may include but is not limited to – fatigue, hypothermia and hyperthermia, chafing, blisters, abrasions, dehydration.</p>	

### Task 3: Complete 2 mountain bike rides

#### Resources:

- Each candidate and the assessor will need to have available:
  - Bike, helmet, and appropriate food and clothing for location and duration of ride.
- The assessor may need safety equipment, and other equipment dependant on the conditions and duration of the assessment which may include:
  - First aid kit, puncture repair kit, tire pump, cell phone, spare warm clothing, thermos with a hot drink, extra food.
- <http://www.bikewise.co.nz/default.asp> – Cycle maintenance, set up and Top 10 NZ tracks,
- [http://www.bikewise.co.nz/bike\\_info/pro\\_riding\\_tips/default.asp](http://www.bikewise.co.nz/bike_info/pro_riding_tips/default.asp) – Off-Road Code

#### Instruction to candidate:

During this task you are required to:

- Complete two off-road rides on intermediate to expert terrain of at least two hours duration each.
- During the two rides you need to:
  - Choose uphill and downhill controlled lines
  - Change gear for appropriate terrain
  - Demonstrate braking and cornering
  - Be considerate of other riders and users of the area
  - Pace yourself to complete the ride
  - Behave in a safe and environmentally friendly way.

**Element 1: Prepare for mountain biking on intermediate to expert terrain.**

**Element 2: Complete mountain bike rides on intermediate to expert terrain.**

Performance criteria	Evidence/Judgement
<p><b>1.4</b> The helmet is fitted and worn correctly according to Land Transport Safety Authority standards</p>	<ul style="list-style-type: none"> <li>• Helmet is snugly fitted and positioned flat and square on the head protecting the forehead as well as the top of the head</li> <li>• Buckle is under the chin (can still breath and talk normally)</li> <li>• Back straps are adjusted so they meet chin straps just below each earlobe</li> <li>• Helmet is worn in this fashion for the entire ride.</li> </ul>
<p><b>2.1</b> Selected route maps are accurately interpreted and followed.</p>	<ul style="list-style-type: none"> <li>• The candidate navigates for the group for at least 30 minutes, on a route that requires at least two navigation decisions</li> <li>• During the navigation leg the candidate:               <ul style="list-style-type: none"> <li>- Follows the agreed route</li> <li>- Identifies present position on the map when asked</li> </ul> </li> </ul>

<p><b>2.2</b> Gear ratios used are appropriate for the terrain and conditions.</p> <p>Range: may include but is not limited to – flat, ascents, descents, wind, surface obstacles, mud, water, sand.</p>	<ul style="list-style-type: none"> <li>• Completes a minimum of 2 different rides lasting at least two hours each.</li> <li>• Completes each of the routes comfortably, showing control of the bike at all times.</li> <li>• Speed of riding is appropriate for fitness and skill level.</li> </ul>
<p><b>2.3</b> Riding skills are demonstrated using safe, smooth and efficient techniques.</p> <p>Range: ascents, descents, cornering, braking.</p>	<ul style="list-style-type: none"> <li>• Rides safely, e.g. falls off less than three times during the ride</li> <li>• All of the following riding skills are demonstrated on each ride: <ul style="list-style-type: none"> <li>- avoiding or riding over obstacles</li> <li>- ascending</li> <li>- descending with control</li> <li>- maintaining controlled lines</li> <li>- appropriate use of brakes</li> <li>- cornering using the track camber</li> <li>- changing gears at appropriate times in difficult terrain</li> </ul> </li> </ul>
<p><b>2.4</b> Rider etiquette is demonstrated.</p> <p>Range: other riders, other road users.</p>	<ul style="list-style-type: none"> <li>• Other track users are treated with consideration e.g. does not force walkers off the track, overtakes slower riders without getting in their way</li> <li>• The candidate has the skill and maintains enough control to move clear of all other users.</li> </ul>
<p><b>2.5</b> Communication with the group leader and other group members is effective.</p> <p>Range: clear, intentions understood.</p>	<ul style="list-style-type: none"> <li>• Throughout the trip the candidate: <ul style="list-style-type: none"> <li>- Communicates with the leader and other group members in a positive way</li> <li>- Is understood by other group members</li> <li>- Respects the decisions of others in the group</li> <li>- Does not get in the way of others in the group</li> <li>- Gives way to walkers, other bikers, vehicles etc.</li> </ul> </li> </ul>
<p><b>2.6</b> Environmental care is demonstrated and follows the New Zealand Environmental Care Code or Mountain Bike New Zealand's Off Road Code.</p>	<ul style="list-style-type: none"> <li>• Follows the principles of NZ Environmental Care Code and Mountain Bike NZ Off Road Code, for example: <ul style="list-style-type: none"> <li>- Does not leave any litter</li> <li>- Follows appropriate toileting practice</li> <li>- Treats plants and animals with respect</li> </ul> </li> </ul>

Candidate Name \_\_\_\_\_ NSN \_\_\_\_\_

**Unit 457 (v6) Checklist  
Mountain bike on intermediate to expert terrain**

Assessor name: \_\_\_\_\_

Organisation name: \_\_\_\_\_

C/NYC

Comments

**Task 1: Demonstrate knowledge and use of biking equipment**

- Comes prepared with a mountain bike that they can ride for the trip, appropriately sized and maintained.
- Demonstrates at least three checks or adjustments
- Set up provides comfortable and safe riding.

- Changes an inner tube in a tyre
- Patches an inner tube with puncture kit
- Pumps up tyre using hand pump.
- using a chain break tool to join a broken chain

- Stows a bike in or on a vehicle, the bike is securely attached with no movement or rubbing on parts that may be damaged

**Task 2: Prepare for a mountain bike ride**

- Points out on a map the entire route
- Gives 3 reasons why this route is suitable

- Talks the assessor through their equipment and why they have it in relation to the location, duration and expected conditions.
- Has appropriate:
  - Clothing and footwear
  - Food and drink for the two hour ride
- The first aid equipment carried by group includes:
  - A bandage, triangular bandage and absorbent bandage.
  - Tape and dressings.
  - A survival blanket.

**Task 3: Complete 2 mountain bike rides**

- Helmet is snugly fitted, positioned flat and square, securely fastened for the entire ride.
- Speed of riding is appropriate for fitness and skill level.
- Completes each of the routes comfortably and safely, showing control of the bike at all times.
- Demonstrates
  - avoiding or riding over obstacles
  - ascending
  - descending with control
  - maintaining controlled lines
  - appropriate use of brakes
  - cornering using the track camber
  - changing gears at appropriate times in difficult terrain

Ride 1

Ride 2

<ul style="list-style-type: none"> <li>• Other track users are treated with consideration</li> <li>• Has the skill and maintains enough control to move clear of all other users.</li> <li>• Throughout the trip: <ul style="list-style-type: none"> <li>- Communicates with the leader and other group members in a positive way</li> <li>- Is understood by other group members</li> <li>- Respects the decisions of others in the group</li> <li>- Does not get in the way of others in the group</li> <li>- Gives way to walkers, other bikers, vehicles etc.</li> </ul> </li> </ul>				
<ul style="list-style-type: none"> <li>• Navigates for the group for at least 30 minutes, on a route that requires at least two navigation decisions</li> <li>• Follows the agreed route and identifies present position on the map when asked</li> </ul>				
<ul style="list-style-type: none"> <li>• Follows the principles of NZ Environmental Care Code and Mountain Bike NZ Off Road Code</li> </ul>				
DATE	CANDIDATE'S SIGNATURE	ASSESSOR'S SIGNATURE		C/NYC
<p><b>Comments:</b></p>				



# Appendix 1:

## Environmental Care Code

### Mountain bike on intermediate to expert terrain

**Unit Standard: 457**

**Level: 2 Credit: 2 Version: 6**  
**Published by Sfrito 2006**

- Allan, S. (2005). *Outdoor activities – guidelines for leaders*. Sport and Recreation New Zealand [www.sparc.org.nz](http://www.sparc.org.nz)  
(adapted from the DOC Environmental Care Code)

#### **Protect plants and animals**

Treat New Zealand's forests and birds with care and respect. They are unique and often rare.

#### **Remove rubbish**

Litter is unattractive, harmful to wildlife and can increase vermin and disease. Plan your visits to reduce rubbish, and carry out what you carry in.

#### **Bury toilet waste**

In areas without toilet facilities, you must do one of the following:

- Carry out your toilet waste, particularly from snow country and caves
- Agree on a single toilet place for a large group, and dig a hole deep enough for the length of your stay.
- Bury your toilet waste in a shallow hole well away from waterways, tracks, campsites, and huts if the above situations do not apply

#### **Keep streams and lakes clean**

When cleaning and washing, take the water and wash well away from the water source. Soaps and detergents are harmful to water-life, so drain used water into the soil to filter it.

#### **Avoid fires**

Dead wood is an important part of the a forest's health, so cooking on portable stoves is preferable. In high-use areas, use a fire only in an emergency. Keep it small, use only dead wood, and pour water on it to ensure it's out.

#### **Camp carefully**

When camping, leave no trace of your visit. Will the next visitor know that you have been there?

**Keep to the track**

By keeping to the track, you lessen the chance of damaging fragile plants.

**Consider others**

People visit the back country and rural areas for many reasons. Be considerate of other visitors who also have a right to enjoy the natural environment.

**Respect our cultural heritage**

Many places in New Zealand have a spiritual and historical significance. Treat these places with consideration and respect.

**Enjoy your visit**

Enjoy your visit and protect the environment for your own sake, for the sake of those who come after you, and for the environment itself.

**Protect the environment for your own sake, for the sake of those who come after you, and for the environment itself.**



## Appendix 2: MTBNZ Off-Road Code

### Mountain bike on intermediate to expert terrain

**Unit Standard: 457**

**Level: 2 Credit: 2 Version: 6  
Published by Sfrito 2006**

From [http://www.mountainbike.co.nz/rides/mtb/mtbikers\\_code.html](http://www.mountainbike.co.nz/rides/mtb/mtbikers_code.html)

#### Mountain Bikers' Off-Road Code

##### Respect others

**1** Always give way to others. Even if it seems inconvenient, being considerate will foster a positive attitude towards bikers. Stop and move aside if you encounter walkers or horses. Allow others to pass before proceeding.

**2** Pass with care. Let others know of your presence well in advance. A greeting will suffice. Being startled will upset even the most tolerant walker.

**3** Get permission. Check if permission is required from landowners before heading out. When asking, use the word 'bicycle' rather than 'mountain bike' to avoid confusion with motorbikes. Access to private land is a privilege, not a right. The local mountain bike club (page 258), regional council, or DOC will probably know who owns land in their area.

**4** Don't run livestock. Give animals a chance to get out of your way. Always leave farm gates as you find them. If you're riding in a strung-out group, don't assume that riders following you will know to close a gate that you left open for them. Steer clear of farmland during lambing - August to October.

##### Respect the land

**5** Observe the minimum impact code: take only photographs, leave only tyre prints.

**6** Track conditions:

- Avoid skidding, it lessens your control and damages the track
- Avoid delicate vegetation and soft surfaces when wet
- Stay on the track

**7** Don't litter. If you have room, improve mountain bikers' image by picking up someone else's rubbish.

##### Respect yourself

**8** Control your speed. Your speed should be determined by the terrain and your skill. Remember, there could be a fallen tree, walker, or another rider round any corner.

**9** Plan ahead. Check your intended route before you ride to make sure you're not biting off more than you can chew

- Let others know where you are heading and when you'll be back
- Don't travel long distances alone
- Take a first aid kit (including sunblock) and know how to use it
- Take warm clothing - be prepared for weather changes
- Maintain your bicycle to avoid breakdowns
- Take a repair kit
- Take food and water
- Always take a good map on new rides.