



Australian Government

Department of Education, Employment and Workplace Relations

SISOMBK302A Apply advanced off-road cycling skills

Release: 2

SISOMBK302A Apply advanced off-road cycling skills

Modification History

Not Applicable

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to participate in off-road cycling activities. This unit focuses on the application of advanced off-road cycling skills on unmaintained gravel roads and rough single tracks with intermediate to expert terrain.

Application of the Unit

This unit applies to those working as off-road cycling guides or instructors in a range of conditions, including intermediate to expert terrain with unmaintained gravel roads and tracks.

This unit also applies to outdoor recreation 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

SISOCYT202A Demonstrate basic cycling skills

SISOMBK201A Demonstrate basic off-road cycling skills

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.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the Evidence Guide.

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|--|---|
| <p>1. Plan for the off-road ride.</p> | <p>1.1. Identify and plan <i>food and water requirements</i> according to <i>principles of nutrition</i> and the duration of the ride.</p> <p>1.2. Research and determine <i>route</i> for the off-road ride according to <i>contextual issues, relevant legislation and organisational policies and procedures</i>.</p> <p>1.3. Access <i>relevant sources</i> to interpret detailed <i>weather and environmental information</i> and determine ride plans.</p> <p>1.4. Identify potential <i>hazards</i> and <i>obstacles</i> associated with off-road cycling and procedures to minimise <i>risks</i>.</p> <p>1.5. Establish a suitable communication system to use when riding in a group and organise a reliable support vehicle and driver where required.</p> <p>1.6. Determine access, availability of public transport and parking, if necessary from both entry and exit points of ride.</p> |
| <p>2. Select, use and maintain off-road cycling equipment.</p> | <p>2.1. Select personal and <i>protective clothing</i> and identify design and or construction features that make it appropriate, according to contextual issues.</p> <p>2.2. Select suitable <i>bicycle</i> and <i>equipment</i> according to their <i>features</i> appropriate to the proposed off-road cycling conditions.</p> <p>2.3. Fit and adjust bicycle <i>proportions</i> and personal equipment according to personal requirements and organisational policies and procedures.</p> <p>2.4. Conduct <i>pre-ride maintenance checks</i> and correct any deficiencies.</p> <p>2.5. Attach equipment and <i>accessories</i> to bicycle and secure off-road bicycle to vehicle, where required.</p> |
| <p>3. Undertake off-road</p> | <p>3.1. Adopt appropriate posture and maintain control and</p> |

ELEMENT	PERFORMANCE CRITERIA
ride.	<p>balance at all times when riding off-road on intermediate to expert terrain.</p> <p>3.2. Apply off-road cycling <i>techniques and skills</i> in a smooth, safe and energy efficient manner according to <i>terrain and conditions</i>.</p> <p>3.3. Navigate route and negotiate <i>difficult situations</i> according to relevant legislation and organisational policies and procedures.</p> <p>3.4. Communicate with cyclists, motorists and other users, and apply trail etiquette.</p> <p>3.5. Pace cycling and adopt safe group or bunch riding techniques to maintain group cohesion.</p> <p>3.6. Negotiate hazards and obstacles safely and take measures to guard personal and group safety.</p>
4. Maintain and repair off-road cycling equipment in the field.	<p>4.1. Identify and use cycling <i>tools and spare parts</i> and an in -field repair kit to deal with <i>routine problems and or repairs</i> according to manufacturer's specifications and organisational policies and procedures.</p> <p>4.2. Determine measures to deal with non-routine problems and or repairs.</p>
5. Complete post trip responsibilities.	<p>5.1. Remove mud and dirt from off-road bicycle and spray all moving parts with appropriate lubricant.</p> <p>5.2. Examine off-road bicycle for any defects and repair or arrange for repair in a timely manner according to organisational policies and procedures.</p> <p>5.3. Store off-road bicycle in appropriate manner.</p> <p>5.4. Evaluate <i>relevant aspects</i> of the off-road cycling activity and record details according to organisational policies and procedures.</p>

Required Skills and Knowledge

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

Required skills

- problem-solving skills to:
 - safely negotiate hazards and obstacles
 - modify cycling technique to account for changes in terrain and gradient
 - conduct pre and post cycling checks and maintenance on off-road bicycle
- planning and organising skills to source and allocate off-road bicycle and equipment
- communication skills to interact with other cyclists and motorists to maintain personal and group safety
- problem-solving skills to navigate the chosen route
- first aid and emergency response skills appropriate to the off-road location to enable initial response to emergencies and personal health care.

Required knowledge

- legislation and organisational policies and procedures and rider etiquette to enable safe conduct of all off road cycling activities
- minimal impact cycling codes to ensure protection of the environment
- equipment and bicycle types, construction features, characteristics and technology used for off-road cycling
- personal and protective cycling gear and the design and or construction features that make it appropriate for off-road cycling activities
- maintenance tools and spare parts to conduct routine and non-routine maintenance checks and repairs
- communication methods used between cyclists and motorists
- cycling techniques applicable to different terrain and gradient
- hazards, obstacles and risks associated with off-road cycling and how to negotiate these
- weather and environmental information to ascertain possible conditions and their affect on the activity
- emergency and first aid procedures relevant to the off-road location to ensure risk minimisation to 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 off-road riding skills and trail etiquette to negotiate route and modifies technique to account for difficult situations and changes in terrain and weather while maintaining personal and group safety
- uses tools and spare parts to perform routine and non-routine checks, maintenance and repairs on the off-road bicycle to ensure it is correctly proportioned and in safe working order
- evaluates and reflects on own off-road cycling performance to identify strengths, weaknesses and areas that need improvement.

Context of and specific resources for assessment

Assessment must ensure participation in multiple off-road cycling activities on intermediate to expert terrain types to demonstrate competency and consistency of performance

Assessment must also ensure access to:

- an off-road cycling location with unmaintained gravel roads and rough single tracks with intermediate to expert terrain
- a support vehicle where required
- off-road cycling, navigation, tools, spare parts and safety equipment
- resources and information to plan and prepare for the activity.

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 and or written questioning to assess knowledge of planning requirements and potential hazards, obstacles and risks associated with off-road cycling
- observation of safe participation and demonstration of off-road cycling techniques over intermediate to expert terrain
- observation of conducting routine and non-routine bicycle maintenance checks and repairs

- 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:

- SISONAV302A Apply navigation skills in an intermediate environment.

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:

- menu planning and preparation
- range of foods.

Principles of nutrition may include:

- food groups
- dietary guidelines
- individual food requirements and allergies.

Route may include:

- single track
- steep hills
- long downhill
- technical riding
- adequate entry and exit points.

Contextual issues may include:

- weather conditions, including times
- season
- transport
- location
- trip distance and duration
- group objectives
- group size.

Relevant legislation may include:

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

Organisational policies and procedures may include:

- occupational health and safety
- use, maintenance and storage of bicycle and equipment
- communication protocols
- code of ethics.

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.
- Hazards** may include:
- temperature extremes
 - slippery or unstable terrain
 - dangerous animals and insects
 - stinging trees and nettles
 - dense vegetation
 - group management hazards.
- Obstacles** may include:
- bridges
 - water on road
 - tree branches
 - sticks
 - rocks
 - bumps
 - depressions and pot holes
 - drainage grates.
- Risks** may include:
- hypothermia
 - heat exhaustion
 - injuries
 - exhaustion
 - lost party or party member
 - equipment failure.
- Protective clothing** may include:
- helmets
 - gloves
 - riding shoes
 - glasses or goggles
 - padded shorts.
- Bicycle** may include:
- hardtail or full suspension off-road bicycle.
- Equipment** may include:
- safety and first aid equipment
 - navigation equipment
 - tools and spare parts
 - in-field repair kit.
- Features** may include:
- frame strength
 - thickness of tyres
 - gear ratios
 - comfort items
 - additional features.
- Proportions** may include:
- handlebar height

Pre-ride maintenance checks may include:

- saddle position and height
- distance from saddle to handlebars.
- tyres
- rims
- hubs
- spokes
- brake cables and pads
- headset bearings
- stem extension bolts
- bottom bracket
- crank axle bearing
- chain
- gears
- frame.

Accessories may include:

- trip computers
- pumps
- lights
- panniers and racks
- locks
- storage systems.

Techniques and skills may include:

- using front and back brakes
- maintaining cadence or efficient use of gear ratios
- transferring weight to steer bike
- climbing techniques
- descending techniques
- jumping over obstacles
- cornering.

Terrain and conditions may include:

- long, steep inclines and declines
- loose surface
- cross slope riding involving irregular terrain
- difficult water crossings
- bush tracks
- irregular sandy or muddy terrain
- very rough rocky ground
- snow and ice
- slippery inclines and declines.

Difficult situations may include:

- encountering traffic
- fording rivers or streams
- riding in headwinds
- negotiating bumps and potholes
- hazardous trail conditions.

Tools and spare parts may include:

- allen keys
- tyre levers
- spare tube and spare tyre
- patch key set
- basic spanner set and or shifters
- lubricants
- pump
- lock
- spare nuts and bolts
- spoke key
- chainbreaker
- crank puller and crank wrench
- spare chain and spokes
- cone spanners
- spare cables
- lights.

Routine problems and or repairs may include:

- flat tyre
- broken spokes
- loose screws
- broken chain
- squealing brakes
- slipping chain
- weak brakes
- steering out of alignment
- uneven pedalling
- broken or bent tyre rim
- broken seat post
- clogged or broken gears and derailleurs.

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

Mountain Biking