



## National Unit specification: general information

**Unit title:** ATV Operations (SCQF level 5)

**Unit code:** FN5A 11

**Superclass:** SK

**Publication date:** July 2011

**Source:** Scottish Qualifications Authority

**Version:** 01

## Summary

This Unit is suitable for candidates wishing to learn the importance of developing and using practical skills associated with safe use of an All Terrain Vehicle (ATV) in a variety of locations. Candidates will also consider the key principles of protective clothing and equipment, safe use of an ATV, and hazards associated with use.

This Unit is an Optional Unit in the National Certificate in Gamekeeping but is also available for candidates wishing to study the Unit on its own.

## Outcomes

- 1 Carry out pre-safety checks and operations.
- 2 Identify and describe the function of all controls of an ATV.
- 3 Operate, ride and drive an ATV.
- 4 Operate and ride an ATV with a trailer.

## Recommended entry

While entry is at the discretion of the centre, it would be beneficial if candidates had previous experience or some knowledge on the aspects safe use of an ATV or familiar with skills related to an ATV.

## Credit points and level

0.5 National Unit credit(s) at SCQF level 5: (3 SCQF credit points at SCQF level 5\*)

*\*SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

## **National Unit specification: general information (cont)**

**Unit title:** ATV Operations (SCQF level 5)

### **Core Skills**

Achievement of this Unit gives automatic certification of the following Core Skills component:

- ◆ Critical Thinking at SCQF level 5

There are also opportunities to develop aspects of Core Skills which are highlighted in the Support Notes of this Unit specification.

## **National Unit specification: statement of standards**

### **Unit title:     ATV Operations (SCQF level 5)**

Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

#### **Outcome 1**

Carry out pre-safety checks and operations.

##### **Performance Criteria**

- (a) Carry out assessment of the site or route to ensure maximum safety.
- (b) Contribute and/or assist in the removal of obstacles or hazards.
- (c) Identify personnel protective equipment requirements for the operator.

#### **Outcome 2**

Identify and describe the function of all controls.

##### **Performance Criteria**

- (a) Identify controls relevant to the ignition and fuel system.
- (b) Identify controls relevant to the gears and braking system.
- (c) Identify controls relevant to the steering and lighting system.
- (d) Identify parts relevant to the daily pre-use checks.

#### **Outcome 3**

Operate, ride and drive an ATV.

##### **Performance Criteria**

- (a) Carry out pre-use safety checks prior to driving.
- (b) Identify riding position and counter balance.
- (c) Mount ATV in the appropriate correct manner.
- (d) Distribution of weight is appropriate to terrain.
- (e) Correct speed is maintained, and appropriate to terrain.
- (f) Braking procedure is appropriate to terrain.
- (g) Dismounting of ATV is relevant to terrain and position.
- (h) ATV is clean and inspected after use.

## **National Unit specification: statement of standards (cont)**

**Unit title:**     ATV Operations (SCQF level 5)

### **Outcome 4**

Operate and ride an ATV with a trailer.

#### **Performance Criteria**

- (a) Identify manufacturer's guidelines.
- (b) Select suitable trailer.
- (c) Hitch trailer correctly.
- (d) Load trailer correctly.
- (e) Secure load correctly.
- (f) Operate trailer correctly.

#### **Evidence Requirements for this Unit**

**All activities undertaken in this Unit must adhere to current relevant legislation, regulations and codes of practice.**

Written and/or recorded oral evidence and performance evidence is required to demonstrate that the candidate has achieved all of the Outcomes and Performance Criteria.

#### **Outcome 1**

Candidates should provide performance evidence to demonstrate their knowledge, understanding and/or skills in relation to the Outcome and Performance Criteria.

The evidence must include carrying out pre-safety checks and operations, including:

- ◆ identification of ditches and obstacles
- ◆ route planning
- ◆ route is walked to ascertain hidden obstruction
- ◆ changes in ground conditions
- ◆ destabilising of loads or attachments
- ◆ head and eye protection
- ◆ protective clothing and gloves
- ◆ non snag outer clothing
- ◆ lifting techniques

## National Unit specification: statement of standards (cont)

**Unit title:** ATV Operations (SCQF level 5)

### Outcome 2

Candidates should provide written and/or recorded oral evidence to demonstrate their knowledge, understanding and/or skills in relation to the Outcome and Performance Criteria.

The evidence must include identifying and describing the function of 10 from the following list of control parts:

- ◆ starting procedures
- ◆ stop engine button
- ◆ battery
- ◆ throttle
- ◆ fuel switch on/off (reserve fuel)
- ◆ choke lever
- ◆ fuel gauge
- ◆ carburettor
- ◆ oil filter
- ◆ cold start
- ◆ spark plug
- ◆ gear selector (including reverse)
- ◆ combination of gears and breaking
- ◆ reverse knob
- ◆ brake levers
- ◆ parking break
- ◆ front/rear break lever
- ◆ 4 x 4 selector
- ◆ indicators
- ◆ front and rear lights/switches
- ◆ shock absorbers
- ◆ fuel level
- ◆ oil level
- ◆ tyre pressure
- ◆ wheel nuts secure
- ◆ coolant level
- ◆ fixings are secure
- ◆ moving parts are guarded
- ◆ frequency of checking
- ◆ recording of findings
- ◆ appropriate action to findings

## National Unit specification: statement of standards (cont)

**Unit title:**     ATV Operations (SCQF level 5)

### Outcome 3

Candidates should provide performance evidence to demonstrate their knowledge, understanding and/or skills in relation to the Outcome and Performance Criteria.

The evidence must include operating, riding and driving an ATV, including:

- ◆ no defects relating to safe operation
- ◆ fixtures are secure
- ◆ riding positions
- ◆ transfer of weight
- ◆ riding up slopes
- ◆ riding down slopes
- ◆ riding across slopes
- ◆ cornering
- ◆ avoidance of excessive speed
- ◆ stopping distances
- ◆ appropriate gearing for terrain
- ◆ correct starting procedure
- ◆ manoeuvres in tight spaces
- ◆ safe parking
- ◆ cleaning and inspection after use.

## National Unit specification: statement of standards (cont)

**Unit title:** ATV Operations (SCQF level 5)

### Outcome 4

Candidates should provide performance evidence to demonstrate their knowledge, understanding and/or skills in relation to the Outcome and Performance Criteria.

In operating and riding an ATV with a trailer, the evidence must include:

- ◆ identification of manufacturer's guidelines
- ◆ weight ratio between ATV and trailer
- ◆ loaded weight
- ◆ unladen weight
- ◆ braked and unbraked loads
- ◆ compatible trailer
- ◆ swivel hitch drawbar
- ◆ long draw bar
- ◆ distribution of weight (uphill/downhill)
- ◆ attachment point for securing loads
- ◆ stability of load
- ◆ ratchet straps
- ◆ avoidance of excessive weight
- ◆ distribution of weight (uphill/downhill)
- ◆ smooth take off and speed control
- ◆ reversing
- ◆ slopes
- ◆ space required and judgement
- ◆ steering
- ◆ jack knife avoidance

## National Unit specification: support notes

### Unit title:     ATV Operations (SCQF level 5)

This part of the Unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 20 hours.

### Guidance on the content and context for this Unit

This Unit is a mandatory Unit within the National Certificate in Gamekeeping (SCQF level 5), but can also be taken as a free-standing Unit.

This Unit aligns to the following LANTRA National Occupational Standard (NOS):

#### ◆ Cu2 Monitor and Maintain Health & Safety

This Unit is intended for candidates who wish to develop knowledge and understanding of the pre-safety checks, function of controls, safe use of an ATV, trailer operations, hazards associated with ATV use, and personnel protective equipment.

#### Outcome 1

This will enable the candidate to gain knowledge and understanding of planning routes for an ATV, identify hazards associated with route planning, and identify personnel protection equipment relevant to ATV operations. This should include knowledge of the ground and previously planned routes, and hidden obstacles. The candidate should assess the intended route for hazard, and plan a route that is free from obstacles and hazards; this should include pot holes, tree stumps, steep slopes and unseen obstacles. Some emphasis should be given to changes in conditions and this should relate to mud, water, snow and emergency stop braking distance. Where the removal of obstacles is required, proper lifting techniques should be practiced. This should relate to (kinetics) straight back, bent knees, and proper balance of load. The candidate should also identify and recognise the clear need for personnel protective equipment. This should include head protection and relevant helmet types, type of surface likely to be travelled, speed, strong fitting clothing, gloves for protection and warmth, and sturdy ankle covering footwear.

#### Outcome 2

This will enable the candidate to gain knowledge and understanding of the functions of controls on an ATV. This should include the various positions of the ignition switch in relation to starting, stopping, correct use of hand brake, foot brake, dual use of brake pedal / lever, and relevance to front and rear wheels. The correct use of the gearing system, number of gears and correct procedure for changing gears should be identified. Reference to smooth gear change, drop in speed, and relevant gear to terrain type should be recognised, with engagement of reverse gear via lever button or manual gearstick. The candidate should also recognise the simple function of steering from left to right, and the changes in traction when cornering with the requirement to alter position. In the event of road usage the lighting and signalling functions should be relevant to mirror signal manoeuvre, and adequate lighting for clear visibility. Daily pre-use checks prior to use should include tyre pressures, fuel oil levels, brake fluid levels, functional brakes, and throttle response. Additional simple engine parts may also be identified to enable further knowledge and understanding of their function.



## National Unit specification: support notes (cont)

### Unit title:     ATV Operations (SCQF level 5)

#### Outcome 3

This will enable the candidates to gain the knowledge and understanding to operate, ride and drive an ATV. Pre-use checks should be practised before starting further operations. This is also relevant to fixtures and should include racks and body panels. The correct riding position should be relevant to where body weight needs to be positioned with emphasis given to weight to the uphill side when riding across a slope, weight to the rear of the ATV, when driving downhill, transfer of weight forward when driving uphill with a stand and lean posture, transfer of weight to the outside turn when cornering, avoidance of feet on the ground to stabilise an ATV, and driving at excessive speed.

Stopping distances should be dictated by speed, distance, terrain conditions, and the ability to use proper gearing techniques. This should relate to selection of low gears, and engine braking reducing the need to brake. Prior to operation, mandatory checks and manoeuvres should include fuel switched on, gears in neutral, ignition on, choke engaged (where appropriate), correct starting procedure, applying both brakes before engaging gear, checking over shoulder before moving off, and selection of proper gear for riding conditions. All manoeuvres around a designed course should be done safely using appropriate controls where necessary, showing proper riding position and movement with extra care taken when driving on slopes. The parking should relate to appliance of hand brake, engine stoppage and proper dismounting. This should also relate to dismounting in difficult situations.

Knowledge and understanding of cleaning, inspection, and reasons for cleaning after use should be developed. This should include PPE for cleaning, suitable site for cleaning, cleaning methods (compressed air, water and brush), prevention of corrosion, access for maintenance or adjustment, prevention of personnel contamination, prevention of hazardous operating conditions, and soiling of roads or access points. After inspection any damage, defects or missing parts should be logged, and rectified before next use.

#### Outcome 4

This enables the candidate to develop knowledge and understanding whilst developing skills relating to trailed equipment and loads with an ATV. Manufacturer guidelines for loading and towing should be identified and adhered to during all towing operations. This should include weight ratios for each operation, brake trailed equipment up to four times the unladen weight of the ATV and twice the unladen weight of the ATV for unbraked trailer types. Emphasis should be given to the reduction in load ratios on steep slopes and uneven ground. The selection points for trailed equipment should be identified, and must include over run brakes, swivel switch bar, bead lock rims on wheels, low centre of gravity, wide wheel track, long draw bar, and attachment points for securing loads.

Weight transfer for the stability and resistance of jack-knifing should be identified and relevant to transfer of some weight (10%) to the drawbar or in accordance with the manufacturer's recommendations. Reference should also be given to driving of slopes uphill and downhill and the dramatic changes to weight transfer. The loading of trailers should relate to the counter balancing of the load, and ballast to maintain stability. Loads carried on racks should be evenly balanced and secured with use of ratchet straps, and only altered to aid stability when going up or down hills. Avoidance to tow loads from other related points, ie racks, pulling of loads with ropes or chains and associated hazards should also be identified.

## National Unit specification: support notes (cont)

### Unit title:     ATV Operations (SCQF level 5)

The candidate should also demonstrate the operation of an ATV with trailed towing equipment in tight spaces, awareness of position, smooth operations, secure loads, and reversing of a trailer around bends and corners. Emphasis should be given to the correct steering methods for reversing, and correction of over steering to avoid jack-knifing.

### Guidance on learning and teaching approaches for this Unit

Throughout this Unit candidates will gain knowledge and understanding of pre-use safety checks prior to the use of an ATV, functions and controls associated with the operation of an ATV, safe use of an ATV, and trailer operations with an ATV. It is essential that candidates are aware of best practice and the current relevant legislation. However it is not expected that there would be detailed teaching or investigation of legislation.

Essential knowledge and understanding could be developed by a variety of teaching and learning approaches including:

- ◆ tutorials
- ◆ DVD/video
- ◆ demonstrations
- ◆ internet/website
- ◆ internal visitation
- ◆ field trips/investigation
- ◆ group work
- ◆ working individually

It is expected that candidates will be given support and guidance from the instructor/lecturer in all Outcomes before progressing to an assessment.

### Guidance on approaches to assessment for this Unit

The following approaches to assessments are suggested:

- Outcome 1     Practical observation checklist
- Outcome 2     Restricted response questions/answer. The use of digital images or manual parts within an ATV can be used to complete the assessment.
- Outcome 3     Practical observation checklist
- Outcome 4     Practical observation checklist

Time should be allowed for any necessary re-assessment.

## **National Unit specification: support notes (cont)**

**Unit title:**     ATV Operations (SCQF level 5)

### **Opportunities for the use of e-assessment**

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

### **Opportunities for developing Core Skills**

In this Unit the candidate will investigate and recognise key areas of best practice, identify and develop tasks related to the safe use of an ATV. The activities of identification of correct loading capacities, fuel consumption, distances travelled, and route selection may provide opportunities for candidates to develop aspects of Communication, Numeracy and Problem solving at SCQF level 5.

This Unit has the Problem Solving component of Critical Thinking embedded in it, so when the candidate achieves this Unit their Core Skills profile will be updated to show they have achieved Critical Thinking at SCQF level 5.

### **Disabled candidates and/or those with additional support needs**

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website [www.sqa.org.uk/assessmentarrangements](http://www.sqa.org.uk/assessmentarrangements)

## History of changes to Unit

Version	Description of change	Date

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