

Unit Support Notes — Cycle Safety and Maintenance (National 2)

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Please refer to the note of changes at the end of this document for details of changes from previous version (where applicable).

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Introduction

These support notes are not mandatory. They provide advice and guidance on approaches to delivering and assessing the Cycle Safety and Maintenance (National 2) Unit. They are intended for teachers and lecturers who are delivering this Unit. They should be read in conjunction with:

- ◆ the *Unit Specification*
- ◆ the *Award Specification*
- ◆ the *Award Support Notes*
- ◆ appropriate assessment support materials

General guidance on the Unit

Aims

The general aim of this Unit is to enable the learner to develop the skills and knowledge to carry out regular safety checks before using a cycle. The learner will also carry out a range of routine maintenance and basic repair tasks on a cycle to ensure the cycle is safe to use.

Learners who complete this Unit will be able to:

- 1 Carry out a cycle safety check
- 2 Carry out a range of routine maintenance and repair tasks on a cycle

In addition, the following skills for learning, skills for life and skills for work will be developed: literacy, health and wellbeing and thinking skills.

The widest definition of two and three wheeled cycles is covered by this Unit. The cycle can be motorised and/or adapted to suit the needs of the individual learner.

Progression into this Unit

Entry into this Unit is at the discretion of the centre.

This Unit may be suitable for learners who have successfully completed qualifications in related areas at SCQF level 2.

Skills, knowledge and understanding covered in this Unit

Information about skills, knowledge and understanding is given in the *Award Support Notes*.

If this Unit is being delivered on a free-standing basis, teachers and lecturers are free to select the skills, knowledge, understanding and contexts which are most appropriate for delivery in their centres.

Progression from this Unit

This Unit may provide progression to:

- ◆ other Units within the National 2 Cycling Award
- ◆ other Units, Awards and Courses at National 2
- ◆ other Units, Awards and Courses at National 3

The skills, knowledge and understanding developed in this Unit could support progression in other curriculum areas as well as life and work contexts. The nature of this progression will depend on the individual needs of the learner.

Approaches to learning, teaching and assessment

This section of the Unit Support Notes provides examples of some approaches to learning, teaching and assessment which could be used.

The *Award Support Notes* provide generic advice on approaches to learning and teaching, assessment, gathering evidence and authentication which applies to all component Units of the Course. It is therefore recommended that the *Award Support Notes* are read before delivering this Unit.

While a range of approaches to learning, teaching and assessment are possible it is important that learners have the opportunity to experience a range of cycling activities and that those opportunities for assessment and feedback to learners are provided within the learning and teaching activities.

A rich and supportive learning environment is recommended to enable a learner to achieve the best they can. This could include approaches which build on the Curriculum for Excellence experiences and outcomes and which involve:

- ◆ active learning including activities which provide opportunities for learners to observe, explore and participate in a variety of cycling activities
- ◆ individual and collaborative working which provides learners with the opportunity to share in, and develop ideas for, cycling activities
- ◆ thematic or interdisciplinary approaches which build on the relationship between cycling and other curriculum areas such as PE, Health and Wellbeing, Mathematics
- ◆ using 'real-life' and/or simulated environments to provide contexts for cycling activities
- ◆ extra-curricular activities (in the centre and/or in the community)
- ◆ using visual media (including film, DVDs) to help learners visualise contexts for learning
- ◆ portfolios, journals and portfolios and workbooks compiled by the learner to keep track of evidence
- ◆ using ICT and other technologies (including computer games, simulations and/or interactive programmes, virtual learning environments)
- ◆ using adaptive and assistive technologies as appropriate to support learners' participation in cycling activities
- ◆ other specific opportunities for integrated learning identified and developed within centres themselves

Many of these approaches could involve group work. Group work approaches can be used within Units and across Awards where it is helpful to simulate real life situations, share tasks and promote team working skills. However, there must be clear evidence for each learner to show that they have met the required assessment standards for the Unit or Award.

It is recommended that the evidence for this Unit is collected as a natural part of the learning and teaching. Where assessment is carried out as a discrete activity, this could be a single event or it may be broken up into smaller, more

manageable sections. In this case, care must be taken to avoid duplication of evidence and potential assessment.

It is also suggested that assessment forms an integral part of the learning and teaching approach. Learners should receive comment and feedback on their work at appropriate stages, and this could be provided as part of the on-going assessment process to inform learning. It is therefore recommended that teachers/lecturers involve learners in the identification of assessment opportunities and build in opportunities for feedback on progress. This will ensure that learners are clear about what is expected of them. Assessment methods should offer learners an equal opportunity to demonstrate their achievement. This should be reflected in the language used, the use of different assessment presentation methods and the use of appropriate and unbiased illustrative materials which reflect an inclusive view.

Centres are also encouraged to be flexible in selecting from a range of assessment strategies to allow learners to demonstrate their best work and remove barriers to assessment and attainment.

There is no external assessment for National 2 Courses. All Units are internally assessed against the requirements shown in the Unit Specification. Teachers/lecturers are encouraged to record naturally occurring evidence as a way of meeting the Unit Outcomes. Naturally occurring evidence is evidence which occurs within and as part of the learning and teaching, and can be recorded for assessment purposes in a variety of ways, including:

- ◆ observation during practical tasks and activities (using an observation checklist, visual recording, photography or equivalent)
- ◆ oral questioning before, during and on completion of tasks (for example using a recording or transcript as evidence)
- ◆ using a project/extended activity to assess a range of Outcomes or Units together
- ◆ integrating assessment across curriculum areas, for example PE
- ◆ visual recording of the learner's activities
- ◆ using photographs to record milestone achievements

Information about approaches to gathering evidence can also be found in the *Award Support Notes*.

It is recommended that all evidence generated by the learner is kept together in a secure place. Where possible, opportunities to collect and share evidence electronically could be used.

Opportunities for extension, remediation and consolidation of skills and knowledge should be built into this Unit. How this is organised will depend on the teacher/lecturer, the needs of the learner and the learning and teaching approach used.

Combining and sequencing learning, teaching and assessment within the Unit

This Unit consists of two Outcomes which can be delivered and assessed in a variety of ways.

However, it is suggested that the Outcomes are delivered and assessed sequentially, following the logical order of undertaking a cycle safety check and identifying any faults and/or problems arising from the check (Outcome 1) and then identifying and carrying out the maintenance and/or repair tasks required to rectify these faults and/or problems (Outcome 2).

There is no specific amount of time set aside for the delivery and assessment of each Outcome, therefore it is suggested that teachers/lecturers consider the following issues when developing their approach to learning, teaching and assessment:

- ◆ the resources available to the centre
- ◆ the prior experiences and achievements of learners
- ◆ the needs of learners

Examples of learning, teaching and assessment approaches and ways of recording evidence are provided in *Appendix 1*.

Developing skills for learning, skills for life and skills for work

Information about developing skills for learning, skills for life and skills for work in this Unit is given in the relevant *Award Support Notes*.

Equality and inclusion

Learners should receive as much support as possible so that they can fully demonstrate their achievements. The support provided should also be appropriate for the learner, for the subject area and for the activity involved. Examples of support might include:

- ◆ allowing extra time to complete activities
- ◆ practical helpers under direct learner instruction to assist with practical activities (this could include a cycling partner, a reader or scribe as appropriate)
- ◆ the use of specialised and adapted equipment including cycles
- ◆ the use of ICT and other assistive technologies (for example, word processing, technology-assisted communication)
- ◆ communication of instructions using pictures and/or symbols, signing or other appropriate approach

It is recognised that centres have their own duties under equality and other legislation and policy initiatives. The guidance given in these Unit Support Notes is designed to sit alongside these duties but is specific to the delivery and assessment of the Unit.

Alternative approaches to Unit assessment to take account of the specific needs of learners can be used. However, the centre must be satisfied that the integrity of the assessment is maintained and where the alternative approach to assessment will, in fact, generate the necessary evidence of achievement.

Appendix 1: Suggested examples of learning, teaching and assessment activities

Assessment Standard	Explanation of Standard	Possible learning, teaching and assessment activities
Outcome 1: <i>The learner will carry out a cycle safety check by:</i>		
1.1 Identifying the components to be included in this safety check	<p>The learner should be able to identify at least four component parts of a cycle.</p> <p>These could include: wheels, tyres, handlebars, pedals, frame, brakes, chain, saddle.</p> <p>The learner should be able to compile a cycle safety checklist which includes at least four different component parts to be checked.</p> <p>It is suggested that teachers/lecturers use a simple and systematic framework to allow learners to follow a logical route around a cycle (for example the 'M' check system or equivalent).</p>	<ul style="list-style-type: none"> ◆ Labelling or matching exercise to identify the main parts of a cycle. ◆ Learner recognises the function of each main part — for example, by responding to images and/or prompt questions. ◆ Demonstration by teacher/lecturer/others of safety critical parts of a cycle and how they affect the overall safety of the cycle and rider when in use. ◆ Learner constructs their own cycle safety checklist system that includes the parts to be checked. This could be achieved by using images and/or using an actual cycle. <p>The main parts of the cycle could include: front wheel and tyre, handlebars, gears and brakes, frame, pedals, chain, saddle, back wheel and tyre.</p> <p>It is suggested that AS 1.1 and AS 1.2 could be combined to form a cycle safety checklist which includes the parts to be checked, the tasks to be carried out and the procedures to be used.</p>

<p>1.2 Identifying the tasks to be carried out for the safety check</p>	<p>The learner should be able to identify at least one task to be carried out for each of the four component parts identified in AS 1.1.</p> <p>The learner should also be able to identify the procedures to be used to carry out the safety check tasks (for example, need to spin the wheel to ensure it moves freely).</p> <p>It is suggested that teachers/lecturers use a simple and systematic framework to allow learners to follow a logical route around a cycle, for example the 'M' check system or equivalent.</p>	<ul style="list-style-type: none"> ◆ Learner's participation in a safety check system which is simple and systematic and follows a logical route around the safety critical systems of a cycle (this can include responding to prompt questions, using images or practical activity using an actual cycle). ◆ Learner constructs their own cycle safety checklist system that includes parts to be checked, the tasks to be carried out and the procedures to be used. ◆ Learner carries out a cycle safety check which includes: the parts to be checked, how they will be checked, and what will be used to make the check (for example, tools and equipment). ◆ Learner carries out a short 'road test' after a static check to assess if everything is working correctly. <p>The list of tasks could include:</p> <ul style="list-style-type: none"> ◆ checking tyre pressure and tyre condition (tread and damage) ◆ wheels are secure, turn freely and spokes are tensioned ◆ handlebars/controls are secure and straight ◆ both front and rear brakes operate correctly ◆ pedals turn freely and are secure ◆ chain is free from rust, is lubricated and runs freely through drive chainsaddle is adjusted to correct height for rider and is secure ◆ any other appropriate activity
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1.3 Identifying any faults	<p>The learner should be able to provide a list of at least three faults/parts that require remedial action which arise from the safety check.</p> <p>The learner should be able to describe what needs to be done to rectify each fault/part identified.</p>	<ul style="list-style-type: none"> ◆ Learner completes their cycle safety checklist and reports on the fault(s)/parts requiring attention. ◆ Learner explains what is required to rectify the fault(s)/parts including whether these are maintenance and/or repair tasks (this can be by responding to prompt questions and/or demonstration on an actual cycle). <p>The list of faults could include:</p> <ul style="list-style-type: none"> ◆ low tyre pressure ◆ worn tyres ◆ broken/slack wheel spokes ◆ buckled wheel rim ◆ loose wheel nuts ◆ loose or twisted handlebars

		<ul style="list-style-type: none"> ◆ brakes not working ◆ pedals do not rotate freely ◆ chain is rusty/ needs lubrication ◆ saddle is loose, too high or too low ◆ any other appropriate activity <p>This could also include the cleanliness of the cycle, or the consequences of the cycle not being stored properly (wet from rain, still dirty from previous use).</p> <p>Note: It is ultimately the responsibility of the teacher/lecturer to ensure that a cycle is safe to use.</p>
1.4 Making an appropriate judgement about whether the cycle is safe to use	<p>The learner should be able to assess whether the faults/parts identified in AS 1.3 need immediate attention before the cycle can be used, or whether these can be dealt with at a later date.</p> <p>The learner should then be able to make a recommendation as to whether the cycle is safe to use in its current condition.</p>	<ul style="list-style-type: none"> ◆ Learner uses their findings from AS 1.2 and AS 1.3 to decide whether the fault(s) need to be dealt with before the cycle can be used, or whether these can be carried out at a more convenient time. ◆ Learner decides whether the cycle can be used in its current condition on a 'go/no go' basis. <p>Note: It is ultimately the responsibility of the teacher/lecturer to ensure that a cycle is safe to use.</p>
Assessment Standard	Explanation of Standard	Possible learning, teaching and assessment activities
Outcome 2: Carry out a range of routine maintenance and repair tasks on a cycle by:		
2.1 Identifying the tasks required	The learner should be able to identify at least three different routine maintenance and/or basic repair tasks which are carried out on a cycle.	<ul style="list-style-type: none"> ◆ Demonstration by teacher/lecturer/others of the techniques used to carry out routine maintenance and basic repair tasks including opportunities for learners to

	<p>These can all be maintenance-related, repair-related or a combination, provided a total of three tasks are identified.</p> <p>The learner should be able to carry out a visual/manual inspection of the cycle to identify the tasks required.</p> <p>The teacher/lecturer/others could firstly demonstrate the proper techniques and tasks then provide opportunities for the learner to practise using these.</p>	<p>practise these (linked to AS 2.2).</p> <ul style="list-style-type: none"> ◆ Demonstration by teacher/lecturer/others of the range of tools, equipment and materials used for routine maintenance and repair tasks, including how they are used (linked to AS 2.2). ◆ Teacher/lecturer/others provide opportunities for learners to practise these tasks and experience using these tools, equipment and materials (linked to AS 2.2). ◆ Learner carries out a visual/manual inspection of a cycle to identify at least three maintenance/repair tasks. ◆ Learner uses their cycle checklist from Outcome 1 to identify the tasks to be carried out and the procedures to be used. <p>The tasks could include:</p> <ul style="list-style-type: none"> ◆ front/rear wheel removal and re-assembly ◆ tyre/tube removal and re-assembly ◆ puncture repair ◆ saddle height adjustment and retighten ◆ brake cable adjustment ◆ brake pad alignment ◆ clean and lubricate chain ◆ any other appropriate activity <p>This could also include general washing, cleaning, other after-use care and storage requirements.</p>
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<p>2.2 Choosing tools/equipment/materials appropriate to the task</p>	<p>The learner should be able to select at least one correct tool/piece of equipment/material as appropriate for each of the maintenance and/or repair tasks as identified in AS 2.1.</p> <p>The teacher/lecturer/others could firstly demonstrate how these tools/equipment/materials are used then provide opportunities for the learner to practise using these.</p>	<ul style="list-style-type: none"> ◆ Demonstration by teacher/lecturer/others of the range of tools, equipment and materials used for routine maintenance and repair tasks, including how they are used (linked to AS 2.1). ◆ Teacher/lecturer/others provide opportunities for learners to experience using these tools, equipment and materials (linked to AS 2.1). ◆ Practical activity where the learner chooses the correct tools/equipment/materials for each of the maintenance and/or repair tasks. <p>The tasks could include:</p> <ul style="list-style-type: none"> ◆ front/rear wheel removal and re-assembly ◆ tyre/tube removal and re-assembly ◆ puncture repair ◆ saddle height adjustment and retighten ◆ brake cable adjustment ◆ brake pad alignment ◆ clean and lubricate chain ◆ any other appropriate activity <p>This could also include general washing, cleaning, other after-use care and storage requirements.</p>
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<p>2.3 Using selected tools/equipment/materials to carry out the task</p>	<p>The learner should be able to use each of the tools/pieces of equipment/materials for each of the maintenance and/or repair tasks identified in AS 2.1.</p>	<ul style="list-style-type: none"> ◆ Practical activity where the learner carries out the repair and/or maintenance tasks on a cycle using the correct tools/equipment/materials. <p>The tasks could include:</p> <ul style="list-style-type: none"> ◆ front/rear wheel removal and re-assembly ◆ tyre/tube removal and re-assembly ◆ puncture repair ◆ saddle height adjustment and retighten ◆ brake cable adjustment ◆ brake pad alignment ◆ clean and lubricate chain ◆ any other appropriate activity <p>This could also include general washing, cleaning, other after-use care and storage requirements.</p>
<p>2.4 Using tools/equipment/materials in accordance with safe working practices appropriate to the environment and task</p>	<p>The learner should be able to use the tools/equipment/materials chosen in AS 2.3 safely and correctly.</p> <p>The learner should be aware of their immediate environment and be able to work in a manner which is safe and appropriate.</p> <p>The learner should be aware of hazard issues when working with lubricants, detergents and</p>	<ul style="list-style-type: none"> ◆ Teacher/lecturer provides opportunities for learners to use a variety of locations to effect repairs, for example: in the workshop, off-road trail, roadside. ◆ Demonstration by teacher/lecturer to highlight the hazard issues when working with lubricants, detergents and solvents (degreasers and glues). ◆ Learner follows instructions for using tools/equipment/materials safely and correctly.

	solvents (for example, degreasers and glues).	<p>The tasks could include:</p> <ul style="list-style-type: none"> ◆ front/rear wheel removal and re-assembly ◆ tyre/tube removal and re-assembly ◆ puncture repair ◆ saddle height adjustment and retighten ◆ brake cable adjustment ◆ brake pad alignment ◆ clean and lubricate chain ◆ any other appropriate activity <p>This could also include general washing, cleaning, other after-use care and storage requirements.</p>
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Appendix 2: Reference documents

The following reference documents will provide useful information and background.

- ◆ Assessment Arrangements (for disabled candidates and/or those with additional support needs) — various publications on SQA’s website: <http://www.sqa.org.uk/sqa/14976.html>
- ◆ Building the Curriculum 4: Skills for learning, skills for life and skills for work
- ◆ Building the Curriculum 5: A framework for assessment
- ◆ [Course Specifications](#)
- ◆ [Design Principles for National Courses](#)
- ◆ [Guide to Assessment \(June 2008\)](#)
- ◆ [Overview of Qualification Reports](#)
- ◆ *Overview of Qualification Reports*
- ◆ *Principles and practice papers for curriculum areas*
- ◆ *Research Report 4 — Less is More: Good Practice in Reducing Assessment Time*
- ◆ *Coursework Authenticity — a Guide for Teachers and Lecturers*
- ◆ SCQF Handbook: User Guide (*published 2009*) and SCQF level descriptors (to be reviewed during 2011 to 2012): www.sqa.org.uk/sqa/4595.html
- ◆ [SQA Skills Framework: Skills for Learning, Skills for Life and Skills for Work](#)
- ◆ [Skills for Learning, Skills for Life and Skills for Work: Using the Curriculum Tool](#)
- ◆ SQA Guidelines on e-assessment for Schools
- ◆ SQA Guidelines on Online Assessment for Further Education
- ◆ SQA e-assessment web page: www.sqa.org.uk/sqa/5606.html

Administrative information

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Superclass: to be advised

History of changes to Unit Support Notes

Unit details	Version	Description of change	Authorised by	Date

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