



Higher National Examination-based Graded Unit Specification

General information

This graded unit has been validated as part of the HND Environmental Resource Management. Centres are required to develop the assessment instrument in accordance with this validated specification.

Graded unit title: Environmental Resource Management:
Graded Unit 3 (SCQF level 8)

Graded unit code: HW4T 35

Type of examination: Closed-book

Publication date: October 2017

Source: Scottish Qualifications Authority

Version: 01

Graded unit purpose

This graded unit is designed to provide evidence that the learner has achieved the following principal aims of the HND Environmental Resource Management to:

- ◆ increase learner's awareness and understanding of key environmental issues.
- ◆ ensure that learners have a sound understanding of the principles of sustainable development and environmental resource management.
- ◆ provide a sound understanding of the relevance of environmental science and resource management principles in addressing environmental issues.
- ◆ provide learners with a sound understanding of environmental impacts and ways of managing and minimising those impacts.
- ◆ facilitate progression to degree level education based on a firm foundation of understanding, technical expertise, Core Skills, and an understanding of the multidisciplinary nature of environmental resource management and managing environmental impacts.

Credit points and level

1 Higher National Unit credit at SCQF level 8: (8 SCQF credit points at SCQF level 8)

Higher National Examination-based Graded Unit Specification: General information (cont)

Recommended entry to the graded unit

It is recommended that the learner should have completed or be in the process of completing the following units relating to the above principal aims prior to undertaking this graded unit:

F6D0 35	<i>Environmental Management Systems</i>
F5T6 35	<i>Monitoring and Analytical Methods for Environmental Science</i>
F55S 35	<i>Waste Management and Pollution Control</i>
F2X3 35	<i>Data Collection and Handling</i>
F6CY 35	<i>Resource Economics</i>
F435 35	<i>Freshwater Environments: Management and Protection</i>
HV9X 35	<i>Global Climate Systems</i>

Core Skills

There are no Core Skills embedded in this graded unit specification.

Assessment support pack

The assessment support pack for this unit provides assessment and marking guidelines that exemplify the national standard for achievement. It is a valid, reliable and practicable instrument of assessment. Centres wishing to develop their own assessments should refer to the assessment support pack to ensure a comparable standard. Assessment support packs are available on SQA's secure website.

Equality and inclusion

This graded unit has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on SQA's website:
www.sqa.org.uk/assessmentarrangements

Higher National Examination-based Graded Unit Specification: Designing the examination and assessing learners

Graded unit title: Environmental Resource Management:
Graded Unit 3 (SCQF level 8)

Assessment

This graded unit will be assessed by the use of a *closed-book* developed by centres. The examination should provide the learner with the opportunity to produce evidence that demonstrates she/he has met the aims of this graded unit.

The assessment is an examination lasting three hours, comprised of two 1.5 hour closed book examination papers.

The examination should be designed to assess the learner's critical knowledge and understanding of the topics relating to the specific aims which this graded unit is designed to cover.

The examination will be marked out of **100**. Only whole marks should be used.

The questions and corresponding marks should be designed in accordance with the key topics (ie the critical knowledge and skills to be covered in the examination), level of demand (eg description, explanation, analysis, application) and relative mark allocation for each key topic outlined in the table below.

Key topics	Level of demand	% mark allocation for each key topic
<i>Environmental issues and human interactions</i> (climate change, waste and pollution, transportation, biodiversity, conservation, legislation)	Evaluate environmental issues and human interactions and discuss the need for environmental protection policies.	30%
<i>Principles of environmental resource management and sustainability</i> (sustainable development, Environmental Management Systems, environmental policy and auditing, ecological footprints, SMART targets)	Critically appraise principles of sustainable development and environmental management, and evaluate their effectiveness.	30%
<i>Mitigation of environmental impacts</i> (identifying and monitoring impacts, strategies to reduce or mitigate impacts)	Evaluate environmental management strategies and environmental monitoring as a means of mitigating identified environmental impacts.	40%
Total marks for examination:		100

Higher National Examination-based Graded Unit Specification: Designing the examination and assessing learners (cont)

Graded unit title: Environmental Resource Management:
Graded Unit 3 (SCQF level 8)

Conditions of assessment

The examination is *closed-book*.

The examination should be unseen and the assessment should be conducted in controlled and invigilated conditions.

At all times, the security, integrity and confidentiality of the examination must be ensured.

The format of the examination should be designed to conform to the following:

- ◆ Each examination will be closed book and supervised and last 1.5 hours
- ◆ The examination papers should contain a choice of at least two questions from each Key Topic where this is possible.
- ◆ The aggregate marks available for the question or questions in each topic area should conform to the percentage given in the following table.
- ◆ Each question, or part thereof, should have an associated mark indicated.
- ◆ A blend of question types is to be used. One examination paper should involve restricted response multiple choice questions for the key topic areas. The other examination should involve more extended responses.
- ◆ Learners are expected to attempt all sections of the examination papers.
- ◆ A mark must be achieved in each section of each examination paper.

Assessing and grading learners

Learners who meet the minimum evidence requirements will have their achievement graded as an A, B or C. The Grade Related Criteria to be used to judge learner performance for this graded unit is specified in the following table.

Grade Related Criteria	
Grade A	Grade C
<p>Is a seamless, coherent exam script which consistently:</p> <ul style="list-style-type: none">◆ interprets and understands the question in a way that demonstrates insight and clear understanding of issues and relationships◆ comprehensively addresses all aspects of the question◆ demonstrates a comprehensive analysis and evaluation of relevant information	<p>Is a co-ordinated exam script which:</p> <ul style="list-style-type: none">◆ interprets the question in a way that enables the learner to meet the basic criteria required◆ addresses the main issues of the question◆ demonstrates analysis, evaluation

Higher National Examination-based Graded Unit Specification: Designing the examination and assessing learners (cont)

Graded unit title: Environmental Resource Management:
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Grade Related Criteria (cont)	
Grade A	Grade C
<ul style="list-style-type: none"> ◆ offers logically structured and coherently expressed responses, demonstrating consistent use of correct terminology ◆ is clear and well-structured throughout with language and terminology used of a consistently high standard in terms of level, accuracy and technical content ◆ solutions to problems are realistic and attention is paid to practicality and viability ◆ convincingly argues and shows links between discussions and conclusions, demonstrating comprehensive knowledge and understanding as well as analysis and evaluation skills ◆ provides evidence of possible alternative approaches and arguments as well as an understanding of different interpretations 	<ul style="list-style-type: none"> ◆ offers responses that convey relevant points ◆ uses language and terminology adequately, in terms of level, accuracy and technical content ◆ solutions to problem are feasible and contain basic regard to practicality and viability ◆ argues and justifies conclusions in an acceptable way with some links to discussions ◆ demonstrates one approach and limited understanding of different interpretations

The marks achieved by the learner in the examination should be aggregated to arrive at an overall mark for the examination. Assessors will then assign an overall grade to the learner for this graded unit based on the following grade boundaries.

- A = 70%–100%
B = 60%–69%
C = 50%–59%

These grade boundaries are fixed and should **not** be amended.

If a learner does not achieve a pass or wishes to upgrade, then this must be done using a substantially different examination. In these circumstances, the highest grade achieved should be awarded.

More information on reasonable assistance, remediation and re-assessment may be found in the SQA publication *Guidance for the Implementation of Graded Units in Higher National Certificates and Diplomas* (SQA, 2008, Publication code: CA4405).



Higher National Examination-based Graded Unit Support Notes

Graded unit title: Environmental Resource Management:
Graded Unit 3 (SCQF level 8)

Guidance on approaches to delivery and assessment of this graded unit

The assessment is based on two separate closed-book examinations each covering all key topic areas and lasting a combined total of 3 hours. The examinations consist of a 1.5 hour paper incorporating short answer, multiple choice type questions plus a second paper of 1.5 hours that involves extended response questions.

This graded unit for this award consists of three hours of closed book examination covering three key topics. The examination is held as two separate events, both undertaken under the same closed book conditions and both containing a spread of questions covering the key topic areas. The questions associated with each key topic should be focussed on knowledge and skills that learners should be expected to be able to readily recall, integrate and apply. The purpose of the examination is to prove the learners' ability to integrate information gleaned from the units that comprise the HND, but also it provides the opportunity for learners to achieve a grade for the examination that reflects the depth and scope of their knowledge and understanding.

The defined mandatory units should preferably be scheduled for the first and second terms so that learners have time to consolidate and deepen their knowledge and understanding by private study and background reading before the examination towards the end of the academic session.

It is recommended that learners should have experienced an examination type assessment event during the delivery of the award so that they feel comfortable with the format. There should be discussions with learners on examination technique which should include the timing, the significance of the verbs used in questions, the need to ascertain the scope of the question, and planning responses. Feedback on sample responses (formative assessment) will sharpen their examination techniques.

The examination should be completed under normal examination conditions. That is at a defined time advertised well in advance, in a quiet venue with effective invigilation facilities. Learners should be provided with clear information regarding examination resits.

Opportunities for developing Core and other essential skills

There are no Core Skills embedded in this graded unit specification.

History of changes to graded unit

Version	Description of change	Date

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General information for learners

Graded unit title: Environmental Resource Management: Graded Unit 3 (SCQF level 8)

This is a single credit graded unit (examination) at SCQF level 8.

This graded unit is designed to assess your ability to recall, integrate and apply the essential knowledge and understanding required to meet the principal aims of the HND Environmental Resource Management. The assessment is two closed-book examinations lasting a total of 3 hours, held towards the end of the course, which draws together elements from the following defined units of the Environmental Resource Management programme:

F6D0 35	<i>Environmental Management Systems</i>
F5T6 35	<i>Monitoring and Analytical Methods for Environmental Science</i>
F55S 35	<i>Waste Management and Pollution Control</i>
F2X3 35	<i>Data Collection and Handling</i>
F6CY 35	<i>Resource Economics</i>
F435 35	<i>Freshwater Environments: Management and Protection</i>
HV9X 35	<i>Global Climate Systems</i>

The examination consists of questions in three areas related to key aspects of the above units. These areas are:

1	Environmental issues and human interactions.
2	Principles of environmental resource management and sustainability.
3	Mitigation of environmental impacts.

Each question has the marks for the question identified and the total number of marks available per section. Assessors mark each section of the examination paper taking into account the criteria outlined. The marks for the examination are then aggregated to arrive at an overall mark for the examination. Assessors then assign an overall grade to the learner for this graded unit based on the following grade boundaries.

- ◆ A = 70% — 100%
- ◆ B = 60% — 69%
- ◆ C = 50% — 59%

Learners who fail the examination and are offered a resit opportunity must undertake a substantially different question paper.