



## Higher National Graded Unit specification

### General information for centres

This Graded Unit has been validated as part of the HND Environmental Management and Sustainability. Centres are required to develop the assessment instrument in accordance with this validated specification. Centres wishing to use another type of Graded Unit or assessment instrument are required to submit proposals detailing the justification for change for validation.

**Graded Unit title:** Environmental Management and Sustainability:  
Graded Unit 2

**Graded Unit code:** F6V9 35

**Type of Graded Unit:** Project

**Assessment Instrument:** Investigation

**Credit points and level:** 1 HN credit at SCQF level 8: (8 SCQF credit points at SCQF level 8\*)

*\*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.*

**Purpose:** This Graded Unit is designed to provide evidence that the candidate has achieved the following principal aims of the HND Environmental Management and Sustainability to:

- ◆ increase candidate's awareness and understanding of key environmental issues.
- ◆ ensure that candidates have a sound understanding of the principles of sustainable development and environmental management
- ◆ provide a sound understanding of the relevance of environmental science and management principles in addressing environmental issues
- ◆ provide candidates 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 management and managing environmental impacts

## General information for centres (cont)

**Recommended prior knowledge and skills:** It is recommended that the candidate should have completed or be in the process of completing the following Units relating to the above specific aims prior to undertaking this Graded Unit:

Unit code	Unit
F6D0 35	Environmental Management Systems
F5T5 35	Environmental Science: An Introduction
F55S 35	Waste Management and Pollution Control
F2X3 35	Data Collection and Handling
F6CY 35	Resource Economics
F435 35	Freshwater Environments: Management and Protection

**Core Skills:** There are opportunities to develop the Core Skills of *Problem Solving*, *Numeracy*, *Information and Communication Technology* and *Communication* all at SCQF level 6 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

**Assessment:** This Graded Unit will be assessed by the use of an Investigation. The developed investigation should provide the candidate with the opportunity to produce evidence that demonstrates she/he has met the aims of the Graded Unit that it covers.

## Administrative Information

**Graded Unit code:** F6V9 35

**Graded Unit title:** Environmental Management and Sustainability:  
Graded Unit 2

**Original date of publication:** May 2009

**Version:** 01

### History of changes:

Version	Description of change	Date

**Source:** SQA

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## **Higher National Graded Unit specification: instructions for designing the assessment task and assessing candidates**

**Graded Unit title:** Environmental Management and Sustainability:  
Graded Unit 2

### **Conditions of assessment**

The candidate should be given a date for completion of the investigation. However, the instructions for the assessment task should be distributed to allow the candidate sufficient time to assimilate the details and carry out the assessment task. During the time between the distribution of the assessment task instructions and the completion date, assessors may answer questions; provide clarification, guidance and reasonable assistance. The assessment task should be marked as soon as possible after the completion date. The final grading given should reflect the quality of the candidate's evidence at the time of the completion date.

The evidence for the project is generated over time and involves three distinct stages, where each stage has to be achieved before the next is undertaken. Thus any re-assessment of stages must be undertaken before proceeding to the next stage.

If a candidate fails the project overall or wishes to upgrade, then this must be done using a *substantially different* project, ie all stages are undertaken using a new project, assignment, case study, etc. In this case, a candidate's grade will be based on the achievement in the re-assessment, if this results in a higher grade.

### **Instructions for designing the assessment task**

The assessment task is a project. The project undertaken by the candidate must be a complex task which involves:

- ◆ variables which are complex or unfamiliar
- ◆ relationships which need to be clarified
- ◆ a context which may be familiar or unfamiliar to the candidate

The assessment task must require the candidate to:

- ◆ analyse the task and decide on a course of action for undertaking the project
- ◆ plan and organise work and carry it through to completion
- ◆ reflect on what has been done and draw conclusions for the future
- ◆ produce evidence of meeting the aims which this Graded Unit has been designed to cover

The investigation may involve study of a land use type, organisation or enterprise, or specific geographical location, in relation to environmental matters. Examples include different forms of land use in the countryside and urban areas, or business enterprises (including voluntary organisations and environmental organisations). This will involve a candidate selecting, with guidance, an appropriate study area or organisation, and at the same time identifying which environmental issues are of concern or relevance in that situation. Candidates will then have to obtain appropriate information to address the environmental issue(s) of interest. The data collected will then have to be analysed in an appropriate manner, in order to address the question(s) of interest, and results presented that will further our understanding of the situation in question, and/or will provide guidance to improve the environmental management, and/or will provide guidance for environmental improvement.

## Higher National Graded Unit specification: instructions for designing the assessment task and assessing candidates (cont)

### Guidance on grading candidates

Candidates who meet the minimum Evidence Requirements will have their achievement graded as C — competent, or A — highly competent or B somewhere between A and C. The grade related criteria to be used to judge candidate performance for this Graded Unit is specified in the following table.

Grade A	Grade C
<p>Is a seamless, coherent piece of work which:</p> <ul style="list-style-type: none"> <li>◆ has comprehensive evidence for each of the three phases of the project and that has coherent themes throughout</li> <li>◆ demonstrates high standards through presentation style, language and technical content</li> <li>◆ demonstrates an accurate and insightful analysis and interpretation of the investigative brief which relate to site issues</li> <li>◆ demonstrates a systematic approach and a logical progression to the collection and analysis of data</li> <li>◆ has sought and made good use of a wide range of supporting evidence</li> <li>◆ has provided evidence of innovation or dynamism in approach</li> <li>◆ embodies highly effective integration of knowledge and skills</li> <li>◆ recognises conflicts and potential drawbacks of ideas</li> <li>◆ demonstrates independence of thought by successfully completing the stages of the project with infrequent and minimal tutor support</li> </ul>	<p>Is a co-ordinated piece of work which:</p> <ul style="list-style-type: none"> <li>◆ provides sufficient evidence for each of the three phases of the project</li> <li>◆ is clear in terms of presentation style, language, accuracy and technical content</li> <li>◆ contains analytical responses to the project brief which relate to countryside site issues</li> <li>◆ contains appropriate data collection and analysis in relation to site</li> <li>◆ contains relevant supporting evidence</li> <li>◆ contains standard approaches to issues</li> <li>◆ presents evidence of integration of skills and knowledge</li> <li>◆ tends to consider ideas and proposals in isolation</li> <li>◆ seeks tutor intervention to keep the investigation on track</li> </ul>

The project will be marked out of 100. Assessors will mark each stage of the project, taking into account the criteria outlined. The marks will then be aggregated to arrive at an overall mark for the project. Assessors will then assign an overall grade to the candidate for this Graded Unit based on the following grade boundaries.

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

**Note:** The candidate must pass the planning stage of the investigation before he/she can progress to the developing stage, and must pass the developing stage before he/she can continue to the evaluating stage.

## Higher National Graded Unit specification: instructions for designing the assessment task and assessing candidates (cont)

### Evidence Requirements

The project consists of three stages: planning; developing; and evaluating. The following table specifies the minimum evidence required to pass each stage.

**Note:** The candidate must achieve **all of the minimum evidence** specified below for each stage of the project in order to pass the Graded Unit.

Project stage	Minimum Evidence Requirements
Stage 1 — Planning Plan of action 20%	Plan of action which includes: <ul style="list-style-type: none"> <li>◆ the rationale for the investigation</li> <li>◆ a set of aims and objectives for the investigation</li> <li>◆ identification of the main issues for research and the techniques and sources to be used</li> <li>◆ identification of sources and techniques required and how they will be utilised</li> <li>◆ identification of the stages (milestones) involved in the project work and the timescales for completion of each stage (project plan)</li> <li>◆ identification of appropriate Health and Safety procedures</li> </ul> <p><i>The candidate must achieve all of the minimum evidence specified above in order to pass the Planning stage.</i></p>
Stage 2 — Developing 60%	Preparation of an investigation report that includes: <ul style="list-style-type: none"> <li>◆ a contents page</li> <li>◆ review of current up to date literature relevant to the investigation</li> <li>◆ use of equipment for the practical tasks involved in the investigation</li> <li>◆ identification and collection of significant data</li> <li>◆ manipulation and analysis of significant data</li> <li>◆ presentation of appropriate data</li> <li>◆ discussion of data and the findings</li> <li>◆ conclusions drawn from critical analysis of data</li> <li>◆ reference listing of sources used in literature review</li> </ul> <p><i>The candidate must achieve all of the minimum evidence specified above in order to pass the Developing stage.</i></p>

## Higher National Graded Unit specification: instructions for designing the assessment task and assessing candidates (cont)

Project stage	Minimum Evidence Requirements
Stage 3 — Evaluating  20%	<p>Evaluation Report which will:</p> <ul style="list-style-type: none"> <li>◆ contain an abstract</li> <li>◆ summarise any unforeseen events and how they were handled</li> <li>◆ identify knowledge and/or skills which have been gained or developed</li> <li>◆ assess the strengths and weaknesses of the output of the investigation</li> <li>◆ determine to what extent the investigation met the original brief</li> <li>◆ suggest potential development themes for the investigation</li> </ul> <p><i>The candidate must achieve all of the minimum evidence specified above in order to pass the Evaluating stage.</i></p>

### Support notes

The investigation should involve the application of knowledge of environmental issues, human-environment interactions, sustainable development and resource use, and land use issues that have been developed during the Units listed in this specification.

An example of a project for HND Environmental Management and Sustainability Graded Unit 2 might be an investigation of a specific site or industry location to determine the current impacts on the environment resulting from activities on that site, and how to manage that site to mitigate those impacts. There are many different types of site that may feature in such a investigation, and may include the following: an urban or rural area to look at waste and recycling; a nature reserve to look at carbon footprint or pollution from activities; a specific building to look at energy efficiency; a specific business to look at energy and carbon footprint; the sustainability of tourism in one area, or for a type of tourism (eg wildlife). The candidate may need, with guidance, to determine the aims and objectives for their investigation, which may consist of looking at a specific pollutant or environmental impact (or a combination of two or more). This may, to some extent, then dictate the type of site chosen for the investigation. Alternatively, the initial choice of a site may dictate the possible focus of the investigation. Once aims and objectives have been set, the candidate would then have to gather relevant information, including activities on site and the impacts on the environment. This would involve the candidate in firstly finding *existing data* on the selected site/impact, and then visiting the site concerned to collect data appropriate to the aims of the investigation, and using an appropriate data collection strategy. Using the data acquired, and taking account of health and safety and general good practice the candidate would be required to draw up realistic priorities for future action, focusing on applying Environmental Management System principles to reduce the impacts on the environment.

It is recommended that at the start of the year tutorials are held to introduce the project to the candidates and provide initial direction. Thereafter it is suggested that regular scheduled meetings between the tutor and individual candidates are held to review progress and to provide appropriate guidance. The guidance must not be such that it influences the final grading, but, for example, pointing out to the candidate the consequences of significant deviation from their plan during the development phase, would be legitimate.

## **Higher National Graded Unit specification: instructions for designing the assessment task and assessing candidates (cont)**

It is desirable for notes of the meetings to be made for the purposes of clarity and to further simulate the working environment. The notes should be agreed upon by both parties. Candidates should be encouraged to keep a notebook incorporating a diary of the progress and tasks completed. This would facilitate the reflective component and help to ensure that milestones are completed in a businesslike manner.

It is desirable that most candidates carry out individual investigations, however it is possible that more than one candidate could use the same site or industry example as a basis for their investigation. This may be necessary because of availability of appropriate sites. However, in such a situation each candidate would ideally be addressing different aspects of the site or environment, and in any case must produce their own evidence for all three stages of assessment of this Unit.

Tutor questions may be used to ascertain the candidates' understanding of the issues contained in the investigation report and to probe the validity of the conclusions.

### **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)



## General information for candidates

**Graded Unit title:** Environmental Management and Sustainability:  
Graded Unit 2

**Graded Unit code:** F6V9 35

This is a single credit Graded Unit at SCQF level 8: (8 SCQF credit points at SCQF level 8).

This Graded Unit is a project (investigation), to be completed towards the end of your course. It is designed to assess your ability to integrate and apply knowledge and understanding from the following defined Units in order to meet the principal aims of the HND Environmental Management and Sustainability award.

Unit code	Unit
F6D0 35	Environmental Management Systems
F5T5 35	Environmental Science: An Introduction
F55S 35	Waste Management and Pollution Control
F2X3 35	Data Collection and Handling
F6CY 35	Resource Economics
F435 35	Freshwater Environments: Management and Protection

You will be asked to carry out an investigation to generate data that will be used to construct a report of that investigation. The details of your investigation will be discussed with your tutor, and may involve the gathering (from archival sources and from original surveys) and analysis of data on a given business or site. The investigation will require you to plan, develop and evaluate. You will be asked to provide an action planning document, an investigation report and a report to evaluate your management and effectiveness in conducting the investigation. You will be given a high degree of autonomy during all stages of the investigation, however your tutor is available for guidance and support at the start of each stage of the investigation. After the submission of your report, your tutor may interview you to probe your understanding of the issues contained in your report and the validity of your conclusions.

The project (investigation) will be assessed in three stages:

- 1 Planning 20% of marks
- 2 Developing 60% of marks
- 3 Evaluating 20% of marks

You will need to pass all three stage of your investigation by achieving at least 50% of the marks available and the minimum Evidence Requirements at each stage. You must pass each separate stage before progressing to the next stage.

The project will be marked out of 100%. Assessors will mark each stage of the investigation, taking into account the criteria outlined. The marks will then be aggregated to arrive at an overall mark for the project and an overall grade will be assigned to you for this Graded Unit based on the following grade boundaries.

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