



Higher National Graded Unit Specification

General Information for Centres

This Graded Unit has been validated as part of the Arboriculture and Urban Forestry HNC. 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: Arboriculture and Urban Forestry: Graded Unit 1

Graded Unit Code: F4SF 34

Type of Graded Unit: Project

Assessment Instrument: Case Study

Credit points and level: 1 HN credit at SCQF level 7: (8 SCQF credit points at SCQF level 7*)

**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 Arboriculture and Urban Forestry HNC:

- ◆ to reflect the needs of the arboriculture and urban forestry sector, addressing the practical and theoretical skills required by the sector while responding to the changing needs of the arboricultural sector
- ◆ to provide a comprehensive qualification which will enhance the employment opportunities of candidates within the arboricultural and urban forest sector
- ◆ to provide a career development for those within the industry by providing underpinning knowledge
- ◆ to allow candidates to understand the principles of arboriculture and urban forestry and be able to apply them to a given site in the context of current best practice and urban forest policy with particular reference to community and social benefits, policies and strategies
- ◆ to allow candidates to understand the principles of supervision and apply them in the context of current health and safety and employment legislation
- ◆ to allow candidates to understand the principles of tree evaluation and management in the context of current legislation and regulatory standards with regard to tree establishment, care and maintenance

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 principal aims prior to undertaking this Graded Unit:

- | | |
|---|---------|
| ◆ <i>Forestry: Forest Science</i> | F3YW 34 |
| ◆ <i>Arboriculture Practice</i> | F3YA 34 |
| ◆ <i>Amenity Tree Management</i> | F3YB 34 |
| ◆ <i>Employment and Health and Safety Legislation for the Land Based Industries</i> | F0VP 34 |

Core Skills: There are opportunities to develop the Core Skills of *Numeracy* and *Problem Solving*, and the Written component of *Communication* at SCQF level 5 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 a Case Study. The developed Case Study 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. The Case Study must provide candidates with a scenario for one of the following areas: an urban area, a rural area or a development site. Candidates will be provided with woodland data, site maps, and aerial photographs. The scenario will require the production of an operational plan detailing the proposed planning and control of tree establishment, tree maintenance and existing tree stocks at a given or agreed site. The plan should state operational objectives, technical proposals, and should also detail the control measures to be applied. The case study will be developed within the context of current policies on urban and community woodlands; current access legislation; tree and environmental protection legislation and regulations and international standards of tree supply, establishment, care and maintenance.

Administrative Information

Graded Unit Code: F4SF 34

Graded Unit Title: Arboriculture and Urban Forestry: Graded Unit 1

Original date of publication: August 2008

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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: Arboriculture and Urban Forestry: Graded Unit 1

Conditions of Assessment

The candidate should be given a date for completion of the Case Study. 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 reassessment 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 reassessment, 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 assessment task used must reflect the national standard of achievement required at SCQF level 7. It must be designed to incorporate the three mandatory project stages of planning, developing and evaluating, as well as to support and further the aims of the Arboriculture and Urban Forestry HNC.

The project must involve a Case Study in which the candidate is given a scenario for one of the following areas: an urban area, a rural area or a development site. Candidates will be provided with woodland data, site maps, and aerial photographs.

The scenario will require candidates to produce an operational plan detailing the planning and control of tree establishment, tree maintenance and existing tree stocks at a given or an agreed site. The operational plan should state operational objectives, technical proposals, and should detail the planning for the operation as well as the control measures to be applied.

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

The Case Study will provide information such as site description, technical details, resources, information on British Standards relating to protection measures of trees and other relevant policies and guides and health and safety procedures.

Candidates will be asked to produce an operational plan. In so doing, they will need to look at the chosen area in relation to:

- ◆ traditional and urban forestry
- ◆ site preparation
- ◆ planting and post-planting after care
- ◆ health and safety
- ◆ planning process
- ◆ consultation with statutory and non-statutory stakeholders

Candidates must demonstrate the application of the skills and knowledge within the context of Arboriculture and Urban Forestry.

The operational plan should include:

- ◆ operational objectives
- ◆ site details
- ◆ crop details
- ◆ technical proposals
- ◆ control measures
- ◆ methods of control
- ◆ analysis methods
- ◆ comparisons

Having produced the operational plan, candidates will then:

- ◆ evaluate the process
- ◆ assess the effectiveness and range of their own knowledge and skills in respect to their operational plan

The project will be submitted on an individual basis under the guidance of the tutor with a suggested word limit of 2,000 words or equivalent for the operational plan.

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.

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

Grade A	Grade C
<p>Is a seamless, coherent piece of work which:</p> <ul style="list-style-type: none"> ◆ has comprehensive evidence for the three essential phases of the project, and is quite clearly inter-related ◆ displays comprehensive and reliable research ◆ uses a highly focussed, planned and systematic approach with regard to the analysis of the case materials ◆ demonstrates perceptive analysis of the case materials ◆ effectively consolidates and integrates required knowledge and skills, showing continuity and consistency ◆ fully incorporates current policies and strategies ◆ is clear and well structured throughout with language used of a high standard in terms of level, accuracy and technical content 	<p>Is a co-ordinated piece of work which:</p> <ul style="list-style-type: none"> ◆ has sufficient evidence for the three essential phases of the project but clearly inter-related ◆ displays research ◆ uses a planned approach to the analysis of the case materials ◆ demonstrates analysis of the case materials ◆ consolidates and integrates knowledge and skills ◆ incorporates some elements of current policies and strategies ◆ is satisfactorily structured with language used of an adequate standard in terms of level, accuracy and technical content

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 achieve all of the minimum evidence specified below for each stage of the project in order to achieve the Graded Unit.

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 20%	<p>An initial action plan which includes:</p> <ul style="list-style-type: none">◆ identification of the aims of the case study◆ selection and justification of the tasks required to undertake the case study◆ identification of research required to complete the case study◆ a plan for managing and completing the project within a realistic timescale <p><i>The candidate must achieve all of the minimum evidence specified above in order to pass the Planning stage.</i></p>

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

Project Stage	Minimum Evidence Requirements
Stage 2 — Developing 60%	<p>The case study requires the candidate to produce an operational plan which addresses the issues identified in the case study scenario. This will include evidence of:</p> <ul style="list-style-type: none"> ◆ collation of research undertaken and summary of findings ◆ further analysis of the case study scenario and research in terms of: <ul style="list-style-type: none"> — traditional and urban forestry — site preparation — planting and post-planting after care — health and safety — planning process — consultation with statutory and non-statutory stakeholders <p>The operational plan should include:</p> <ul style="list-style-type: none"> ◆ operational objectives ◆ site details ◆ crop details ◆ technical proposals ◆ control measures ◆ methods of control ◆ analysis methods ◆ comparisons <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>An evaluation which includes:</p> <ul style="list-style-type: none"> ◆ an overview of the planning and developing stages of the project, including the effectiveness of the planning process, and any modifications made to the operational plan during the planning/developing stages ◆ critical analysis of the operational plan, within the context of the current policies and strategies, and appraisal in terms of its strengths and weaknesses ◆ evaluation of the research carried out ◆ identification of any knowledge and skills which have been gained or developed during the project. <p><i>The candidate must achieve all of the minimum evidence specified above in order to pass the Evaluating stage.</i></p>

Support notes

This Graded Unit is designed to harness the skills, knowledge and competences that the candidate has gained during the majority of the HNC and in particular to reflect the skills and knowledge gained through the following mandatory Units, which should be completed or in progress prior to undertaking this Graded Unit:

- | | |
|---|---------|
| ◆ <i>Forestry: Forest Science</i> | F3YW 34 |
| ◆ <i>Arboriculture Practice</i> | F3YA 34 |
| ◆ <i>Amenity Tree Management</i> | F3YB 34 |
| ◆ <i>Employment and Health and Safety Legislation for the Land Based Industries</i> | F0VP 34 |

Candidates should undertake the Graded Unit as an individual project. The project is likely to provide scope for the development of the Core Skills of *Communication*, *Numeracy* and *Problem Solving* at SCQF level 5, and the integration and application of a variety of knowledge and skills gained over the duration of the HNC. This project should be completed within a predetermined timescale, with time for mentoring and feedback also taken into account. It is suggested that a word limit of approximately 2,000 words or equivalent is appropriate for the operational plan.

The operational plan should include:

- ◆ operational objectives
- ◆ site details — name, location, area, ownership, site factors, access, vegetation, soils
- ◆ crop details — species existing or chosen, areas of each, growth rates, age class, layout, volumes, if appropriate. Stand assortment, if appropriate
- ◆ technical proposals — work method, description, resources, site preparation and layout
- ◆ control measures — job specification, costs/revenues, production targets, output, resource requirements, environmental specification, health and safety requirements
- ◆ methods of control — communication, observation
- ◆ analysis methods — observation
- ◆ comparisons — job books

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

The operational plan is likely to have the following format:

- ◆ title
- ◆ introduction
- ◆ contents
- ◆ findings
- ◆ conclusions
- ◆ recommendations
- ◆ references
- ◆ appendices

A mentoring system would help candidates in ensuring that they carry out relevant preparation for the task and are able to meet relevant deadlines. However, candidates should undertake the three project stages with a minimum of supervision of their work. A suggested marking strategy could be:

The Planning stage:	20 marks and candidates must achieve a minimum of 10 marks to pass.
The Development stage:	60 marks and candidates must achieve a minimum of 30 marks to pass.
The Evaluation stage:	20 marks and candidates must achieve a minimum of 10 marks to pass.

At all stages and with any marking scheme used, the minimum pass mark must be commensurate with the minimum Evidence Requirements, as detailed in the previous section.

Core Skills

The delivery and assessment of this Unit may offer opportunities to develop the Core Skill of *Problem Solving* at SCQF level 5. Its three components Critical Thinking, Planning and Organising and Reviewing and Evaluating require candidates to be able to:

- ◆ analyse a situation or issue
- ◆ plan, organise and complete a task
- ◆ review and evaluate a problem solving activity

Candidates will be required to use these skills throughout the Graded Unit, with analysis and planning particularly relevant to stages 1 and 2, and the completion of the operational plan. Critical Thinking and Planning and Organising will be developed by candidates when fulfilling the requirements of the plan in which they must consider current policies on urban and community woodlands, access legislation, environmental protection etc. They will also need to consider such variables as crops, control measures, etc. Review and evaluation will include conclusions based on the research and data obtained and will reflect on the effectiveness of the planning process, and the operational plan itself.

The delivery and assessment of this Unit may contribute towards development of the Core Skill of *Numeracy* at SCQF level 5. The component Using Number may be developed when looking at costs/revenues, resources, and other planning issues. The general skill for this component is ‘apply a wide range of numerical skills in everyday and generalised contexts.’ In so doing, candidates may need to perform the component’s specific skills as follow:

- ◆ work confidently with a numerical concept

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

- ◆ decide on the numerical operations to be carried out
- ◆ carry out complex calculations or a number of sustained calculations

The general skill required by the component Using Graphical Information is the ability to ‘interpret and communicate graphical information in everyday and generalised contexts’. Specific skills include the interpretation of information from tables, graphs, etc. and communication of information by appropriately incorporating such tables and graphs. Again, candidates may meet these criteria where dealing with data collected for and during the developing stage of the Graded Unit, particularly for costs/revenue purposes, which may be illustrated via tables, graphs, or percentages.

The delivery and assessment of this Unit may contribute towards the component Written Communication of the Core Skill of *Communication* at SCQF level 5. The general skills of the component are ‘read, understand and evaluate written communication’ for its reading element and ‘produce well-structured written communication’ for its written element. Specific reading skills required by candidates at SCQF level 5 include identifying and summarising significant information, ideas and supporting details in a written communication, and evaluation of the effectiveness of the communication in meeting its purpose; and specific writing skills include presenting all essential ideas, information and supporting detail in a logical and effective order, and use of a structure which takes account of purpose and audience, emphasising the main points.

There is a wide scope for candidates to utilise these and other related specific skills at each stage of the Graded Unit. From their initial action plans, through to collating, summarising and analysing research candidates may utilise and develop Written Communication. These skills may also be developed during the third stage when candidates must evaluate their plans, findings and the project as a whole.

Candidates with disabilities and/or additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering alternative assessment arrangements. For information on these, please refer to the SQA document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs*, which is available on SQA’s website: www.sqa.org.uk.

General information for candidates

This Graded Unit is a project in the form of a Case Study. This Unit has been designed to allow you to integrate your learning across a range of Units in the Arboriculture and Urban Forestry HNC. You will draw upon your learning from individual HN Units and integrate knowledge and skills gained, in order to successfully complete the project.

This Graded Unit will:

- ◆ reflect the needs of the arboriculture and urban forestry sector, addressing the practical and theoretical skills required by the sector while responding to the changing needs of the arboricultural sector
- ◆ provide you with a comprehensive qualification which will enhance employment opportunities within the arboricultural and urban forest sector
- ◆ provide career development within the industry by providing underpinning knowledge
- ◆ allow you to understand the principles of arboriculture and urban forestry and be able apply them to a given site in the context of current best practice and urban forest policy, with particular reference to community and social benefits policies and strategies
- ◆ allow you to understand the principles of supervision and apply them in the context of current health and safety and employment legislation
- ◆ allow you to understand the principles of tree evaluation and management in the context of current legislation and regulatory standards with regard to tree establishment, care and maintenance

You will be given a scenario for an urban area, a rural area or a development site; you will also be provided with woodland data, site maps, and aerial photographs, and required to produce an operational plan for the particular area.

You will have to look at the area in relation to:

- ◆ traditional and urban forestry
- ◆ site preparation
- ◆ planting and post-planting after care
- ◆ health and safety
- ◆ planning process
- ◆ consultation with statutory and non-statutory stakeholders

You will produce an operational plan detailing the planning and control of tree establishment, tree maintenance and existing tree stocks at a given or an agreed site. The operational plan should state operational objectives, technical proposals, and should detail the planning for the operation as well as the control measures to be applied.

Your completed plan should include a site description, technical details, resources, information on British Standards relating to protection measures of trees and other relevant policies and guides and health and safety procedures.

The project will be submitted on an individual basis under the guidance of the tutor with a suggested word limit of 2,000 words or equivalent for the operational plan.

The project will allow you to demonstrate the application of the skills and knowledge that fall within the context of Arboriculture and Urban Forestry.