Higher National Graded Unit specification

General information for centres

This Graded Unit has been validated as part of the Forestry HND. 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: Forestry: Graded Unit 2

Graded Unit code: F4SJ 35

Type of Graded Unit: Project

Assessment Instrument: Practical Assignment

Credit points and level: 2 HN credits at SCQF level 8: (16 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 National 1 to Doctorates.

Purpose: This Graded Unit is designed to provide evidence that the candidate has achieved the following principal aims of the HND Forestry:

♦ evaluate the land use and conservation potential of sites within national and regional strategies
♦ undertake detailed fieldwork and develop ideas and methods for effective forest management in the context of industry best practice as established by the Forestry Standard, UKWAS and industry guidelines
♦ evaluate the principles of silviculture and harvesting relating to forestry in the context of current industry best practice
♦ understand and evaluate forest policy in the context of current global, European and national initiatives
♦ understand the principles of supervision and review operations in the context of current health and safety and employment legislation and industry best practice
♦ understand industry best practice measurement techniques for standing volume, production forecasting and area determination
♦ evaluate forest design in relation to land and forests in the context of landscape

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:

♦   *Forestry: Forest Policy and Law*   F3YT 35
♦   *Forestry: Forest Protection*   F3YV 35
♦   *Forestry: Forest Design*   F3YR 35
♦   *Forest Recreation*   F3YG 35
♦   *Forestry: Woodland Ecology*   F403 35

Core Skills: There are opportunities to develop the Written component of *Communication* and *Problem Solving* at SCQF level 6 and *Information Technology*, *Numeracy* and *Working with Others* 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 Project: Practical Assignment. The developed Practical Assignment 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 candidate will be given an area of forest with supporting data, and have to produce a ten year management plan for the area. The management plan will be developed within the framework of industry best practice established by the Forestry Standard, as incorporated into the UK Woodland Assurance Scheme and in the context of current European directives on forestry and environmental development and protection. The plan should also be directly referenced to current national and regional forestry strategies and to current forest and landscape design policies.

Administrative Information

Graded Unit code: F4SJ 35

Graded Unit title: Forestry: Graded Unit 2

Original date of publication: August 2008

Version: 02

History of changes:

Version	Description of change	Date
02	Update of Conditions of Assessment	Jul 2018

Source: SQA

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

Graded Unit title: Forestry: Graded Unit 2

Conditions of assessment

The candidate should be given a date for completion of the Practical Assignment. 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.

Reasonable assistance is the term used by SQA to describe the difference between providing candidates with some direction to generate the required evidence for assessment and providing too much support which would compromise the integrity of the assessment. Reasonable assistance is part of all learning and teaching processes.

In relation to the assessment of Higher National Project-based Graded Units, assessors may provide advice, clarification, and guidance during the time between the distribution of the project instructions and the completion date, ie at each stage of the project.

Remediation allows an assessor to clarify candidate responses, either by requiring a written amendment or by oral questioning, where there is a minor shortfall or omission in evidence requirements. In either case, such instances must be formally noted by the assessor, either in writing or by recording, and be made available to the internal and external verifier.

In relation to Higher National Project-based Graded Units, candidates must be given the opportunity for remediation at each stage of the project.

The evidence for a Higher National Project-based Graded Unit is generated over time and involves three distinct stages, each of which has to be achieved before the next is undertaken. This means that any re-assessment of stages must be undertaken before proceeding to the next stage. The overall grade is derived from the total number of marks *across all* sections, and should reflect the ability of the candidate to work autonomously and the amount of support required. In relation to Higher National Project-based Graded Units, candidates who have failed any stage of the project and have been unable to provide the necessary evidence through remediation must be given the opportunity for reassessment of that stage.

Any candidate who has failed their graded unit or wishes to upgrade their award must be given a re-assessment opportunity, or in exceptional circumstances, two re-assessment opportunities. In the case of project-based graded units, this must be done using a substantially different project.

The final grading given must reflect the quality of the candidate's evidence at the time of the completion of the graded unit. Candidates must be awarded the highest grade achieved — whether through first submission or through any re-assessment, remediation, and/or reasonable assistance provided.

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

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 8. 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 Forestry HND.

The candidate will be given an area of forest with supporting data and have to produce a ten year management plan for the area: the first two years in detail and the following eight years as an outline plan. The forest area should be accessible to candidates and supportive descriptive information available, this should include:

♦ forest stand information (compartment records)
♦ growth information (general yield class)
♦ soil descriptions
♦ information on any particular burdens or legal constraints

The task should require candidates to produce a comprehensive forest management plan. Candidates will gather the necessary information on the project area and apply appropriate management tools to produce a programme of work, taking cognisance of constraints of management. They will also produce a production forecast and supporting financial budgets.

The plan should be a long term forest plan which relates to a real forest area. Candidates will identify the management objectives and reflect the physical and other constraints of the area in their plan and take account of the policies and strategies which apply. The plan will allow candidates to consolidate their skills and knowledge in a comprehensive practical exercise.

The project will be submitted on an individual basis under the guidance of the tutor with a suggested word limit of 3,000 words or equivalent for the report and supporting notes.

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
Is a seamless, coherent piece of work which: ♦ 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 focused, planned and systematic approach with regard to the analysis of the operational plan materials ♦ demonstrates perceptive analysis of the management plan materials ♦ effectively consolidates and integrates required knowledge and skills, showing continuity and consistency ♦ includes accurate timber produce calculations and budgets ♦ 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	Is a co-ordinated piece of work which: ♦ has sufficient evidence of the three essential phases of the project but not clearly related ♦ displays research ♦ uses an adequate approach to the analysis of the operational plan materials ♦ demonstrates analysis of the management plan materials ♦ consolidates and integrates knowledge and skills ♦ includes accurate timber produce calculations and budgets ♦ incorporates elements of current policies and strategies ♦ is satisfactorily structured, with language used adequate in terms of level, accuracy and technical content

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

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.

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%	An initial action plan which includes: ♦ identification of the aims of the management plan ♦ selection and justification of the tasks required to complete the management plan ♦ identification of research required to complete the management plan ♦ defined timescales for completion of the ten year management plan *The candidate must achieve all of the minimum evidence specified above in order to pass the Planning stage.*

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

Project stage	Minimum Evidence Requirements
Stage 2 — Developing 50%	The practical assignment will require the candidate to produce a management plan which includes evidence of: ♦ collation of research undertaken and summary of findings ♦ an analysis of the area of forest, and related research in terms of: — field data — silvicultural prescription — harvesting methods — forest data — production forecast — budgeting The management plan for the area should include reference to: ♦ forest stand information (compartment records) ♦ growth information (general yield class) ♦ soil descriptions ♦ information on any particular burdens or legal constraints *The candidate must achieve all of the minimum evidence specified above in order to pass the Developing stage.*
Stage 3 — Evaluating 30%	An evaluation which includes: ♦ evaluation of the planning and developing stages of the project, making reference to the effectiveness of the action plan ♦ evaluation of the effectiveness of the management plan ♦ evaluation of the data collected and research carried out ♦ appraisal of the project in terms of strengths and weaknesses ♦ identification of any knowledge and skills which have been gained or developed during the project *The candidate must achieve all of the minimum evidence specified above in order to pass the Evaluating stage.*

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

Support notes

The content of this Unit should provide the candidate with the necessary knowledge and skills to produce a comprehensive forest management plan for a given forest area. It is anticipated that given the practical nature of this Graded Unit, candidates will carry out a significant amount of field work, visiting a real forest area.

Constraints to management which could be covered include; resources available; the current sources of policy; expressions of policy and policy drivers; Scottish Forestry Strategy, indicative Forestry Strategies, other relevant strategies; the key areas influencing decision-making; the key areas of management expertise required; demands and expectations of the forest manager — skills and experience; sources of necessary and additional information — field information, GIS, stock maps, soil maps, appropriate data bases; sustainable forest management principles — silvicultural regimes and systems, harvesting systems, production forecasting, sustainable forest management; public benefits — access, community engagement; the selection of management objectives and strategies.

Collection and availability of data and information with use of appropriate management tools may include — field information, GIS, stock maps, soil maps, yield models, appropriate data bases; management and organisational structures; recognition of constraints, burdens and external and internal requirements; resource requirements; application of agreed management systems; recognition and engagement with wider stakeholders —— including key agencies, partners and neighbouring communities; current regulatory framework and application of Forestry Standards; markets and revenue sources; products; revenue forecasts; future work programmes; production forecasts; expenditure and revenue budgets and cash flow predictions; control and monitoring functions; and presentation of a comprehensive forest management plan.

It is likely this Unit will be delivered within a concentrated block of time, with two weeks suggested as a guide period for completion. The approach will be to provide introductory information, guidance and support to candidates through initial formal timetabled lecture classes. This will include extensive use of handout and support information, with clear guidance on additional information sources. Candidates will then work in groups to collect additional field data; after which they will work on an individual basis to process the data collected and complete the forest management plan. It is likely that many candidates will be able to make use of existing experience.

This assessment will provide candidates with the opportunity to apply knowledge and skills gained from a range of other Units and study, plus experience gained elsewhere and this will be combined to assist in the production of the forest management plan. Use can be made of follow up tutorials to confirm candidate progress and identify any areas of additional support. This is seen as a comprehensive exercise which will allow candidates to integrate knowledge and skills and demonstrate the ability to develop a forest management plan for a real forest area.

The management plan is likely to have the following format:

♦   title
♦   contents
♦   aims and objectives
♦   findings

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

♦ 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:	50 marks and candidates must achieve a minimum of 25 marks to pass.
The Evaluation stage:	30 marks and candidates must achieve a minimum of 15 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.

The project area for the assessment should have a reasonable degree of diversity and although no minimum land area is given, a suggested area is of 100+ hectares.

The Practical Assignment could use the current Forestry Commission's 'Forest Plan' format as its basis.

It may be possible for a candidate to make use of directed and self study and have assessment on demand, although it may have to link into the normal assessment timetable and arrangements. With appropriate supervision and testimony arrangements it is also possible for candidates to take the assessments at sites remote from the learning centre.

Core Skills

The delivery and assessment of this Graded Unit may offer opportunities to develop the Core Skills component of Written Communication at SCQF level 6. The general skills of the component are 'read and understand complex written communication' for its reading element and 'produce well-structured written communication on complex topics' for its written element. Specific reading skills required by candidates at SCQF level 6 include identifying and summarising significant information, ideas and supporting details in a complex written communication, and evaluation of the effectiveness of the communication in meeting its purpose. Specific writing skills required include 'presenting all essential ideas, information and supporting detail in a logical and effective order, use of a structure which takes account of purpose and audience, emphasising the main points and use of conventions as appropriate to the purpose/audience.

Candidates may need to utilise these skills throughout the Graded Unit when involved in gathering, evaluating and presenting information to produce their ten year management plan.

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

The delivery and assessment of this Graded Unit may offer opportunities to develop the Core Skill of *Problem Solving* at SCQF level 6. The general skills required by its three components are the abilities to:

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

There is scope for candidates to utilise these skills within their production of a management plan which in its incorporation of field data, silvicultural prescription harvesting methods, forest data, production forecasting, budgeting etc. deals with complex concepts, and is a complex piece of work in itself. It requires strategic thinking and consideration of a number of variables in order to be a viable management plan, and conclusions must be justified with reference to the research and other given evidence.

Reliant on particular activities undertaken, the delivery and assessment of this Graded Unit may provide opportunities to develop the Core Skill of *Information Technology* at SCQF level 5, the general skill of which is to use 'an IT system effectively and responsibly to process a range of information.'

Specific skills required at SCQF level 5 include carrying out processing and searches, using applications in depth and integration of different types of data in a piece of work. Candidates may use IT systems throughout this Graded Unit. In particular, IT is likely to be used in gathering, evaluating and presenting information to produce their ten year management plan. As well as in carrying out research IT skills may be used in order to present the plan to a professional standard.

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 budgeting 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
♦ 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 budgeting purposes, the results of which may be illustrated via tables, graphs, or percentages.

The delivery of the Graded Unit activity offers opportunities to develop the Core Skill of *Working with Others* at SCQF level 5, the general skill of which is to 'work with others in a group to analyse, plan and complete and activity.' Specific skills required at SCQF level 5 include analysing the activity and identifying component tasks and roles, agreeing responsibilities and supporting co-operative working.

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

Candidates may require to use these skills when planning and carrying out the group activities in the field. Candidates may work in groups to collect field data for use in producing their management plans. For this activity to be successful, candidates will need to work together effectively, particularly if resolving any practical problems or obstacles that arise.

Equality and inclusion

This graded unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. For information on these, please refer to the SQA document *Guidance on Assessment Arrangements for Equality and inclusion*, which is available on SQA's website: **www.sqa.org.uk**.

General information for candidates

This Graded Unit is a Project: Practical Assignment. This Unit has been designed to allow you to integrate your learning across a range of Units in the HND Forestry. You will draw upon your learning from the individual HND Units and integrate knowledge and skills gained, in order to successfully complete the project: practical assignment.

This Graded Unit will allow you to:

♦ evaluate the land use and conservation potential of sites within national and regional strategies
♦ undertake detailed fieldwork and develop ideas and methods for effective forest management in the context of industry best practice as established by the Forestry Standard, UKWAS and industry guidelines
♦ evaluate the principles of silviculture and harvesting relating to forestry in the context of current industry best practice
♦ understand and evaluate forest policy in the context of current global, European and national initiatives
♦ understand the principles of supervision and review operations in the context of current health and safety and employment legislation and industry best practice
♦ understand industry best practice measurement techniques for standing volume, production forecasting and area determination
♦ evaluate forest design in relation to land and forests in the context of landscape

You will be given an area of forest with supporting data and be asked to produce a ten year management plan for this area: the first two years in detail and the following eight years as an outline plan.

You will gather the necessary information on the project area; apply appropriate management tools to produce a programme of work, a production forecast and supporting financial budgets. You will identify the management objectives and reflect the physical and other constraints of the project area in their plan and take account of the policies and strategies which apply. The plan will allow you to consolidate your skills and knowledge in a comprehensive exercise.

The management plan will include evidence of:

♦ collation and summary of any research undertaken
♦ an analysis of the practical assignment and research in terms of:
  — field data
  — silvicultural prescription
  — harvesting methods
  — forest data
  — production forecast
  — budgeting

This provides an opportunity for an integrated approach to the application of the forestry expertise you have gained as part of your study and any relevant past experience. For candidates already in employment, this Unit provides an opportunity to extend existing knowledge and skills and lays a sound grounding for further study in forest management.

The project will be submitted on an individual basis under the guidance of the tutor with a suggested word limit of 3,000 words or equivalent for the management plan and supporting notes.