



Higher National Unit specification

General information for centres

Unit title: Establishment of Woodland

Unit code: F3YC 34

Unit purpose: This Unit is designed to enable candidates to develop their skills in selecting appropriate tree species and cultivation methods for the successful establishment of woodlands and in doing so demonstrating knowledge of current trends and legislation.

On completion of the Unit the candidate should be able to:

- 1 Plan the establishment of a woodland.
- 2 Analyse the silvicultural requirements of tree species commonly found in Britain.
- 3 Evaluate options available for the establishment of woodland.
- 4 Plan for treatments to promote the growth and development of woodland.

Credit points and level: 2 HN credit at SCQF level 7: (16 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.*

Recommended prior knowledge and skills: Access to this Unit is at the discretion of the centre. It is recommended that candidates should have completed or be in the process of completing the HN Unit F3YW 34 *Forestry: Forest Science*.

Core Skills: There may be opportunities to gather evidence towards the Core Skills of *Communication, IT, Working with Others* and *Problem Solving* all to SCQF level 5 in this Unit, although there is no automatic certification of Core Skills or the Core Skill components.

General information for centres (cont)

Context for delivery: If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

Assessment: The assessment for this Unit will take the form of a holistic project covering Outcomes 1, 2, 3 and 4.

Higher National Unit specification: statement of standards

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The sections of the Unit stating the Outcomes, Knowledge and/or Skills, and Evidence Requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the Knowledge and/or Skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Please refer to the Evidence Requirements for the Unit and Assessment Guidelines for the Unit after the Outcomes.

Outcome 1

Plan the establishment of a woodland

Knowledge and/or Skills

- ◆ Management objectives
- ◆ Current forest standards
- ◆ Current grant aid to woodland creation and maintenance
- ◆ Silvicultural trends (native woodland continuous cover, multi-purpose woodland)
- ◆ Bio-diversity

Evidence Requirements

Evidence Requirements for this Outcome are given after Outcome 4.

Assessment Guidelines

Assessment Guidelines for this Outcome are given after Outcome 4.

Outcome 2

Analyse the silvicultural requirements of tree species commonly found in Britain

Knowledge and/or Skills

- ◆ Climate
- ◆ Soil information
- ◆ Light
- ◆ Topography
- ◆ Water
- ◆ Vegetation

Higher National Unit specification: statement of standards (cont)

Unit title: Establishment of Woodland

Evidence Requirements

Evidence Requirements for this Outcome are given after Outcome 4.

Assessment Guidelines

Assessment Guidelines for this Outcome are given after Outcome 4.

Outcome 3

Evaluate options available for the establishment of woodland

Knowledge and/or Skills

- ◆ Choice of species
- ◆ Ground preparation
- ◆ Planting
- ◆ The impact of cultivation on site conditions
- ◆ The effects of cultivation on tree survival, growth, yield and stability
- ◆ Cultivation techniques
- ◆ Site and management requirements

Evidence Requirements

Evidence Requirements for this Outcome are given after Outcome 4.

Assessment Guidelines

Assessment Guidelines for this Outcome are given after Outcome 4.

Outcome 4

Plan for treatments to promote the growth and development of woodland

Knowledge and/or Skills

- ◆ Fencing (pest control)
- ◆ Tree protection (Pest control)
- ◆ Beating up
- ◆ Weed control
- ◆ Fertiliser requirements
- ◆ Cleaning requirements

Higher National Unit specification: statement of standards (cont)

Unit title: Establishment of Woodland

Evidence Requirements for Unit

The evidence of achievement for Outcomes 1, 2, 3 and 4 will be in the form of an individual project plan to establish a woodland on a given or an agreed site.

The project plan must include a statement of management objectives based on silvicultural trends, which includes how current practices influenced decisions made when planning the establishment of woodlands, and would include influencing factors such as grant aid. Candidates must cover all the following points, relate these to the management objectives and support all management objectives with production of appropriate maps, tables and diagrams:

- ◆ geographic information, which includes all relevant topographical information.
- ◆ climate information, which includes precipitation, temperature, exposure, aspect.
- ◆ soil information, which includes identification of soil types, vegetation cover, site classification, soil mapping of the site.
- ◆ methods of site preparation. Candidates must choose the appropriate method(s) from the following: scarification, ploughing, mounding, ripping or manual and be aware of the impact and effects of the chosen method on the landscape. The chosen method must support the management objectives. If the site is a restocking site, the influence harvesting residues have on site preparation.
- ◆ identification of damaging agencies on the site that could effect successful establishment.
- ◆ choice of species compatible with the management objectives stated which will include impact of light and water.
- ◆ choice of cultivation techniques, which can be justified in terms of the management objectives, requirements of the tree species chosen, the effects of cultivation on tree survival, including growth, yield and stability. Candidates must understand that cultivation is not always required to establish tree crops.
- ◆ planting, which includes consideration of spacing and plant types (containerised, bare root).
- ◆ proposals for actual or potential treatments required to promote growth and development of the woodland. This will include consideration of the following: fencing, individual tree protection, weed and pest control, beating up, cleaning and fertiliser requirements, depending on site requirements.

Assessment Guidelines for the Unit

The project plan could be laid out under headings which relate to the bullet points identified in the Evidence Requirements.

Administrative Information

Unit code: F3YC 34
Unit title: Establishment of Woodland
Superclass category: SG
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Version	Description of change	Date

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Higher National Unit specification: support notes

Unit title: Establishment of Woodland

This part of the Unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 80 hours.

Guidance on the content and context for this Unit

This Unit is a mandatory Unit within the following SQA Group Awards:

- ◆ HNC Forestry
- ◆ HND Forestry
- ◆ HND Arboriculture and Urban Forestry

There are opportunities for integration with F3YW 34 *Forestry: Forest Science* to assist with the contextualisation of assessments for Outcomes 1, 2, 3, and 4.

The content of this Unit should provide the candidate with the understanding required to create a site plan and justify decisions within the plan.

It is recommended that candidates are given the opportunity to visit and assess one or more woodland or prospective woodland sites to collect and assess gathered information.

Please note that the following examples given are for guidance and should not be considered as an exhaustive list.

Outcome 1

- ◆ United Kingdom Woodland Assurance Standard (UKWAS)
- ◆ Current Grant Aid, Scottish Forestry Grant Scheme (SFGS), Farm Woodland Premium Scheme (FWPS). EU funded projects
- ◆ silvicultural trends (native woodland, continuous cover, multi-purpose woodland which would include sporting opportunities, rural tourism etc)
- ◆ bio-diversity

Outcome 2

- ◆ climate (soils, light, topography and water)
- ◆ vegetation (competition/shelter), voles, livestock)
- ◆ insects (*Hylobius abietis*, *Hylastes* spp.)
- ◆ pests (mammals such as deer, rabbits, hares, badgers)
- ◆ tree diseases (*Armillaria* spp. *Heterobasidium annosum*)

Higher National Unit specification: support notes (cont)

Unit title: Establishment of Woodland

Outcome 3

- ◆ benefits of cultivation, increased soil temperature, accelerated nutrient release
- ◆ improved local drainage, better rooting depth and stability, plant position, weed control, easier establishment operations
- ◆ cultivation, scarification, (scarification/mounding scarification /trenching)
- ◆ ploughing, mounding (excavator mounds, continuous acting mounds)
- ◆ environmental impacts of cultivation. Plant communities
- ◆ choice of cultivation techniques takes into account all of the above
- ◆ planting, plant size, spacial arrangements, manual, mechanical

Outcome 4

- ◆ recognise the need for protection and choose the right options (deer or stock fencing, individual tree protection shelters/guards)
- ◆ beating up assessments
- ◆ fertiliser requirements: Nitrogen, Phosphate, Potassium, Foliar analysis
- ◆ removal of woody weeds

Guidance on the delivery and assessment of this Unit

Outcomes 1, 2, 3, and 4.

The evidence generated for this Unit could be used to contribute to the assessment for Unit DB4N04 *Forest Science*, with candidates using the same site and background information to compile plans for each Unit. The Forest Science section of the plan could contribute to appropriate sections of the Establishment of Woodlands plan. It would be helpful if candidates undertook this Unit and *Forest Science* concurrently. A word length of 800 words or equivalent is suggested for Unit DB4N04 *Forest Science*, with an additional 1,500 words or equivalent for the Establishment of Woodlands Unit.

The tutors could agree to use the same site and scenario and agree the assessment brief so that the plan is a simulation of plans made in the work environment. The assessment is an integral and important learning process for the candidate in preparation for the workplace.

The plan could be based on a site that could be either a new forest/woodland, a restocking site or an established woodland that needs to be redesigned for a specified purpose that would require some replanting.

It is suggested that this assessment should be made available to the candidate midway through the Unit delivery so that data collection and analysis can start in good time.

Higher National Unit specification: support notes (cont)

Unit title: Establishment of Woodland

Likely scenarios for this plan could be:

A plan on a given site that displays enough diversity of terrain and vegetation type that would require the candidate, individually or as part of a small team, to utilise maps and site visits to visually survey the area and establish the geology, soil type, topographical features, altitude, location and aspect of the area, and the Windthrow Hazard Classification. Windthrow Hazard Classification can be done as group working or it can be done by electronic means using the 'ForestGales' program.

It is suggested that the site should require the digging and interpretation of the soil profiles of at least three soil pits that would determine expected different soil types, and therefore the presumption of differing forest operations and species choice.

The exercise would also require the use and interpretation of climatic data and site factors to determine site microclimates.

The plan must be supported by maps indicating:

- ◆ location
- ◆ soil and geology
- ◆ vegetation
- ◆ tree species
- ◆ cultivation and drainage

Drawings and photographs could also be used to support the plan.

Opportunities for developing Core Skills

The candidates will have the opportunity to develop the Core Skills of *Communication* in the production of the project plan, during site visits when working with other candidates, tutor and site representatives. They will also have the opportunity to develop the Core Skill of *IT* when producing their finished project plan for assessment and *Working with Others* during class time and site visits with other candidates, tutor and site representatives. They will also have the opportunity to develop the Core Skill of *Problem Solving* when planning the fulfilment of the management objectives and reviewing and evaluating the site all to SCQF level 5 although there is no automatic certification of Core Skills or Core Skill components.

Open learning

All Outcomes are appropriate for Open and Distance Learning approaches, with appropriate tutor input and support.

There would have to be prior agreement between tutor and candidate on a suitable site, which could be part of their work or close to their home. This agreement would have to include the agreement of the landowner for candidate and possible tutor access to the site.

Higher National Unit specification: support notes (cont)

Unit title: Establishment of Woodland

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 Outcomes for Units. Further advice can be found in the SQA document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs* (www.sqa.org.uk).

General information for candidates

Unit title: Establishment of Woodland

This Unit will provide you with a basic knowledge required for establishing, maintaining, and the growth of woodland trees. The Unit will provide you with the required skills and knowledge to assess a site for its woodland potential and will involve practical site work to help achieve this.

The Unit will develop your understanding of how current legislation and trends influence decisions made when planning establishment operations. It will enable you to understand the site requirements of commonly grown species in the UK. Regarding climate, light, nutrients and competition. The Unit will also provide you with the knowledge to choose the correct method of cultivation to meet site and management objectives. You will be able to identify the most beneficial methods of tree protection to ensure the successful establishment of woodlands, be able to choose the correct species and spacial arrangement to meet management objectives, and identify the need for beating up surveys. Finally, you will develop an understanding of the nutrient requirements of species within differing sites and you will be able to identify the need to remove or enhance the woody weeds within sites.

Overall, the knowledge and skills you will acquire in this Unit will help you understand the influencing factors of tree growth, tree physiology and develop your tree and plant recognition and identification skills and the requirements of tree species regarding site conditions.

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 the biological sciences.