



Higher National Unit specification

General information for centres

Unit title: Forestry: Forestry and Other Land Use

Unit code: F3YJ 35

Unit purpose: This Unit is designed to give the candidate understanding and knowledge of land use in a rural context and to develop their evaluation of the land use through the use of current mapping software technology.

The Unit is relevant to candidates requiring an understanding of how forestry interacts with other land uses at the forest manager level.

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

- 1 Evaluate the potential of forestry as a land use.
- 2 Analyse the different land uses in a given rural area.
- 3 Produce a proposal for multiple land use of a given rural area.
- 4 Use mapping software to analyse land use.

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.*

Recommended prior knowledge and skills: Access to this Unit is at the discretion of the centre. However, prior knowledge of F3YW 34 *Forestry: Forest Science*, F3YC 34 *Establishment of Woodland*, and F3YT 35 *Forestry: Forest Policy and Law* would be helpful to the candidate.

Core Skills: There are opportunities to develop the Core Skill of *Information Technology* and the Critical Thinking component of *Problem Solving* and Written Communication component of *Communication* at SCQF level 6, although there is no automatic certification of Core Skills or the Core Skills 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.

This Unit is included as mandatory in the frameworks of the following Group Awards:

- ◆ HND Forestry
- ◆ HND Arboriculture and Urban Forestry

Assessment: The assessment for this Unit could take the form of a holistic project on a given or agreed area that could use mapping software technology to assist in the analysis and evaluation of the land use.

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.

Outcome 1

Evaluate the potential of forestry as a land use

Knowledge and/or Skills

- ◆ Types of forestry
- ◆ Forest uses
- ◆ Proportion of forestry as a land use
- ◆ Economic potential of forestry
- ◆ Damaging effects of forestry
- ◆ Benefits of forestry

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ identify a minimum of two different types of forest cover from the following: conifer, broadleaf, mixed, coppice.
- ◆ identify a minimum of three forest uses from the following timber, amenity, screening, shelter, recreation, sport, conservation.
- ◆ calculate the proportion of forestry as a land use in relation to the other main land uses from a given or agreed area. Candidates must present the finding graphically using mapping.
- ◆ evaluate the economic potential of forestry as a rural industry. This must include consideration of the local economy and social aspects.
- ◆ evaluate the damaging effects of forestry as a land use. This must include consideration of aesthetic values, choice of species and water catchment.
- ◆ evaluate the benefits of forestry. This must include employment, social, health, amenity, and carbon sink.

Assessment Guidelines

Please see Assessment Guidelines after Outcome 4.

Higher National Unit specification: statement of standards (cont)

Unit title: Forestry: Forestry and Other Land Use

Outcome 2

Analyse the different land uses in a given rural area

Knowledge and/or Skills

- ◆ Research information sources
- ◆ Main land uses
- ◆ Land use distribution
- ◆ Factors affecting land use

Evidence Requirements

Candidates will need evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ use a range of information sources to research the land use of a given locality. This must include at least three of the following: libraries, local plans, maps, web searches, images, experts.
- ◆ identify the main land uses from a given area. At least four land uses from the following must be covered: agriculture, forestry, sporting, conservation, mineral wealth, industrial, urbanisation, recreation. Candidates must identify the extent of each use of the land and display this graphically using maps.
- ◆ analyse the land use distribution for a given rural area. This must include consideration of the way the land uses are integrated or not.
- ◆ evaluate the factors affecting land use for a given rural area. This must include consideration of ownership, commercial use and site factors.

Assessment Guidelines

Please see Assessment Guidelines after Outcome 4.

Outcome 3

Produce a proposal for multiple land use of a given rural area

Knowledge and/or Skills

- ◆ Land use categories
- ◆ Multiple objectives
- ◆ Interaction between different land uses

Higher National Unit specification: statement of standards (cont)

Unit title: Forestry: Forestry and Other Land Use

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can produce a proposal to achieve multiple objectives for a given or agreed rural area.

Candidates must:

- ◆ identify the land use categories for a given rural area
- ◆ analyse the interaction between different land uses in a given rural area
- ◆ evaluate the potential of a given area to achieve multiple objectives. This must include how these objectives could be achieved.
- ◆ make recommendations for enhancing land use for a given rural area.

Assessment Guidelines

Please see Assessment Guidelines after Outcome 4.

Outcome 4

Use mapping software to analyse land use

Knowledge and/or Skills

- ◆ Sources of spatial information
- ◆ Mapping software
- ◆ Electronic map production skills

Evidence Requirements

Candidates will need evidence to demonstrate their Knowledge and/or Skills by showing that they can

- ◆ collect and synthesise spatial information for a given area from a range of sources. This must include maps.
- ◆ use mapping software to display different land uses and their interaction. This must have the potential to be used as an analysis tool.
- ◆ produce a simple map using mapping software to display different forestry and other land uses for a given area. Forestry must include conifer and broadleaf and the other land uses must include agriculture and conservation.

Higher National Unit specification: statement of standards (cont)

Unit title: Forestry: Forestry and Other Land Use

Assessment Guidelines for the Unit

It is recommended that Outcomes 1, 2, 3 and 4 be assessed holistically by means of a project report. Candidates could:

- ◆ produce a report describing the current land use of a given rural area and the role of forests and or woodland in that area.
- ◆ evaluate the current main land uses for the area and recommend proposals to improve the multi-land use character of the given rural area where possible.
- ◆ use a mapping tool such as a Geographic Information System (GIS) program as an integral part of the analysis and evaluation of the land uses of the given area.

Information for the report may be collected through research as a group. However the candidate will produce an individual project based on the individual candidate's own interpretation and analysis of the information gathered. A suggested word limit for the report is 1,500 words or equivalent. Graphs, tables, maps should be placed in the appendices, but summarised in the text.

Administrative Information

Unit code: F3YJ 35

Unit title: Forestry: Forestry and Other Land Use

Superclass category: QA

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History of changes:

| Version | Description of change | Date |
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Higher National Unit specification: support notes

Unit title: Forestry: Forestry and Other Land Use

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 40 hours.

Guidance on the content and context for this Unit

This Unit is designed as a mandatory part of the following SQA Group Awards:

- ◆ HND Forestry
- ◆ HND Arboriculture and Urban Forestry

The content of this Unit should provide the candidate with an understanding of rural land use and the interaction between land uses.

The following support notes cover the mandatory requirements of the Unit and recommended aspects that could be covered in teaching and learning.

Outcome 1

- ◆ forestry types — commercial, conservation, conifer, hardwood, mixed species, clearfell, natural regeneration, shelterwood silvicultural system
- ◆ economic, social, amenity and other benefits of forestry
- ◆ calculation of the proportion of forestry as a land use
- ◆ potential damaging effects of forestry — water quality issues, transport on roads, exotic species, biodiversity issues, etc

Outcome 2

- ◆ identification of the different land use types within an area and the reasons for this distribution (forestry, agriculture, conservation, industry, towns, etc)
- ◆ assessment of the land use present; is it representative nationally, regionally; is it optimal for the area
- ◆ the explanation of the factors affecting land use is clear and comprehensive (altitude, climate, soils, land quality, ownership, population, economics)
- ◆ the explanation of land use variations in different regions is clear and comprehensive (Mountains, coastal, plains, peat, chalk, urban)

Outcome 3

- ◆ the evaluation of existing land use in relation to the existing land use distribution is clear and comprehensive. The integration and interaction of the land uses.
- ◆ the analysis of the potential of a given area to achieve multiple objectives is clear.
- ◆ the proposals made to achieve multiple objectives are clear and realistic in terms of the land use potential.
- ◆ vision as to how future events may influence land use (climate, population, politics).

Higher National Unit specification: support notes (cont)

Unit title: Forestry: Forestry and Other Land Use

Outcome 4

- ◆ collection of spatial data from existing maps/aerial photographs.
- ◆ inputting (digitising, scanning, geo-referencing) the data using GIS software to produce simple maps.
- ◆ performing spatial analysis and outputting thematic land use maps.

Guidance on the delivery and assessment of this Unit

Outcomes 1, 2, 3 and 4.

The candidates could be prepared for this assessment in the first eight weeks of a twelve-week programme (assuming three hours per week nominally). This could be done by lecture input and GIS tutorials supplemented with site visits as necessary.

This is a learning exercise for the candidates, where they could be encouraged to research a given area to identify its forestry and other current land use distribution, land use interactions and to make recommendations for the future land use of the area. The report will consider how forestry fits into the landscape and how forestry as a land use interacts and integrates into the land use of the area.

The delivery could be enhanced with the use of land use specialist visiting speakers ie agriculture, conservation, planners, sporting, forestry etc.

The evidence of achievement for Outcomes 1, 2, 3 and 4 could take the form of a holistic project.

It is suggested that this project is designed to give the candidate the opportunity to develop their map making skills through the use of mapping software such as GIS to display and possibly interrogate the land use of a given or agreed area.

Likely scenarios for this report could be:

- (a) A report on a suitable given rural area with a forest component as well as other significant land uses such as agriculture, conservation.
- (b) A report on a suitable rural area, that is agreed with the candidates, that has a forest component as well as other significant land uses such as agriculture, conservation, etc.

The report could include, where relevant:

- ◆ general appraisal of the forestry component of the land use of an area.
- ◆ general appraisal of the land use for an area. Identifying the land use allocation ie forestry types, agriculture types, conservation, townships, industry, coastal, mountains, etc.
- ◆ evidence of the use of various forms of information in the compilation of the factual evidence (OS maps, geology maps, land use maps, local plan).
- ◆ Maps showing the land use variation compiled with the use of GIS.

Higher National Unit specification: support notes (cont)

Unit title: Forestry: Forestry and Other Land Use

- ◆ discussion as to why the land use is arranged in such a way, altitude, climate, soils, land quality, ownership, population, economics.
- ◆ discussion on the integration of the land uses and how the student anticipates changes that could be made to the land use and why.

Opportunities for developing Core Skills

There are opportunities to develop the Core Skill of *Information Technology* and the Critical Thinking component of *Problem Solving* and Written component of *Communication* at SCQF level 6, although there is no automatic certification of Core Skills or the Core Skills components. Critical Thinking will be developed in the analysis and evaluation of land uses. *Information Technology* will be developed in Outcome 4 in particular through the use of mapping software. Candidates who produced written proposals and reports will have the opportunity to develop the Written Communication component of *Communication*.

Open learning

All Outcomes are appropriate for open and distance learning approaches, and it would be good practice to provide candidate packs and tutor input and support at all stages. Centre-devised supervision agreements should detail any conditions to ensure authenticity of evidence.

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: Forestry: Forestry and Other Land Use

This Unit through lectures, tutorials and site visits will give you knowledge and understanding of the role forestry plays in rural land use. The Unit will also help you understand the wider aspects of land use and how forestry integrates and interacts with these other land uses. The Unit will also develop your evaluation skills in determining what you believe are the multiple objectives of land use.

The Outcomes that you will acquire on completion of the Unit are as follows:

Outcome 1 will give you a knowledge and understanding of how forestry fits into the landscape as a land use, and the pros and cons of forestry in the landscape. You will also gain knowledge of the optimal amount of forestry for a landscape and how this may differ on a regional scale.

Outcome 2 will give you an opportunity to evaluate and map the land uses of a given area and to use GIS to do this and to assist in the evaluation of the land use in an area. You will gain an understanding of how land uses interact and integrate together to form a landscape.

Outcome 3 will give you an opportunity to evaluate the potential of an area for land use and to make proposals for land use change in light of current pressures and thinking on land use issues.

Outcome 4 will give you an opportunity to use mapping software such as GIS to integrate multi-resource information for land use mapping and other thematic analysis.

This Unit is a mandatory component of the following SQA Group Awards:

- ◆ HND Forestry
- ◆ HND Arboriculture and Urban Forestry

Overall, the knowledge and skills acquired in this Unit will help you understand and evaluate the factors that influence forestry as a rural land use and the multi-benefits it can bring to an area.

For candidates already in employment this Unit provides an opportunity to extend your existing knowledge and skills and lays a sound grounding for further study in forestry and general rural other land.

This Unit will give you the opportunity to develop the Core Skill of *Information Technology* and the Critical Thinking component of *Problem Solving* and Written Communication component of *Communication* at SCQF level 6.

The Unit will be likely be assessed by a project assignment based on a given scenario.