

External Assessment

Natural Environment Higher

C03C 12

Practical Assignment

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1. Practical Assignment overview

This national project specification provides details of the assessment tasks and the evidence which candidates are expected to produce. It contains a degree of choice in terms of the way the Practical Assignment is taken forward by centres so that it fits available resources and candidates' interests and personal strengths.

The Practical Assignment is not concerned exclusively with practical activity, but is designed to emphasise skills relating to the application of practical skills, and related knowledge and understanding to a situation that involves task management.

Candidates are provided with a brief and are expected to demonstrate attainment relating to:

- interpreting the brief
- gathering information to clarify the brief
- deciding on a product, or activity/event, or performance to develop
- selecting and managing materials/resources
- producing the product, or organising the activity/event or delivering the performance
- evaluating the product or activity/event or performance (through feedback)

Evidence requirements are as follows:

- a plan of action
- evidence of a product or an organised activity/event or a performance
- evidence which documents the processes underpinning the practical hands-on activity
- evidence showing an extended evaluation of the Practical Assignment

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The Scottish Qualifications Authority Helpdesk is available on 0141-242 2214.

Note:

Please note that individual specifications should always be used in conjunction with the relevant *Arrangements for Project-based National Courses*. The *Arrangements* document lays down the overall requirements for project-based National Courses for the given SGA.

This specification forms part of Section F of the *Arrangements* document.

2. Recommended entry

We strongly advise that candidates should have completed the Units in the National Course prior to embarking on the external assessment. However, there may well be candidates who, for whatever reason, choose to undertake the external assessment on a stand-alone basis. Any such candidates who have not completed or embarked upon the Units of the National Course *prior* to undertaking the external assessment should have demonstrated attainment in (and/or attained) the following qualifications:

- Standard Grade Biology, Geography or Science at Grade 1 or 2

or

- Managing Environmental Resources, National Course at Intermediate 2 or its components Units

or

- Investigating the Natural Environment, National Course at Intermediate 2 or its component Units

or

- SGA Land and Environment at Intermediate 2

or

- other relevant National Units or Courses (for example, in the science, geography or land and environment subject areas)

Candidates who achieve the external assessment will not be certificated for the Course until they have successfully completed the component Units.

3. Practical Assignment briefs

The assignment briefs from which candidates may choose are:

Brief 1

The candidate should investigate the flora and fauna of a site and prepare a plan to maintain or enhance its nature conservation potential. The site may be located in an urban or rural area and could, for example, focus on indications of past uses and ways in which associated features of nature conservation value could be conserved.

Brief 2

An area of land which has been managed intensively for several decades is about to undergo a change of use. The candidate should investigate and assess the site and draw up an appropriate plan to develop its species diversity and enhance its nature conservation value.

Brief 3

A re-introduction programme for a native species is being considered in the candidate's area. The candidate should investigate and assess the site and draw up an appropriate management plan to maintain or enhance the conservation value of the area once the re-introduction programme is complete.

Brief 4

Applications to environmental improvement schemes require conservation audits to be carried out and management plans to enhance wildlife interest need to be prepared. The candidate should investigate and assess a site in his/her area and prepare a nature conservation plan to accompany the application.

All of these briefs are suitable for candidates working in either an urban or a rural environment.

4. Outcome coverage

| Course Structure | | |
|----------------------------|--------------|-------------|
| Unit title | Credit value | Unit number |
| Habitat Assessment | 1.0 | D859 12 |
| Plant Identification | 1.0 | D879 12 |
| Principles of Conservation | 1.0 | D886 12 |

All external assessments for project-based National Courses cover a minimum of two thirds of the Outcomes from the component Units. For this project the Outcomes are:

Unit: Habitat Assessment

1. classify habitats with reference to their natural features
2. assess the nature conservation value of a given habitat
3. collect and analyse information obtained by investigation of given sites and produce appropriate nature conservation plans

Unit: Plant Identification

1. identify a range of plants
2. collect and analyse information obtained by investigation of the characteristics of a range of plants
3. collect and analyse information obtained by investigation of associations between plants

Unit: Principles of Conservation

1. describe the main factors relating to the conservation of the environment in a national context
2. collect and analyse information obtained by investigation of the consequences of changes in land use on the countryside
3. collect and analyse information obtained by investigation of the conservation potential of a local site

The nature and extent of the Outcomes covered will vary according to the brief selected and to the way the brief is developed.

It is strongly advised that candidates should have completed the assessments for the individual component Units before undertaking the external assessment.

5. Subject/occupationally-related knowledge and skills

The Practical Assignment allows candidates to develop and apply skills in:

- Phase 1 habitat survey techniques
- recognising and identifying plants
- observing and identifying wildlife
- gathering data and recording observations
- preparing conservation and/or management plans

and develop and apply related knowledge of:

- ecosystems
- natural resources
- past and present land uses
- inter-relationships that exist in the natural environment

6. Candidate evidence requirements and allocation of marks

General information

The three stages of the Practical Assignment for all project-based National Courses at Higher are:

- planning
- developing
- evaluating

Here we describe evidence requirements which apply to each of the three stages of the Practical Assignment for all project-based National Courses at Higher. Where there are any specific evidence requirements relating to this Course, these are given later in this section.

Planning

Candidates must produce a 500 word (or equivalent) plan of action. The plan should include an introduction and a main body. Centres should ensure that candidates either already have, or are taught, the necessary skills to devise their own plan before they start the project.

For the introduction of the plan, candidates should:

- provide a rationale for selecting a particular brief
- interpret the brief
- gather information to clarify the brief
- define the aims and objectives of the Practical Assignment

For the main body of the plan candidates should:

- identify information sources
- identify materials and resources
- establish timescales for completion of stages of the Practical Assignment

The plan of action should be produced in a supervised environment although candidates may carry out the preparation beforehand. Candidates may communicate with each other when producing their plans of action but each plan must be tailored to the candidate's own project and the action points should relate to the work to be carried out by the individual candidate.

The work produced should always be the candidate's own. However, teachers/lecturers are expected to provide candidates with advice, guidance and constructive criticism as necessary when they are devising their plans. It is important to note that, as the plan underpins the rest of the project, centres should ensure that no candidate proceeds to the development stage until the candidate has devised a plan that is potentially workable. The level of support that candidates need to devise a viable plan of action will of course vary from candidate to candidate. Centres should indicate the level of support given to each candidate on the flyleaf for the project provided by the SQA. This should not inhibit centres from providing constructive comment nor the candidate from acting on their own initiative and taking on board the advice. In some cases, however, if the level of support and intervention needed is more than that which would normally be seen as reasonable, the authenticity of the candidate's work may be called into

question. If the level of input needed from the teacher/lecturer is above normal (for example, the quality of the plan is such that it would mean that the project would be unworkable if the plan was not revised) then candidates cannot score more than 20 of the 40 marks allowed for the planning stage.

Developing

Candidates must provide evidence that:

- testifies to the quality of the hands-on practical activity
- documents the processes underpinning the activity

Specific evidence requirements for this Course are given later in this section.

All of the evidence should be produced in a supervised environment. Candidates may communicate with each other but should produce work which can be clearly attributed to the candidate as being his or her own.

Evaluating

Candidates must produce an extended evaluation report which should:

- provide a brief summary of what the assignment was about
- review and update the action plan in the light of experience
- assess the effectiveness of the action plan
- summarise any unforeseen events and how they were handled
- identify knowledge and skills which have been gained and/or developed
- assess the strengths, weaknesses and quality of any hands-on activity
- assess the effectiveness of the research methods used
- determine to what extent the assignment met the original brief

The extended evaluation report should be 1,000 words (or equivalent) at Higher. Candidates may carry out the preparation for the report beforehand.

Candidates at Higher should be allowed up to three hours to complete an extended evaluation (including the summary). This is a generous time allowance and some candidates may require considerably less time — two hours should generally be sufficient.

Candidates should be allowed to take one side of an A4 page of notes (maximum of 200 words or equivalent allowed) which they have prepared, into the room with them. They should not be allowed to take a draft of the evaluation report into the room with them. The centre has the responsibility for ensuring that the notes brought in are the candidate's own work.

For this activity the accommodation should be arranged to reflect centre-invigilated conditions and candidates should not be allowed to communicate with each other in any way.

Specific additional information and requirements

Natural Environment: planning stage

The plan should include appropriate maps and diagrams of the selected site 10 marks

Otherwise, as for generic evidence requirements 30 marks

Total: 40 marks

Natural Environment: developing stage

• a diary or log book of activities 20 marks

• a Phase 1 habitat survey map together with target note records, where appropriate 40 marks

• a plant species list using scientific names 15 marks

• a conservation plan using standard terminology and current best practice 45 marks

Total: 120 marks

Natural Environment: evaluating stage

The evaluation report should include a summary of the conservation potential of the site 10 marks

Otherwise, as for generic evidence requirements 30 marks

Total: 40 marks

Specific evidence requirements and assessment arrangements for the Practical Assignment for Natural Environment at Higher

| Planning | |
|------------------------------------|--|
| Evidence: | Plan of action 500 words <i>or</i> equivalent (40 marks) |
| Conditions of external assessment: | Supervised |
| Who assesses it? | Plan to be sent to SQA for marking |

| Developing | |
|------------------------------------|---|
| Evidence: | For hands-on activity and for processes underpinning the activity: <ul style="list-style-type: none"> • diary or log-book • Phase 1 habitat survey map and target note records where appropriate • plant species list • conservation plan (120 marks in total for this stage) |
| Conditions of external assessment: | Supervised |
| | <i>Transportable evidence:</i> All This is to be sent to SQA for marking |

| Evaluating | |
|---------------------------|--|
| Evidence: | Extended evaluation report – including summary 1,000 words <i>or</i> equivalent (40 marks) |
| Conditions of assessment: | Centre-invigilated |
| Who assesses it? | To be sent to SQA for marking |

It is important that candidates know that they will be penalised for submitting evidence that significantly exceeds the stated word count.

7. Marking and grading

The assessment evidence for project-based National Courses is marked externally by SQA. The total mark for the Practical Assignment is 200, (this large mark allocation makes it easier to discriminate effectively between performances of candidates across the various parts of the assessment). These marks will be allocated to assessment evidence from the three Practical Assignment stages as follows in *Table A*.

Table A

| Practical Assignment Stage | Assessment Evidence | Mark Allocation |
|-----------------------------------|--|------------------------|
| Planning | Plan of action | 40 |
| Developing | Evidence arising from the hands-on practical activity and from documenting the underpinning processes involved | 120 |
| Evaluating | Extended evaluation report | 40 |

To underpin this assessment system there are criteria to which marks are pegged, against which the candidate evidence from each of the three Practical Assignment stages is assessed. The use of such mark categories linked to broad criteria, allows for the aggregation of the various parts of the assessment which do not necessarily have the same weighting in the overall grade. *Table B* overleaf outlines the criteria to be used to assess candidate evidence. Assessors in centres will, for each of the three parts, decide firstly on the broad category of mark which is appropriate and secondly on the precise mark to be given (see *Estimates and Appeals* later in this section).

Although it is possible for candidates to be given bands 7, 8 and 9 which are described as 'fails', no such categories will appear on candidates' certificates. This information should help centres agree estimates of candidate performance and provide feedback to candidates for remediation purposes.

All National Courses are subject to external marking. External Markers, Visiting Examiners and Moderators will be trained by SQA to apply national standards. As candidate evidence becomes available exemplars will be issued to centres as guidance.

Practical Assignment

Table B

| Higher | | | Plan of action | Practical activity and documented process evidence | Evaluation report |
|--|--|---------------------------------|----------------|--|-------------------|
| Levels of performance: broad level-related criteria | | Equivalence to | Mark range | Mark range | Mark range |
| Content and scope: Treatment: | appropriate for level excellent | Upper A 85%–100% (Band 1) | 34–40 | 102–120 | 34–40 |
| Content and scope: Treatment: | appropriate for level consistently thorough | Lower A 70–84% (Band 2) | 28–33 | 84–101 | 28–33 |
| Content and scope: Treatment: | appropriate for level thorough in parts | B 60–69% (Bands 3 & 4) | 24–27 | 72–83 | 24–27 |
| Content and scope: Treatment: | appropriate for level adequate | C 50–59% (Bands 5 & 6) | 20–23 | 60–71 | 20–23 |
| Content and scope: Treatment: OR Content and scope: Treatment: | appropriate for level adequate only in parts OR basic for level thorough | Fail 40–49% (Bands 7 & 8) | 16–19 | 48–59 | 16–19 |
| Content and scope: Treatment: OR Content and scope: Treatment: | appropriate for level generally poor OR basic for level adequate or poor | Fail Below 40% (Band 9) | <16 | <48 | <16 |

Note:

Content and scope: defined as how appropriately or otherwise the candidate interprets the level of demand for the specification

Treatment: defined as how successfully or otherwise the candidate tackles the project

Estimates and appeals

Although these project-based National Courses are externally assessed by SQA Markers, candidates will benefit from estimate grades based on accurate internal assessment of their projects, ie the grade assessors judge a candidate should be awarded, based on all the available evidence. The processes for deciding an estimate grade are similar to the processes the external assessors, eg Markers, use for the final assessment. The main benefit of an estimate to an individual candidate is that an appeal can be submitted against an external decision where the estimate given the candidate was at grade C or better. An appeal will not normally be considered for candidates for whom no estimate has been received. The SQA will provide a form for submission of estimates.

For the internal marking process for estimates, internal assessors are expected to:

- Compare candidate evidence arising from each stage of the Practical Assignment to the criteria outlined in *Table B* and decide on the mark category which most accurately describes it.
- Decide on a particular mark for the candidate, within that broad mark category for each stage, depending on how marginal was the decision.
- Maintain a brief record of why a certain mark was given for each of the three Practical Assignment stages (for internal moderation purposes).
- Follow the internal moderation processes within their centre (see the section on internal moderation below).
- Aggregate the internally moderated marks for each candidate. That gives a total mark out of 200.
- Divide that total mark by 2 to give a percentage.
- Convert the overall % mark for each candidate into an estimate grade and band using *Table C*.

Table C

| % Mark range | Grade | Band (for estimates) |
|---------------------|------------------|-----------------------------|
| 85–100 | A (upper) | 1 |
| 70–84 | A (lower) | 2 |
| 65–69 | B (upper) | 3 |
| 60–64 | B (lower) | 4 |
| 55–59 | C (upper) | 5 |
| 50–54 | C (lower) | 6 |
| 45–49 | Fail (near miss) | 7 |
| 40–44 | Fail | 8 |
| Less than 40 | Fail | 9 |

- Check the grade already given to candidates against the grade descriptions tabled below, (*Table D*). This is to ensure that candidates have effectively integrated each stage of the Practical Assignment. Please use the grade descriptions as a touchstone against which grades can be checked.
- Provide estimates as bands.

Grade Descriptions for a Practical Assignment at Higher

Table D

| A | B | C |
|---|---|---|
| Content and scope appropriate for Higher | | |
| And looking at the evidence as a whole: | And looking at the evidence as a whole: | And looking at the evidence as a whole: |
| <p>A Practical Assignment at Grade A:</p> <ul style="list-style-type: none"> • produces high quality, clearly inter-related documented and product or process-related evidence for the three essential phases of the Practical Assignment • is an exercise to which candidates have brought an accurate and insightful interpretation of the Practical Assignment brief • is tightly structured, relevant to the content of the Units and displays a high level of subject/occupational expertise • effectively applies integrated and consolidated knowledge, understanding and skills from the Course Units to complex situations and/or design specifications | <p>A Practical Assignment at Grade B:</p> <ul style="list-style-type: none"> • produces good quality, inter-related documented and product or process-related evidence for the three essential phases of the Practical Assignment • is an exercise to which candidates have brought an accurate interpretation of the Practical Assignment brief • is well structured and displays a good level of subject/occupational expertise • satisfactorily applies integrated and consolidated knowledge, understanding and skills from the Course Units to situations and/or design specifications which include a degree of complexity | <p>A Practical Assignment at Grade C:</p> <ul style="list-style-type: none"> • produces adequate, fairly well inter-related documented and product or process-related evidence, for the three essential phases of Practical Assignment • an exercise to which candidates have brought an acceptable interpretation of the Practical Assignment brief • is reasonably well structured and displays an adequate level of subject/occupational expertise • applies integrated and consolidated knowledge, understanding and skills from the Course Units with some lack of continuity and consistency |

Internal moderation

The internal moderator oversees:

- The internal moderation process to ensure consistency of judgement or *reliability of assessment*. This process will vary according to the nature of the evidence and the number of assessors and sites. It is likely to involve agreement trials and/or Marker standardisation. The internal moderator should be a specialist in the subject. (It may be helpful in the first few years of these project-based National Courses to do a cross-subject moderation of samples of like parts such as the plans of action and evaluation reports. Such additional cross-subject internal moderation is however not mandatory.)
- A consideration of whether, in some cases, candidates with similar overall marks/bands have been fairly treated. For example, some candidates may have produced more fully integrated projects than others. This may lead to a reconsideration of marking of the individual components for some candidates.
- Finalisation of estimate grades and submission of candidate evidence. A form will be available for this purpose.

(See *Guide to Assessment and Quality Assurance for Colleges of Further Education* or *Guide to Assessment and Quality Assurance for Secondary Schools*, SQA June 1999 for further information relating to internal moderation. A guide to good practice for internal moderation is also under development.)

Submitting candidate evidence to SQA

Specific information on this part of the process will be circulated to centres. Where materials have to be sent to SQA for marking you will be provided with any necessary packaging materials.

The following must be sent to SQA for the Practical Assignment:

- plan of action
- all transportable evidence
- extended evaluation report

Note: In addition, centres will be expected to submit all notes used by candidates during write-up sessions.

8. Ensuring evidence is authentic

The following methods should be used to ensure that the evidence produced by a given candidate is all his/her own work. These methods are for use outwith any situation where the candidate's work will be produced under supervised or invigilated conditions already stipulated by the SQA (eg the plan of action and the evaluation).

The details of authenticating the evidence generated during a candidate's practical assignment will depend on how it has been implemented.

The following activities should take place regardless of the brief selected by the candidate. Methods of authenticating each piece of evidence are given below.

- **the diary or log-book of activities**
— should be signed and dated regularly by the centre assessor/lecturer. A diary should be kept for all activities (planning, developing and evaluating)
- **the Phase 1 habitat survey map and target note records**
— should be prepared, using field maps and notes, under supervised conditions
- **on-site face-to-face questioning**
— the candidate should be questioned by the centre assessor/lecturer. This method should be used to authenticate the plant species list.
- **the conservation plan/management plan**
— should be prepared, using field maps, notes and all other necessary materials, under supervised conditions

9. Investigating tools

Candidates are expected to make use of the following information sources during the Practical Assignment:

Information sources

- various types of maps (for example, OS 1:50000 series, BGS 1:50000 series, plant and animal distribution maps)
- plant keys and identification guides
- field guides (for example, for invertebrates, butterflies and moths, birds, mammals)
- local/county/regional wildlife records/databases
- local/county/regional plant lists/floras
- local biodiversity action plans
- newsletters of local clubs/societies/organisations, local branches of national clubs/societies/organisations and national organisations (for example, FWAG, NTS, RSPB, SNH, SWT*)
- journal articles (for example, British Wildlife)
- magazine articles (for example, *Scotland's Natural Heritage*, *Plantlife*, *BBC Wildlife*)
- local community/landowners
- teaching/lecturing staff
- TV/video
- Internet/CD-ROM/software

* FWAG = Farming & Wildlife Advisory Group
NTS = National Trust for Scotland
RSPB = Royal Society for the Protection of Birds
SNH = Scottish Natural Heritage
SWT = Scottish Wildlife Trust

Accessing information

personal visits to:

- libraries
- information centres

communication with individuals and organisations by:

- meetings/interviews (face-to-face, telephone or video-conferencing)
- written correspondence
- e-mail

Methods of research may need to be discussed and agreed with the teacher/lecturer. Guidance from the teacher/lecturer may be needed in this area. Centres should be aware of the need to be sensitive to the negative as well as the positive effects that telephone calls, requests for material, interviews and so on may have on organisations and individuals. However, the final decision on the most suitable approach lies with candidates and their teachers/lecturers.

References supplied by candidates

Please note that it is legitimate for candidates to quote from information sources such as articles (in print or stored electronically) or books. Such quotations must be placed within quotation marks followed by the reference, including the chapter and or section and page number. Texts referred to should be included in the bibliography.

The following format for references should be used:

Books

Author's surname, followed by forename or initials, title of book (in italics or underlined), place of publication, name of publisher, year of publication.

For example:

Barton, T, *Fieldwork for Geographers*, London: Edward Arnold, 1985

Articles

Author's surname, followed by forename or initials, title of the article (in inverted commas), title of the periodical (underlined or in italics), volume number, part number, year of publication, page number(s).

For example:

Sugden, DE, 'Perspectives on the Glaciation of Scotland', *SAGT Journal No. 17*, 1988, pp 4–10.

Maps and Diagrams

Sources should be given on each map and diagram and should be stated in the same format as for books and articles, as appropriate.

For example:

Microsoft Encarta 1997

Internet

If a website has been used then the address (URL) must be disclosed.

For example:

www.sqa.org.uk

It is important to note that unacknowledged copying will be penalised, usually by cancellation of the candidate entry.

10. Materials and resources

Candidates are expected to select from the following materials and resources as appropriate:

- *Handbook for Phase 1 Habitat Survey*, 1993, Joint Nature Conservation Committee, ISBN 0 86139 636 7 [or the field manual or relevant extracts]. Available from JNCC, Monkstone House, City Road, Peterborough, PE1 1JY.
- the following Berol Verithin series (or equivalent) colour pencils are required:

| | | |
|------------------|---------------------|--------------------|
| VT 01 Black | VT 46 Orange | VT 05 Indigo Blue |
| VT 49 Pink | VT 08 Sky Blue | VT 51 Purple |
| VT 25 Flesh | VT 55 Scarlet Red | VT 31 Green |
| VT 66 Terracotta | VT 32 True Green | VT 89 Yellow Ochre |
| VT 45 Magenta | VT 80 Canary yellow | |

(available from stationers or Berol Ltd, Oldmeadow Road, King's Lynn, Norfolk, PE30 4JR)
- maps, keys, field guides and other items listed in the *Information Sources* section of *Investigating Tools*
- hand lenses or a dissecting microscope

The particular materials and resources selected will vary according to the brief selected.

11. Core Skills

It is possible that successful attainment of this Course would lead to the automatic certification of particular Core Skills or Core Skill components. A final statement will be provided at a later date by the Scottish Qualifications Authority once full validation procedures are complete.

It should be noted that this project, in common with other project-based Courses, follows the planning/developing/evaluating cycle. As a result of this it is likely that successful completion of the project will lead to automatic certification of the Problem Solving Core Skill at Intermediate 2. The final Core Skills statement, as above, will confirm this.