

Draft National Unit Specification



Unit title: Geographical Methods, Techniques and Research Skills (Advanced Higher)

SCQF: level 7 (16 SCQF credit points)

Unit code: to be advised

Unit outline

The general aim of this Unit is to develop a range of geographical methods and techniques. These include map skills, graphical techniques and a range of statistical techniques for gathering, analysing and interpreting geographical data. Learners will also develop a range of independent geographical research skills.

Learners who complete this Unit will:

- 1 Apply a range of fieldwork methods and techniques
- 2 Apply a range of statistical techniques in appropriate contexts
- 3 Produce and analyse a range of maps and other data sources
- 4 Develop independent geographical research skills

This Unit is a mandatory Unit of the Advanced Higher Geography Course and is also available as a free-standing Unit. The Unit Specification should be read in conjunction with the *Unit Support Notes*, which provide advice and guidance on delivery, assessment approaches and development of skills for learning, skills for life and skills for work. Exemplification of the standards in this Unit is given in the *National Assessment Resource*.

The *Course Assessment Specification* for the Advanced Higher Geography Course gives further mandatory information on Course coverage for learners taking this Unit as part of the Advanced Higher Geography Course.

Recommended entry

Entry to this Unit is at the discretion of the centre. However, learners would normally be expected to have attained the skills, knowledge and understanding required by one or more of the following or equivalent qualifications and/or experience:

- ◆ Higher Geography Course or relevant component Units
- ◆ Higher Environmental Science Course or relevant component Units

Equality and inclusion

This Unit Specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence. For further information, please refer to the *Unit Support Notes*.

Standards

Outcomes and assessment standards

Outcome 1

The learner will:

1 Apply a range of fieldwork methods and techniques by:

- 1.1 Selecting one appropriate fieldwork technique associated with physical geography
- 1.2 Selecting one appropriate fieldwork technique associated with human geography
- 1.3 Using each fieldwork technique in the appropriate context to gather valid and reliable evidence

Outcome 2

The learner will:

2 Apply a range of statistical techniques in appropriate contexts by:

- 2.1 Identifying an appropriate statistical technique for a given context
- 2.2 Accurately analysing geographical data
- 2.3 Drawing valid geographical conclusions from the data

Outcome 3

The learner will:

3 Produce and analyse a range of maps and other data sources by:

- 3.1 Choosing an appropriate format for the presentation of geographical information
- 3.2 Presenting, clearly and accurately, geographical information
- 3.3 Interpreting complex geographical information to reach valid conclusions

Outcome 4

The learner will:

4 Develop independent geographical research skills by:

- 4.1 Identifying an appropriate complex geographical topic for research
- 4.2 Planning a programme of research
- 4.3 Researching, collecting and recording information
- 4.4 Evaluating, analysing and synthesising evidence
- 4.5 Understanding approaches to organising, presenting and referencing findings, using appropriate academic conventions
- 4.6 Evaluating research methodology

Evidence Requirements for the Unit

Assessors should use their professional judgement, subject knowledge and experience, and understanding of their learners, to determine the most appropriate ways to generate evidence and the conditions and contexts in which they are used.

Evidence is required to show that the learner has met the Outcomes and Assessment Standards.

Assessment evidence can be drawn from a variety of activities and presented in a variety of formats, including, for example, a folder of completed work, an outline of a research task, an interim report of an investigation, fieldwork reports, presentations, posters, detailed written responses to questions and participation in group tasks. The evidence for Unit assessment samples the range of techniques with which candidates become familiar. This evidence can consist of separate tasks which have been selected from the candidate's work during the Unit and that show competence in the related Outcome. Alternatively, centres might choose to gather evidence through a single piece of research.

In Outcome 3, one of the pieces of evidence must demonstrate attainment based on a 1:25000 OS map and associated data, eg transects, overlays, tables.

The aim of this Unit is to develop candidates' geographical skills to carry out geographical research. For Outcomes 1 and 4, candidates should have opportunities to benefit from working in the field to gather information.

The centre will also have to take care to ensure the authenticity of the work presented by candidates. It is quite acceptable for candidates to work in groups to collect information but the evidence retained for assessment ought to be clearly the candidate's own work.

Evidence may be presented for individual Outcomes or gathered for the Unit, Units or Course as a whole by combining assessment holistically.

Exemplification of assessment is provided in the *National Assessment Resource*. Advice and guidance on possible approaches to assessment is provided in the *Unit Support Notes*.

Appendix 1

List of skills/techniques

Outcome 1

a) Physical:

- ◆ morphological mapping which may include GPS
- ◆ vegetation sampling
- ◆ stream analysis
- ◆ weather recording
- ◆ soil profiles and characteristics
- ◆ pebble analysis — size, shape and rock type
- ◆ use of secondary sources which may include maps and GIS

b) Human:

- ◆ rural land use mapping which may include GPS
- ◆ urban land use mapping which may include GPS
- ◆ traffic and pedestrian surveys
- ◆ environmental quality surveys
- ◆ questionnaire design and implementation
- ◆ use of secondary sources which may include maps and GIS

Outcome 2

- ◆ sampling — random, systematic, stratified
- ◆ handling different data types — nominal, ordinal, interval, ratio
- ◆ descriptive statistics — measures of central tendency — mean, median, mode
- ◆ measures of dispersion — standard deviation
- ◆ introductory statistical testing — nearest neighbour, chi squared, Spearman's rank correlation coefficient, Pearson's product moment correlation coefficient, linear regression
- ◆ Reilly's gravity law
- ◆ use of statistical techniques in order to explain geographical relationships

Outcome 3

- ◆ detailed interpretation and analysis of Ordnance Survey (OS) maps and related data
- ◆ graphical presentation of data — systems diagrams, logarithmic, kite and scatter graphs, polar and triangular graphs, dispersion diagrams, bipolar analysis, dot maps, isoline maps, choropleth maps, proportional symbols, divided proportional symbols and flow maps
- ◆ use of OS maps and other data sources to aid decision making and problem solving

Development of skills for learning, skills for life and skills for work

It is expected that learners will develop broad, generic skills through this Unit. The skills that learners will be expected to improve on and develop through the Unit are based on SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work* and drawn from the main skills areas listed below. These must be built into the Unit where there are appropriate opportunities.

1 Literacy

- 1.1 Reading
- 1.2 Writing

2 Numeracy

- 2.3 Information handling

4 Employability, enterprise and citizenship

- 4.6 Citizenship

5 Thinking skills

- 5.3 Applying
- 5.4 Analysing and evaluating

Amplification of these is given in SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work*. The level of these skills should be at the same SCQF level as the Unit and be consistent with the SCQF level descriptor. Further information on building in skills for learning, skills for life and skills for work is given in the *Unit Support Notes*.

Administrative information



Published: October 2012 (draft version 1.0)

Superclass: to be advised

History of changes

Version	Description of change	Authorised by	Date

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