

## National Unit Specification: general information

<b>UNIT</b>	Geology: The Study of the Earth (Intermediate 1)
<b>NUMBER</b>	D243 10
<b>COURSE</b>	Geology (Intermediate 1)

### SUMMARY

This unit seeks to provide candidates with an introduction to geology. Candidates will acquire knowledge and understanding of the structure and history of the Earth; minerals, rocks and fossils; geological structures; and Earth resources. Aided by practical work, candidates' skills of problem solving, observation, interpretation, recording and communication will be developed. Consideration of the overuse and misuse of resources will allow candidates to develop considered attitudes to environmental problems.

### OUTCOMES

- 1 Demonstrate knowledge and understanding related to geology.
- 2 Solve problems related to geology.
- 3 Collect and analyse information related to geology obtained through practical work.

### RECOMMENDED ENTRY

Entry is at the discretion of the centre.

### CREDIT VALUE

1 credit at Intermediate 1.

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### Administrative Information

<b>Superclass:</b>	RF
<b>Publication date:</b>	November 1999
<b>Source:</b>	Scottish Qualifications Authority
<b>Version:</b>	03

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## **National Unit Specification: general information (cont)**

**UNIT**      Geology: The Study of the Earth (Intermediate 1)

### **CORE SKILLS**

This unit gives automatic certification of the following:

<b>Complete core skills for the unit</b>	None
<b>Core skills components for the unit</b>	Critical Thinking                      Int 1
	Using Graphical Information      Int 1

Additional information about core skills is published in *Automatic Certification of Core Skills in National Qualifications* (SQA, 1999).

## **National Unit Specification: statement of standards**

### **UNIT**      Geology: The Study of the Earth (Intermediate 1)

Acceptable performance in this unit will be the satisfactory achievement of the standards set out in this part of the unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to the Scottish Qualifications Authority.

#### **OUTCOME 1**

Demonstrate knowledge and understanding related to geology.

##### **Performance criteria**

- (a) The description of Earth structure and history is correct.
- (b) The description of the modes of formation of igneous, sedimentary and metamorphic rocks is correct.
- (c) The description of the mode of formation and geological significance of fossils is correct.
- (d) The description of the modes of formation of synclines, anticlines, faults and dykes is correct.
- (e) The significance of geology is correctly explained with reference to economic, social and environmental factors.

##### **Evidence requirements**

Evidence is produced from a closed book test which demonstrates successful achievement of all of the above performance criteria.

#### **OUTCOME 2**

Solve problems related to geology.

##### **Performance criteria**

- (a) Relevant information is selected and presented in an appropriate format.
- (b) Information is accurately processed using calculations where appropriate.
- (c) Valid conclusions are drawn and explanations given are supported by evidence.
- (d) Predictions and generalisations are made based on the available evidence.
- (e) The sequence of formation of geological structures is correctly established from cross-cutting and superposed relationships.

##### **Evidence requirements**

Evidence is produced from a closed book test which demonstrates successful achievement of all of the above performance criteria, including the interpretation and communication of graphical information at an appropriate level. With reference to PCs (c) and (d), the candidate's answers must show that the main features of the situation have been recognised and a suitable source selected to deal with it.

## **National Unit Specification: statement of standards (cont)**

### **UNIT**      Geology: The Study of the Earth (Intermediate 1)

#### **OUTCOME 3**

Collect and analyse information related to geology obtained through practical work.

#### **Performance criteria**

- (a) Minerals and rocks in hand specimen are correctly tested, described and identified.
- (b) Fossils are correctly drawn, described and identified.

#### **Evidence requirements**

##### ***PC:***

- (a) Minerals: in a practical test, candidates should correctly test, describe and identify 7 out of 10 minerals.
- (b) Rocks: in a practical test, candidates should correctly test, describe and identify 10 out of 12 rocks.
- (c) Fossils: in a practical test, candidates should correctly draw, describe and identify 10 out of 12 fossils.

## National Unit Specification: support notes

### UNIT Geology: The Study of the Earth (Intermediate 1)

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

While the 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, and on learning and teaching approaches, is given in the table in the Content section of the course details.

#### GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Outcomes 1 and 2 will be assessed by means of an integrated end of unit assessment. The end of unit test has no specified mark allocation. However, the following approximate percentage mark allocations are recommended. (Note that the numbers given express a ratio of marks allocated. Candidates would not be expected to undertake test items with the actual mark allocations shown.)

<b>Outcome 1</b>	<b>(knowledge and understanding)</b>	<b>60%</b>
<b>PC:</b>		
(a)	Earth structure and history.	(10)
(b)	Formation of igneous, sedimentary and metamorphic rocks.	(10)
(c)	Igneous rocks.	(10)
(d)	Sedimentary rocks.	(6)
(e)	Metamorphic rocks.	(6)
(f)	Formation and geological significance of fossils.	(6)
(g)	Formation of synclines, anticlines, faults and dykes.	(12)
(h)	Economic, social and environmental factors.	
<b>Outcome 2</b>	<b>(problem solving)</b>	<b>40%</b>
<b>PC:</b>		
(a)	Selecting and presenting information.	(6)
(b)	Processing information.	(8)
(c)	Drawing conclusions and giving explanations.	(12)
(d)	Making predictions and generalisations.	(6)
(e)	Establishing the sequence of formation of geological structures.	(8)

Test items should be constructed to allow candidates to generate evidence relating to the performance criteria as follows:

- (a) Selecting, presenting and processing information
  - Sources of information include text; straightforward tables, diagrams, charts and graphs; numerical information.
  - Formats of presentation include written responses; straightforward tables, diagrams, charts and graphs.
- (b) Calculations include totals, differences, averages, ratios and percentages.
- (c) From information given, candidates should be able to draw straightforward conclusions with explanations supported by the evidence

## National Unit Specification: support notes (cont)

### UNIT Geology: The Study of the Earth (Intermediate 1)

- (d) From given situations, candidates should be able to make simple predictions and generalisations eg by predicting effects on the environment from changes in the type of aggregate used in the construction industry
- (e) From information given, usually in graphical form, candidates should be able to determine the sequence of the formation of various geological structures.

#### Outcome 3

Collect and analyse information related to geology obtained through practical work.

#### PC:

- (a) Minerals and rocks in hand specimen are correctly tested, described and identified.

Minerals: in a practical assessment, candidates should correctly test, describe and identify 7 out of 10 minerals. Colour, streak and hardness should be described. Other distinctive properties should be described.

Rocks: in a practical test, candidates should correctly test, describe and identify 10 out of 12 rocks. Colour, grain size, texture (crystalline or fragmental), internal structure (bedding or other layering), and the presence of fossils should be described.

For the purpose of identifying previously unseen mineral and rock specimens, keys and candidates' records of work may be used.

#### PC:

- (b) Fossils are correctly drawn, described and identified.

Fossils: in a practical assessment, candidates should correctly draw, describe and identify 10 out of 12 fossils. Drawings should be made from specimens or from plaster casts of fossils. Drawings should be of an appropriate standard and descriptions should mention distinctive characteristics. It is realised that some candidates may not be able to draw to acceptable standards. In such cases, good descriptions may compensate for drawings which do not meet the appropriate standard.

For the purpose of identifying previously unseen fossil specimens, keys and candidates' records of work may be used.

### SPECIAL NEEDS

This unit specification is intended to ensure that there are no artificial barriers to learning or assessment. Special needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering alternative outcomes for units. For information on these, please refer to the SQA document *Guidance on Special Assessment and Certification Arrangements for Candidates with Special Needs/Candidates whose First Language is not English* (SQA, 1998).