SCOTTISH QUALIFICATIONS AUTHORITY

# National Unit Specification: general information

**UNIT** Health and Technology (Access 3)

**NUMBER** D023 09

**CLUSTER** Biology (Access 3)

## SUMMARY

This unit seeks to develop knowledge and understanding, problem solving and practical abilities related to the use of technology in measuring, recording and monitoring health.

## OUTCOMES

1. Handle information related to physiological measurement.
2. Carry out physiological measurements related to health and technology.

## RECOMMENDED ENTRY

Entry is at the discretion of the centre.

## CREDIT VALUE

1 credit at Access 3.

### Administrative Information

**Superclass:** PE

**Publication date:** June 2002

**Source:** Scottish Qualifications Authority

**Version:** 04

## National Unit Specification: general information (cont)

**UNIT** Health and Technology (Access 3)

### CORE SKILLS

There is no automatic certification of core skills or core skills components for this unit.

Additional information about core skills is published in the *Catalogue of Core Skills in National Qualifications* (SQA, 2001).

## National Unit Specification: statement of standards

## UNIT Health and Technology (Access 3)

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

Handle information related to physiological measurements.

**Performance criteria**
(a) Facts are used correctly in relation to physiological measurements.
(b) Relevant information is selected and presented appropriately.
(c) Conclusions drawn are valid.

**Note on range for the outcome**
Physiological measurements related to: heart, lungs, whole body.

**Evidence requirements**
Evidence of an appropriate level of attainment must be generated from a closed book test with items covering all the performance criteria for all of the range.

### OUTCOME 2

Carry out physiological measurements related to health and technology.

**Performance criteria**
(a) The procedures are followed accurately and safely.
(b) Relevant measurements and observations are recorded in an appropriate format.

**Note on range for the outcome**
Physiological measurements: pulse rate, body temperature.

**Evidence requirements**
A checklist of the individual work of the candidate must be produced for all of the performance criteria for each technique given in the range.

# National Unit Specification: support notes

## UNIT Health and Technology (Access 3)

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

**Outcome 1**

**1. What is health and technology?**

i The meaning of health.
The health triangle.
The importance of a healthy lifestyle.

ii The value of physiological measurements as indicators of health.
The advantages and disadvantages of high tech and low tech approaches to measuring temperature, body fat, blood pressure and heart rate (pulse rate).

**2. A healthy heart**

i The heart and circulatory system.
The heart as a muscle which pumps blood around the body.
The three main blood vessels are arteries, veins and capillaries.
Transport function.

ii Pulse rate as a health indicator.
Pulse rate, its measurements and the normal range of values.
Recovery time
Effect of exercise on pulse rate and recovery time.

iii The concept of blood pressure.
Blood pressure, its measurement and average value.
Blood pressure under different conditions and its significance for health.

iv Blood tests and cell counts.
Detection of infection and other medical conditions to include anaemia, diabetes and leukaemia.
Identification of blood groups.
Measurement of alcohol or drug concentration in the blood.

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## National Unit Specification: support notes (cont)

## UNIT Health and Technology (Access 3)

### 3. Healthy lungs

i The lungs and breathing.
Positions and parts of the breathing system.
The function of the lungs.
The effect of exercise on breathing and recovery time.

ii The physiological measurements of the lungs.
Tidal volume, vital capacity and peak flow depend on the size, age, sex and fitness of a person.
Peak flow can be used in the diagnosis and management of asthma.

iii Health risks and effects of smoking.

### 4. A healthy body

i The importance of diet and energy balance.
The main food groups and their uses.
A healthy diet contains a balance of the three food types.

ii The relationship between body fat and health.
Body fat, its measurement and the normal range of values of body mass.
Implications for health of being overweight or underweight.

iii The relationship between body temperature and health.
Body temperature, its measurement and the normal range of values.
Implications for health of high and low temperatures.

iv Exercise and the health of muscles.
The importance of regular exercise in the maintenance of the size and strength of muscles.
Muscle size and strength decrease if muscles are not exercised regularly.

v Reaction time as an indicator of health.
Reaction time, its measurement.
Factors that can affect reaction time.
Implications for health of long reaction time.

vi Health risks and the effects of alcohol and other drugs.

Further detail is given in the course content section of the Intermediate 1 Biology course specification.

**Outcome 2**
Physiological measurements suitable for this outcome are:

- pulse rate
- body temperature.

## National Unit Specification: support notes (cont)

**UNIT** Health and Technology (Access 3)

### 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 Arrangements* (SQA, 2001).