

## National Unit Specification: General Information

<b>UNIT</b>	Human Physiology in the Development of Performance: An Introduction (Intermediate 2)
<b>NUMBER</b>	D9VG 11
<b>COURSE</b>	This is a free standing unit that may be used as part of a Scottish Group Award, or be associated with other programmes of study in schools, colleges of further education or other centres.

### SUMMARY

This unit is designed to give candidates an understanding of the basic anatomical, and physiological principles which underlie human performance in a sporting or dance related activity and enable them to apply specified principles in the production of a single physical training session.

### OUTCOMES

- 1 Describe the basic structure of the skeletal and muscular systems.
- 2 Describe the basic functions of the skeletal and muscular systems in relation to movement in a sporting or dance related performance.
- 3 Design a performance related physical training session for a participant.

### RECOMMENDED ENTRY

While entry is at the discretion of the centre, candidates may find it advantageous to have attained a General level award in Standard Grade Science plus one or more of the following:

- a General level award in Standard Grade Physical Education
- a unit, units or course in Physical Education at Intermediate 1
- relevant sporting activity or dance units at Intermediate 1
- other relevant prior experience in physical education or dance, including experience gained outwith certificated courses.

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### Administrative Information

<b>Superclass:</b>	MA
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<b>Version:</b>	02 (Version 01 is National Unit D684 11)

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## **National Unit Specification: General Information (cont)**

### **CREDIT VALUE**

1 credit at Intermediate 2 (6 SCOTCAT points\*) at SCQF level 5.

*\*SCOTCAT 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 SCOTCAT points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

### **CORE SKILLS**

There is no automatic certification of core skills or core skills components in 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** Human Physiology in the Development of Performance: An Introduction (Intermediate 2)

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**

Describe the basic structure of the skeletal and muscular systems.

#### **Performance Criteria**

- a) The main bones which make up the skeletal system are correctly named.
- b) The main muscles which make up the muscular system are correctly named.

#### **Evidence Requirements**

Oral or written evidence that the main bones and muscles of the skeletal and muscular systems are correctly named.

### **OUTCOME 2**

Describe the basic functions of the skeletal and muscular systems in relation to movement in a sporting or dance related performance.

#### **Performance Criteria**

- a) The functions of the skeletal system are correctly identified.
- b) The functions of the muscular system are correctly identified.
- c) The inter-relationship between the skeletal and muscular systems with respect to movement is accurately described.

#### **Evidence Requirements**

Oral or written evidence that correctly identifies the basic functions and inter-relationship of the skeletal and muscular systems.

### **OUTCOME 3**

Design a performance related physical training session for a participant.

#### **Performance Criteria**

- a) The role of the principles of overload and specificity in the development of the components of fitness for the participant is correctly explained.
- b) The influence of frequency, intensity and duration on the principle of overload for the participant is correctly explained.

## **National unit specification: statement of standards (cont)**

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- c) Physical exercises which make use of the principles of overload and specificity in the development of the participant's components of fitness are correctly described.
- d) Physical exercises which make use of the principles of overload and specificity in the development of two components of fitness appropriate to the participant are accurately demonstrated.

### **Evidence Requirements**

Evidence of production of a training session plan for a session of one to one and a half hours appropriate to the participant which covers performance criteria (a) to (c).

Evidence should be generated through active participation by the candidate that satisfies performance criterion (d). Two exercises for each of two components of fitness appropriate to the participant will require to be demonstrated. Evidence should be recorded for all essential elements.

## **National unit specification: support notes**

**UNIT** Human Physiology in the Development of Performance: An Introduction (Intermediate 2)

This part of the unit specification is offered as guidance. None of the sections of the support notes is 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 CONTENT AND CONTEXT**

Candidates will be introduced to basic anatomical and physiological principles. These principles will be presented in a very simplistic context without reference to detailed terminology (eg it will be sufficient for a candidate to refer to the muscles on the front of the thigh as the 'quadriceps' as opposed to the individual muscles which make up the collective group). This introduction to the basic principles will enable the candidate to identify the contribution of fitness components necessary to bring about an efficient performance in a sporting or dance related activity. The unit focuses on improving performance, in a sport or dance related activity of the candidate's choice, within the context of a single training session for a participant.

Candidates will be expected to plan a single training session taking into account the fitness components, which may include: speed; strength; flexibility; muscular endurance; cardio-respiratory endurance; power, and correct movement patterns relevant to the chosen sporting or dance related activity, and to be able to demonstrate aspects of this plan in a practical context.

### **GUIDANCE ON TEACHING AND LEARNING APPROACHES**

Candidates should be provided with the opportunity to develop their knowledge, understanding and analytical ability through a variety of learning and teaching approaches including lectures, demonstrations and practical exercises. In view of the practical nature of the subject matter, candidates should be involved as individuals, in pairs, and small groups in a practical context where applicable. A variety of methods for the analysis of performance should be presented to the candidate, including the use of video and peer group observation/assessment.

### **GUIDANCE ON APPROACHES TO ASSESSMENT**

To achieve this unit evidence requires to be generated which confirms that the candidate has successfully achieved all outcomes and performance criteria within any range specified. The following outlines how evidence could be generated:

#### **Outcome 1**

Written or oral questions relating to the general names given to components of the skeletal and muscular systems.

#### **Outcome 2**

Written or oral questions relating to the simple functions of the skeletal and muscular systems and how the two systems inter-relate to produce movement.

## National unit specification: support notes(cont)

**UNIT** Human Physiology in the Development of Performance: An Introduction (Intermediate 2)

### Outcome 3

An assignment where the candidate produces a plan of a single training session which takes into consideration the principles of specificity and overload in relation to the relevant components of fitness for the chosen sporting or dance related activity (performance criteria (a), (b) and (c)).

A practical exercise in which the candidate selects two components of fitness relevant to the chosen sporting or dance related activity and demonstrates a minimum of two exercises per component which take into consideration the principles of specificity and overload (performance criterion (d)). Evidence of achievement can be recorded by way of a checklist countersigned by the tutor.

Note: In the case of oral evidence, this must be retained in a format which can be produced as evidence of candidate achievement.

### EXEMPLARS

Outcome 3, performance criteria (a), (b) and (c).

### Assignment

Prepare a plan of a single training session for a participant in a sporting or dance related activity of your choice.

For the purpose of this assignment the participant in question is training twice per week and performing on either a Saturday or Sunday. The individual is also performing at representative level ie, for the District, Region or National squad. He/she is therefore of a high standard.

When designing your plan you should take note of the following points:

- a) The age and sex of the participant should be stated.
- b) The sporting or dance related activity in which the participant is involved should be identified.
- c) The components of fitness relevant to the chosen sporting or dance related activity should be identified.
- d) The training session should be designed to last for a minimum of one hour and a maximum of one and a half hours.
- e) The plan should show evidence of consideration of the principle of specificity by referring to the participant's present level of fitness.
- f) The plan should show how the frequency, intensity and duration of each exercise have been established to bring about a training overload within the session.

Outcome 3, performance criterion (d).

### PRACTICAL EXERCISE

Select two components of fitness relevant to the chosen sporting or dance related activity and demonstrate a minimum of two exercises per component from the training session which take into consideration the principles of specificity and overload.

Evidence of achievement will be recorded by way of checklist countersigned by the tutor.

## **National unit specification: support notes(cont)**

**UNIT** Human Physiology in the Development of Performance: An Introduction (Intermediate 2)

### **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 special alternative outcomes for units. For information on these, please refer to the SQA document *Guidance on Special Assessment Arrangements* (SQA, publication code AA0645).