

Higher National Unit Specification

General information for centres

Unit title: Exercise Principles and Programming

Unit code: DP8E 34

Unit purpose: The Unit is intended to encompass the major functions of the Fitness, Health and Exercise professional to include the assessment of a client's current fitness, the prescription on an intervention strategy and the delivery of an effective exercise experience. The Unit will help the candidate apply their knowledge of fitness testing and training resulting in the practical delivery of a client specific session. Knowledge of adaptations to exercise and client adherence factors will allow candidates to approach these primary professional functions competently and confidently.

On completion of the Unit the candidate should be able to:

- 1 Describe the Elements of Health Related Physical Fitness (HRPF) and examine the relationship between Health Related Fitness, Physical activity and exercise.
- 2 Perform a battery of fitness tests which will assess the Components of Health Related Physical Fitness.
- 3 Describe client participation issues that the fitness professional should consider when working with a client.
- 4 Describe the principles of exercise prescription appropriate for the improvement of Elements and Components of Health Related Physical Fitness.
- 5 Design and deliver an effective exercise session for a specific client or client group.

Credit points and level: 2 HN Credit at SCQF level 7: (16 SCQF credit points at SCQF level 7*)

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

Recommended prior knowledge and skills:

Core skills: There may be opportunities to gather evidence towards core skills in this Unit, although there is no automatic certification of core skills or core skills components.

Context for delivery: If this Unit is delivered as part of a group award, it is recommended that it should be taught and assessed within the subject area of the group award to which it contributes.

Assessment: This Unit will be assessed using specified forms of written and practical assessments in order to present sufficient evidence showing that candidates have met all of the Performance criteria for each Outcome within the range specified. It is recommended that candidates will compile a portfolio of evidence comprising material which satisfies the evidence requirements for each Outcome. This evidence could be gathered in the form of case studies.

Higher National Unit specification: statement of standards

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The sections of the Unit stating the Outcomes, knowledge and/or skills, and evidence requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the knowledge and/or skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Describe the elements of Health Related Physical Fitness and examine the relationship between Health Related Fitness, Physical activity and exercise

Knowledge and/or skills

- ◆ elements of Health related fitness.
- ◆ static fitness tests
- ◆ interpretation of results
- ◆ effects of exercise intervention.

Evidence requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can:

- ◆ describe the significance of Health Related Physical Fitness elements in terms of an individual's health.
- ◆ deliver static fitness tests adhering to recognised protocols
- ◆ analyse results for a client gained from static fitness tests
- ◆ provide post-test feedback for the client and offer accurate guidance and advice on an exercise intervention strategy
- ◆ identify common barriers to exercise participation

Assessment guidelines

The assessment may require a combination of approaches to provide written and/or oral evidence.

Restricted response question paper for elements of health related fitness and health and exercise benefits.

Evidence for practical testing skills will be recorded by an assessor checklist.

A portfolio of test results and evaluation for at least one individual.

Information located in the Guidance on the content and context for this unit offer relevant information for the assessment of the Unit.

Higher National Unit specification: statement of standards (cont)

Unit title: Exercise Principles and Programming

Outcome 2

Perform a battery of fitness tests which will assess the components of Health Related Physical Fitness

Knowledge and/or skills

- ◆ Testing procedures and protocols
 - cardio — vascular tests
 - body composition tests
 - strength tests
 - flexibility tests
 - local muscular endurance tests
- ◆ Post test feedback

Evidence requirements

Candidates will need to provide evidence to demonstrate knowledge of all elements listed below showing that they can:

- ◆ identify appropriate tests for the assessment of HRPF
- ◆ ensure all pre test considerations are discussed with the client
- ◆ adhere to protocols for the selected tests
- ◆ record client details in an appropriate format
- ◆ analyse test results

Assessment guidelines

This assessment requires a combination of approaches to provide written, oral and performance evidence.

Candidates should construct an appropriate recording proforma suitable for use with clients.

A written rationale for test selection should be offered highlighting client specificity.

The assessor should use an observational checklist for practical testing components.

Candidates should compile a portfolio of test results with corrective strategy and advice.

Outcome 3

Describe client participation issues that the fitness professional should consider when working with a client

Higher National Unit specification: statement of standards (cont)

Unit title: Exercise Principles and Programming

Knowledge and/or skills

- ◆ client contra indications to exercise
- ◆ health/medical considerations
- ◆ influence of previous exercise experience
- ◆ lifestyle factors
- ◆ socio-economic/demographic issues

Evidence requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can:

- ◆ identify contraindications that would have an influence on an individual's ability to participate in exercise
- ◆ employ exercise intervention strategies
- ◆ consider exercise history
- ◆ recognise barriers to exercise and their impact on exercise adherence

Assessment guidelines

Written post test analysis which will be included in the portfolio of client test results.

Outcome 4

Describe the principles of exercise prescription appropriate for the improvement of Elements and Components of Health Related Physical Fitness

Knowledge and/or skills

Principles of exercise prescription

- ◆ progressive Overload
— frequency, intensity, time, type, adherence
- ◆ specificity
- ◆ reversibility
- ◆ current recognised guidelines
- ◆ monitoring exercise intensity

Components of health related Physical Fitness

- ◆ cardio-vascular, local muscular endurance, strength and flexibility

Elements of Health related Physical Fitness

- ◆ height; weight; blood pressure; BMI; waist to hip ratio; lung function

Higher National Unit specification: statement of standards (cont)

Unit title: Exercise Principles and Programming

Evidence requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can:

- ◆ describe training principles in relation to the development of Cardio Vascular Endurance
- ◆ describe training principles in relation to the development of Local Muscular Endurance
- ◆ describe training principles in relation to the development of Strength
- ◆ describe training principles in relation to the development of Flexibility

Assessment guidelines

It is recommended that candidates will produce an extended response case study for each nominated client. All above requirements must be covered.

Outcome 5

Design and deliver an effective exercise session for a specific client or client group

Knowledge and/or skills

- ◆ session planning
- ◆ client specific content
- ◆ organisational, facility and group management issues
- ◆ communication skills
- ◆ motivation skills
- ◆ technical skills
- ◆ corrective feedback

Evidence requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can:

- ◆ Provide a structured written programme detailing session theme and expectations, organisation of equipment and class management issues to include client and facility safety.
- ◆ Offer a rationale for the session content referring to principles of training. This should be done by presenting the selected session in its context within a programme.
- ◆ Rationalise and justify all session content variables.
- ◆ Deliver the session to a client group demonstrating effective presentation skills in terms of client interaction, voice projection, demonstrations and feedback.
- ◆ Appropriate client observation and interaction to include fault recognition and correction, positive verbal feedback and motivation.
- ◆ A post session evaluation should be recorded by the candidate detailing good practice and any additions to future sessions.

Higher National Unit specification: statement of standards (cont)

Unit title: Exercise Principles and Programming

Assessment guidelines

Student should prepare a comprehensive lesson plan.

The practical elements of the outcome should be assessed by using an appropriate observation checklist.

The student should evaluate the session and present written evidence to include client evaluations in addition to their own.

Administrative Information

Unit code:	DP8E 34
Unit title:	Exercise Principles and Programming
Superclass category:	MA
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Version:	02 (August 2006)

History of Changes:

Version	Description of change	Date
02	Change to Outcome 1, Assessment guidelines and portfolio requirements.	24/8/06

Source: SQA

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Higher National Unit specification: support notes

Unit title: Exercise Principles and Programming

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

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 80 hours.

Guidance on the content and context for this Unit

It is recommended that students have completed the year one Unit in Screening, and have covered at least Outcomes 1 and 2 of Exercise Physiology and Anatomy prior to commencing this Unit.

Outcome 1

Elements of health related fitness to include height; weight; blood pressure; BMI; waist to hip ratio; lung function.

Benefits of exercise may include increased physical work capacity; increased CV and respiratory endurance; decreased risk of Coronary Heart Disease; changes in body metabolism; delay of physiological ageing effects; psychological effects and benefits.

Barriers to exercise; Exercise adherence factors

Outcome 2

It is important that the student has an understanding of Components of Fitness and how they may be measured. Key components may be defined as Cardio-vascular, local muscular endurance, strength and flexibility.

Cardio — vascular tests may include; Step tests; Walking tests; Multi stage tests; Cooper 12 minute run; Astrand test.

Body Composition tests may include; skinfold measurement; Bio electrical impedance

Strength tests; Grip strength; 1 RM

Local muscular endurance tests may include; press up tests; abdominal curl tests

Flexibility tests; sit and reach; shoulder flexibility tests; ankle flexibility tests; assessment of normal range of motion for selected joints.

Outcome 3

Contra indications should include Age, Pregnancy, Gender, Postural Issues and Spinal alignment, Medical Conditions

Socio-demographic factors may include; demographic variables; occupation; ethnicity; education; income; obesity; age; gender; poor accessibility to facilities, personal preferences

Higher National Unit specification: support notes (cont)

Unit title: Exercise Principles and Programming

Adherence factors may include; Cognitive variables; Beliefs; Values; Attitudes; Motivation; Goal setting; Social support; Perceived lack of time.

Outcome 4

Components:	Cardio-vascular, local muscular endurance, strength and flexibility
Elements:	height; weight; blood pressure; BMI; waist to hip ratio; lung function
Monitoring:	Karvonen Formula, Use of telemetry, Perceived Rate of Exertion, Talk Test Observation.
Application of FITTA:	Training thresholds, training effects,
Current recognised guidelines:	American College of Sports Medicine (ACSM), Centre for Disease Control (CDC), Physical Activity Task Force

Outcome 5

- ◆ Detailed session plan. Although the whole sequence of sessions before and after the nominated session need not be fully documented, a rationale is required to contextualise the nominated session.
- ◆ Diagrammatic floor plan, showing awareness of Health and Safety Issues.
- ◆ Post session objective evaluation to be further informed by client evaluation sheets.

Suggested texts;

Health & Fitness Instructors Handbook. 3rd Edition
Howley & Franks
Human Kinetics

Fitness & Health 4th Edition
Brian Sharkey
Human Kinetics

Guidance on the delivery and assessment of this Unit

The Unit will be delivered as one of a number of core units that will fully prepare the candidate for work as Fitness, Health and Exercise professional.

The Unit is divided into 5 Outcomes with various forms of evidence gathering. Restricted response papers, a fitness testing results portfolio, extended response case study and direct observation of the candidate with evidence recorded by the assessor's checklist should all be adopted.

Outcome 1

Evidence for this outcome will be generated from restricted response questioning regarding the elements of HRPF and their significance to health and physical activity. Students will carry out static fitness tests to establish baseline health parameters. Testing will be observed against designated tests protocols which must be adhered to. Once tested the results should be analysed against population norms and appropriate client feedback offered.

Higher National Unit specification: support notes (cont)

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Outcome 2

Administer to the same client a battery of dynamic tests designed to assess health related fitness components. Test selection and delivery should be appropriate to the client's needs and particular health status as defined in Outcome 1. Results will be recorded in a client results portfolio and these results will be used again as the basis of a case study on Outcomes 3, 4 and 5.

Outcomes 3-5

Here an extended response case study will be the major part of candidate evidence. Utilising fitness test scores from the portfolio, students should devise an exercise intervention strategy to encompass all elements of exercise prescription, client participation issues and the delivery of an effective exercise experience. After the delivery of the session the Candidate must produce an objective review of their performance with action points for improvements to future delivery.

The practical elements of the class will be directly observed by lecturers who will record all organisational and planning tasks, communication, feedback and motivation, and general success of the session. Feedback will then be offered to the candidate.

Open learning

For further information and advice, please see *Assessment and Quality Assurance for Open and Distance Learning* (SQA, February 2001 — publication code A1030).

Candidates with additional support needs

This Unit specification is intended to ensure that there are no artificial barriers to learning or assessment. The additional support 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 Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs*, which is available on the SQA website www.sqa.org.uk.

General information for candidates

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The Unit is divided into 5 Outcomes with various forms of evidence gathering. Restricted response papers, a fitness testing results portfolio, extended response case study and direct observation by staff should all be adopted.

Outcome 1

Evidence for this outcome will be generated from restricted response questioning regarding the elements of HRPF and their significance to health and physical activity. static fitness tests with designated test protocols should be carried out to establish baseline health parameters. Results should be analysed against population norms and appropriate client feedback offered.

Outcome 2

Administer to the same client a battery of dynamic tests designed to assess Health related fitness components. Test selection and delivery will be assessed appropriate to the client needs and particular health status. Results will be recorded in a client results portfolio and these results will be used again as the basis of a case study on Outcomes 3, 4 and 5.

Outcomes 3-5

Here an extended response case study will be the major part of candidate evidence. Utilising fitness test scores from the portfolio, students will devise an exercise intervention strategy to encompass all elements of exercise prescription, client participation issues and the delivery of an effective exercise experience. After the delivery of the session the Candidate must produce an objective revue of their performance with recommendations for future delivery.