Unit 2: Fitness Training and Programming for Health, Sport and Well-being

Level: **3**

Unit type: **External**

Guided learning hours: **120**

Unit in brief

Learners explore client screening and lifestyle assessment, fitness training methods and fitness programming to support improvements in a client's health and well-being.

Unit introduction

The health and fitness industry is concerned with helping to support clients to increase their fitness levels and also ensuring a client is in appropriate health to take on a fitness programme. To work in the health and fitness industry, staff need to know how to assess clients and then be able to plan appropriate training programmes to take into account individual needs.

In this unit, you will explore the process required for screening clients and assessing their lifestyle and nutritional intake. How to interpret this information will then be examined. From this information you will explore how to make judgements on a specific individual's current lifestyle and then suggest modifications to help improve the individual's fitness, health and overall well-being. Fitness training methods will be examined for each component of physical and skill-related fitness. The selection of appropriate training methods for a selected individual and their application into a training programme will then be explored. To complete the assessment task within this unit, you will need to draw on your learning from across your programme.

Carrying out client screening and designing fitness training programmes is an essential skill for many people working in the sports industry, including sports coaches looking to improve an individual or team's sporting performance. Any person working in these careers would need to be able to carry out client screening and the design of training programmes in time-constrained conditions, utilising knowledge gained from previous experiences. This unit has been selected as an externally-assessed unit as it replicates the processes that are carried out in the industry, and to complete the assessment you will need to draw on learning and application of content from across a number of units in the programme of study.

Summary of assessment

This unit will be assessed under supervised conditions. Learners will be given a case study one week before the supervised assessment period to carry out preparatory work.

The supervised assessment period is a maximum of 2.5 hours as timetabled by Pearson. During the assessment learners will be given a task that will assess their ability to interpret lifestyle factors and health screening data from a scenario and stimulus information in order to develop and justify a fitness training programme and nutritional advice based on these interpretations. Pearson sets and marks the task.

The assessment availability is December/January and May/June each year. The first assessment availability is May/June 2017.

Sample assessment materials will be available to help centres prepare learners for assessment.

Assessment outcomes

AO1 Demonstrate knowledge and understanding of the effects of lifestyle choices on an individual's health and well-being

AO2 Apply knowledge and understanding of fitness principles and theory, lifestyle modification techniques, nutritional requirements and training methods to an individual's needs and goals

AO3 Analyse and interpret screening information relating to an individual's lifestyle questionnaire and health monitoring tests

AO4 Evaluate qualitative and quantitative evidence to make informed judgements about how an individual's health and well-being could be improved

AO5 Be able to develop a fitness training programme with appropriate justification

Essential content

The essential content is set out under content areas. Learners must cover all specified content before the assessment.

A Examine lifestyle factors and their effect on health and well-being

A1 Positive lifestyle factors and their effects on health and well-being

Understand the importance of lifestyle factors in the maintenance of health and well-being.

- Exercise/physical activity: physical (strengthens bones, improves posture, improves body shape), reduces risk of chronic diseases (CHD, cancer, type 2 diabetes), psychological (relieves stress, reduces depression, improves mood), social (improves social skills, enhances self-esteem), economic (reduces costs to National Health Service, reduces absenteeism from work).
- Balanced diet: eatwell plate (food groups), benefits of a healthy diet (improved immune function, maintenance of body weight, reduces risk of chronic diseases – diabetes, osteoporosis, hypertension, high cholesterol), fluid intake requirements (moderation of caffeine intake), strategies for improving dietary intake (timing of meals, eating less/more of certain food groups, five a day, reducing salt intake, healthy alternatives).
- Positive risk-taking activities: participation in outdoor and adventurous activities, endorphin release, improved confidence.
- Government recommendations/guidelines: UK Government recommendations (physical activity, alcohol, healthy eating).

A2 Negative lifestyle factors and their effects on health and well-being

Understand the factors contributing to an unhealthy lifestyle.

- Smoking: health risks associated with smoking (CHD, cancer, lung disease, bronchitis, infertility).
- Alcohol: health risks associated with excessive alcohol consumption (stroke, cirrhosis, hypertension, depression).
- Stress: health risks associated with excessive stress (hypertension, angina, stroke, heart attack, stomach ulcers, depression).
- Sleep: problems associated with lack of sleep (depression, overeating).
- Sedentary lifestyle: health risks associated with inactivity.

A3 Lifestyle modification techniques

Understand how lifestyle modification techniques can be used to reduce unhealthy lifestyle behaviours.

- Common barriers to change: time, cost, transport, location.
- Strategies to increase physical activity levels: at home, at work, during leisure time, method of transport.
- Smoking cessation strategies: acupuncture, NHS smoking helpline, NHS smoking services, nicotine replacement therapy, Quit Kit support packs.
- Strategies to reduce alcohol consumption: counselling, self-help groups, alternative treatments.
- Stress management techniques: assertiveness training, goal setting, time management, physical activity, positive self-talk, relaxation, breathing techniques, meditation, alternative therapies, changes to work-life balance.

B Understand the screening processes for training programming

B1 Screening Processes

Be able to interpret the lifestyle of a selected individual using appropriate screening documentation, and know when to refer the individual to a doctor.

- Screening questionnaires: lifestyle questionnaires, physical activity readiness questionnaires (PAR-Q).
- Legal considerations: informed consent form, data protection, client confidentiality.

B2 Health monitoring tests

Be able to interpret health monitoring results of a selected individual using normative data and make appropriate recommendations.

- Blood pressure.
- Resting heart rate.
- Body mass index (BMI).
- Waist to hip ratio.

B3 Interpreting the results of health monitoring tests

Be able to interpret health monitoring data against health norms and make judgements.

- Interpret results against normative data: compare and make judgements against population norms, norms for sports performers, norms for elite athletes, accepted health ranges.

C Understand programme-related nutritional needs

C1 Common terminology

Understand common nutritional terminology.

- Recommended daily allowance (RDA), energy measures (calories, joules, kilocalories, kilojoules).
- Energy balance: basal metabolism, age, gender, climate, physical activity, calories used in different activities (intensity and length of time).

C2 Components of a balanced diet

Understand the requirements of a balanced diet.

- Macronutrients (carbohydrates, fats, protein), sources of food for each macronutrient, quantities.
- Micronutrients (vitamins A, B, C and D, minerals calcium, iron), sources of food for each micronutrient, quantities.
- Hydration (different requirements of fluid intake: climate, levels of exercise, programme type, time of year).
- The effects on performance of dehydration and hyperhydration and the signs and symptoms of each.

C3 Nutritional strategies for individuals taking part in training programmes

- Understand different strategies used on an individual basis by:
  - adapting diet to gain or lose weight.
- Understand the use of ergogenic aids used in training programmes including positive and negative effects, and recommended timings:
  - energy gels and bars
  - protein drinks
  - carbohydrate loading.
- Understand the use of sports drinks for different types of training requirements including recommended timings and amounts:
  - isotonic
  - hypertonic
  - hypotonic.

D Examine training methods for different components of fitness

D1 Components of fitness to be trained

- Physical fitness – understand the components of physical fitness and the application of each component in a fitness training context.
  - Aerobic endurance: the ability of the cardiorespiratory system to work efficiently, supplying nutrients and oxygen to working muscles during sustained physical activity.
  - Strength: the maximum force (in kg or N) that can be generated by a muscle or muscle group.
  - Muscular endurance: the ability of the muscular system to work efficiently, where a muscle can continue contracting over a period of time against a light to moderate fixed resistance load.
  - Flexibility: having an adequate range of motion in all joints of the body, the ability to move a joint fluidly through its complete range of movement.
  - Speed: the ability to move the whole body quickly or move limbs rapidly.
  - Body composition: the relative ratio of fat-to-fat-free mass (vital organs, muscle, bone) in the body.

D1.1 Skill-related fitness

Understand the components of skill-related fitness and the application of each component in a fitness training context.

- Agility: the ability of a sports performer to quickly and precisely move or change direction without losing balance or time.
- Balance: static and dynamic balance, the ability to maintain centre of mass over a base of support.
- Coordination: the ability to control movement of two or more body parts, smoothly and efficiently to perform a motor task.
- Reaction time: the time taken for a sports performer to respond to a stimulus and the initiation of their response.
- Power: the ability to produce a maximal force in the shortest period of time possible.

D2 Training methods for physical fitness-related components

Appropriate training methods to be included in the design of a training programme. Indoor and outdoor environments to be considered, with associated equipment, to allow for a variety of methods of exercising. Advantages and disadvantages of training methods to be considered when applied to a specific sport and exercise goal.

D2.1 Aerobic endurance training methods

Aerobic endurance training methods and their application to a practical context.

- Principles of aerobic training: training thresholds, percentage of heart rate max.
- Types of aerobic endurance training methods:
  - continuous training – training at a steady pace at moderate intensity for a minimum period of 30 minutes
  - fartlek training – the intensity of training is varied by running at different speeds or over different terrains
  - interval training – a work period followed by a rest or recovery period
  - circuit training – different stations/exercises are used to develop aerobic endurance.
- Equipment required for aerobic endurance training: gym-based, outdoor-based.

D2.2 Muscular strength training methods

Muscular strength training methods and their application to a practical context.

- Principles when training for strength: repetitions and sets, rest periods between sets, low repetitions and high loads, order of exercises to prevent or maximise muscle fatigue.
- Methods: pyramid sets.
- Equipment: free weights, fixed resistance machines.

D2.3 Muscular endurance training methods

Muscular endurance training methods and their application to a practical context.

- Principles when training for endurance: repetitions and sets, rest periods between sets, high repetitions and low loads, order of exercises to prevent muscle fatigue.
- Methods: circuit training, fixed resistance machines, free weights.
- Equipment: free weights, fixed resistance machines, resistance bands/tubing.

D2.4 Core stability training methods

Core stability training methods and their application to a practical context.

- Principles.
- Methods: pilates, yoga, gym-based exercises (plank, bridge, V-sit).
- Equipment: free weights, fixed resistance machines, circuit training, kettle bell training, resistance bands/tubing, stability balls.

D2.5 Flexibility training methods

Flexibility training methods and their application to a practical context.

- Principles of flexibility: maintenance, developmental, pre-activity.
- Static: active; passive.
- Dynamic: proprioceptive neuromuscular facilitation (PNF) technique.
- Equipment: towel, belt, band, mat, partner.

D2.6 Speed training methods

Speed training methods and their application to a practical context.

- Principles of speed training: training thresholds, percentage of heart rate max, recovery period between sets:
  - hollow sprints
  - acceleration sprints
  - interval training
  - resistance drills – hill runs, parachutes, sleds, bungee ropes.
- Equipment: resistance bands/tubes, parachutes, bungee rope, resistance tyres.

D3 Training methods for skill-related fitness components

Appropriate training methods included in the design of a training programme.

D3.1 Agility training methods

Agility training methods and their application to a practical context.

- Exercises which involve changing the body position quickly and with control:
  - SAQ (speed, agility, quickness)
  - sport-specific drills.

D3.2 Balance training methods

Balance training methods and their application to a practical context.

- Static balance: static balance exercises focus on retaining the centre of mass above the base of support when stationary.
- Dynamic balance: focus on retaining the centre of mass above the base of support when moving.
- Method: using stable and unstable surfaces on which to balance.

D3.3 Coordination training methods

Coordination training methods and their application to a practical context.

- Exercises which involve the use of two or more body parts together:
  - sport-specific activities.

D3.4 Reaction time training methods

Reaction time training methods and their application to a practical context.

- Reaction drills in response to an external stimulus.
- Equipment: stopwatch, whistle, visual stimulus, auditory stimulus, reaction ball.

D3.5 Power training methods

Power training methods and their application to a practical context.

- Plyometrics: specific to the sport.
- Equipment: ladders, cones, jump ropes, medicine ball, hurdles, benches.

E Understand training programme design

E1 Principles of fitness training programme design

Be able to design a fitness training programme including all the major components.

- Fitness training programme design:
  - aims – details of what they would like to achieve
  - objectives – how they intend to meet their aims
  - personal goals – specific, measurable, achievable, realistic, time-related, exciting, recorded (SMARTER)
  - resources required – facilities and equipment.
- Principles of training: FITT principles (frequency, intensity, time and type of exercise used in the exercise sessions), additional principles of training (specificity, overload, progression, reversibility, rest and recovery, adaptation, variation, individual needs).
- Periodisation: macrocycle, mesocycle, microcycle.

Grade descriptors

To achieve a grade a learner is expected to demonstrate these attributes across the essential content of the unit. The principle of best fit will apply in awarding grades.

Level 3 Pass

Learners will be able to produce a training programme for an individual that demonstrates knowledge and understanding of lifestyle factors, nutritional needs and health screening data in the context of the scenario. Learners will identify and justify behavioural modification techniques, nutritional strategies and fitness training methods that support the proposed programme, evidencing the ability to conduct relevant research. The programme is appropriate and realistic, demonstrating an ability to develop a logical plan for a client underpinned by training principles.

Level 3 Distinction

Learners will be able to produce a training programme that demonstrates knowledge and understanding of lifestyle factors, nutritional needs and health screening data in the context of the individual in the scenario, supported by justification and the application of relevant research. Learners can recommend nutritional strategies and behavioural modification activities that are specific, demonstrating a thorough understanding of interrelationships between the health, fitness and well-being needs of the client. Learners' recommendations will show an analytical approach, containing sustained lines of argument leading to a cohesive training programme that is entirely relevant in the wider context of fitness training principles.

Key terms typically used in assessment

The following table shows the key terms that will be used consistently by Pearson in our assessments to ensure students are rewarded for demonstrating the necessary skills.

Please note: the list below will not necessarily be used in every paper/session and is provided for guidance only.

Command or term	Definition
Interpretation	Learners are able to draw the meaning, purpose or qualities of something from stimulus.
Justification	Learners give reasons or evidence to: • support an opinion and or decision • prove something right or reasonable.
Qualitative evidence	Descriptive information from interviews or questionnaires.
Quantitative evidence	Numerical or statistical information.
Relevance	Importance to the matter at hand.

Links to other units

The assessment for this unit should draw on knowledge, understanding and skills developed from:

- Unit 1: Anatomy and Physiology
- Unit 3: Professional Development in the Sports Industry
- Unit 4: Sports Leadership.
- Unit 5: Application of Fitness Testing
- Unit 12: Self-employment in the Sports Industry
- Unit 13: Instructing Gym-based Exercise
- Unit 14: Exercise and Circuit-based Physical Activity.

This unit would relate to teaching of:

- Unit 6: Sports Psychology
- Unit 17: Sports Injury Management.

Employer involvement

Centres may involve employers in the delivery of this unit if there are local opportunities. For example:

- guest speakers
- opportunities to visit suitable businesses.