Next Generation Higher National Unit Specification

Training Principles for Exercise (SCQF level 7)

Unit code: J6E8 47

SCQF level: 7 (24 SCQF credit points)

Valid from: session 2024–25

Prototype unit specification for use in pilot delivery only (version 3.0) August 2024

This unit specification provides detailed information about the unit to ensure consistent and transparent assessment year on year.

This unit specification is for teachers and lecturers and contains all the mandatory information required to deliver and assess the unit.

This edition: August 2024 (version 3.0)

Unit purpose

This unit provides learners with knowledge and understanding of the planning processes involved when working with individual clients and groups. It develops their practical competencies during the client consultation, both interviewing and physical assessments (health and fitness-related), and the gym induction process. Learners develop as professionals in the physical activity and health industry. They develop knowledge and apply skills in utilising the training guidelines and principles of training when implementing training interventions with clients with formulated rationales.

Entry requirements and progression routes

Entry to this unit is at your centre's discretion. However, we recommend that learners have some experience and/or participation in a gym or fitness environment. We recommend that learners studying the unit have communication skills equivalent to least SCQF level 5.

The unit is a part of the Higher National Certificate (HNC) in Physical Activity and Health. Learners can progress from this group award to:

- Higher National Diploma (HND) in Physical Activity and Health (SCQF level 8)
- local agreements for advanced entry into university degree programmes

Unit outcomes

Learners who complete this unit can:

1 develop an exercise library for gym-based movements, cardiovascular exercises, flexibility exercises and mobility exercises
2 plan an appropriate gym-based induction for an individual and small group
3 conduct a client consultation and apply appropriate fitness and health assessments for a healthy client
4 develop an individual training intervention
5 develop a group training intervention

Evidence requirements

Learners can generate evidence in the form of stand-alone assignments, oral questioning or as part of an overall unit project. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education. The standard of evidence must be consistent with the SCQF level of this unit.

Develop an exercise library for gym-based movements, cardiovascular exercises, flexibility exercises and mobility exercises (outcome 1)

To successfully achieve this outcome, learners must provide the following evidence in the three categories in their exercise library:

- gym-based movements
- cardiovascular exercise machines
- flexibility and mobility exercises

Gym-based movements

Learners must cover the range of movement patterns and apply knowledge in the planning of safe and effective exercise techniques, such as a:

- squat
- lunge, including multi-planar
- hip hinge
- push (upper body)
- pull (upper body)
- rotation
- jumping, including bilateral and unilateral variations

From the previous list, they must identify a range of exercises that cover each of the following training methods for each movement:

- fixed weight
- free weight, which must include at least 1 × dumbbell and 1 × barbell exercise
- body weight
- functional equipment

They must also cover a minimum of one exercise for each of the training methods across all movement patterns, where realistically achievable (see the ‘Delivery of unit’ section for examples).

Learners must choose one exercise from each movement pattern and cover the following evidence requirements, while also covering all training methods using fixed weight, free weight, body weight and functional equipment:

- appropriate teaching points
- key muscle groups
- appropriate adaptations and progressions
- joint actions — all actions must be covered:
  - shoulder: flexion, extension, abduction, adduction
  - elbow: flexion, extension
  - shoulder girdle: elevation, depression
  - spine: flexion, extension
  - hip: flexion, extension, adduction, abduction
  - knee: flexion, extension

Cardiovascular exercise machines

For a minimum of three cardiovascular machines, learners must apply knowledge in the planning of safe and effective exercise techniques.

They must select one exercise from the three identified and cover the following evidence requirements:

- appropriate teaching points
- key muscle groups

Flexibility and mobility exercises

For a range of flexibility and mobility methods, learners must apply knowledge in the planning of safe and effective exercise techniques, which cover the range provided in the following list:

- a minimum of four dynamic exercises
- a minimum of two static active exercises
- a minimum of two static passive exercises

- a minimum of one proprioceptive neuromuscular facilitation (PNF) exercise

Learners must select one exercise from each of the methods identified and cover the following evidence requirements:

- appropriate teaching points
- key muscle groups

Plan an appropriate gym-based induction for an individual and small group (outcome 2)

To successfully achieve this outcome, learners must provide the following evidence:

- Plan two gym-based exercise inductions for both an individual and a small group, with each session being for a minimum of 30 minutes and using exercises from the exercise library created in outcome 3.
- Plans must include the following training variables:
  - sets
  - reps
  - intensity
  - recovery time

Formative assessment — conducted with a small group of a minimum of three and maximum of five people

- 1 × cardiovascular machine warm-up
- 1 × cardiovascular machine cool-down
- 1 × dynamic warm-up stretch
- 1 × static passive cool-down stretch
- 1 × fixed weight exercise
- 1 × body weight exercise
- 1 × free weight exercise, including at least 1 × dumbbell and 1 × barbell exercise

Summative assessment — conducted with an individual client

- 1 × cardiovascular training main session using fartlek, interval and/or continuous
- 2 × free weight exercises, including at least 1 × dumbbell and 1 × barbell exercise
- 2 × fixed weight exercises
- 1 × functional exercise using small equipment
- 1 × static active stretch
- 1 × PNF stretch

Learners must plan the warm-up, main cardiovascular training method and cool-down on different cardiovascular machines. Functional exercises involve the movement patterns, muscle actions and components of fitness required for activities used in daily life.

Conduct a client consultation and apply appropriate fitness and health assessments for a healthy client (outcome 3)

Learners must conduct a client consultation, and apply and analyse appropriate health and fitness assessments for a healthy client.

Practical consultation may be cross-assessed with outcome 3 for Health Promotion, Behaviour Change and Nutrition at SCQF level 7.

The following must be covered during the client consultation:

- collection of informed consent and data protection
- collate lifestyle information
- assess a client's readiness to exercise, identifying risks and need to refer to other professionals, if applicable

Learners must cover the following knowledge points when applying their health and fitness assessments:

- health assessments, as a minimum covering:
  - resting heart rate
  - blood pressure
  - body mass
- fitness assessments, as a minimum covering:
  - one test from the fitness components used in your client programming
- for all assessments, select a prepared plan of the testing protocols and develop an appropriate method of data recording

Learners must administer health and fitness assessments, where they:

- apply and adhere to testing procedures and protocols:
  - validity
  - reliability
  - objectivity
- provide accurate recordings of test results

You must record evidence for this outcome in an assessor checklist.

Learners must demonstrate the following during their analysis of assessment data:

- a comparison of client data to normative data

- a health screening, fitness assessment justification, and results analysis included as part of their evidence for the gym-based programme planning for their client, as covered in outcome 4

Develop an individual training intervention (outcome 4)

To successfully achieve this outcome, learners must provide the following evidence:

- Analyse information collected from a physical activity readiness questionnaire (PAR-Q)/ lifestyle questionnaire, identifying client goals and using information gained to help plan for two sessions that meet the aims and objectives of the client. This is collected in the consultation process.
- Apply knowledge to the planning of safe and effective gym-based exercise programmes for a range of clients in the scope of practice, using appropriate equipment and methods.
- Develop an individual gym-based eight-week exercise training programme, including a minimum of two weekly sessions. These must include health- and skill-related components of fitness. Learners must select a minimum of one skill-related component. Health-related components include strength or local muscular endurance:
  - cardiovascular endurance, covering at least two training methods using fartlek, interval and/or continuous training
  - flexibility
- Provide evidence that demonstrates considerations for training clients in a range of different environments:
  - gym
  - fitness studio
  - outdoor space
- Apply and justify application of training principles where possible, and include them in the eight-week planned programme:
  - specificity
  - progressive overload
  - reversibility
  - individuality
  - recovery time
  - frequency, intensity, time, type (FITT)
- Apply acute training variables for each fitness component intervention developed in the eight-week exercise training programme.
- Apply knowledge of anatomy and physiology in the planning of safe and effective exercise programmes for a range of clients.
- Evaluate the perceived physiological adaptations associated with the eight-week exercise training programme developed, with regards to:
  - aerobic and anaerobic systems
  - muscle balance
  - heart rate response to exercise
  - short- and long-term physiological adaptations to exercise
  - energy demands of different activities
  - tailoring exercise to individual needs and/or goals

Develop a group training intervention (outcome 5)

To successfully achieve this outcome, learners must provide the following evidence:

- Develop session plans which allow the client(s) or participant(s) to improve their skills and techniques to ensure safe, accurate and effective exercise performance.
- Devise plans for two different training types, across two environments, such as a gym, sports hall, fitness studio, or outdoors — this is not an exhaustive list, and sessions must last a minimum of 45 minutes each. Across both sessions, learners must cover:
  - 1 × progressive warm-up component
  - 1 × cardiovascular exercise
  - 1 × body weight exercise
  - 1 × exercise using small equipment
  - 1 × functional exercise using functional equipment
  - 1 × flexibility exercise
  - 1 × range of motion exercise: static stretching and mobilisation of joints
  - 1 × regressive cool-down component
- Plan a variety of exercises and movement patterns to ensure a balanced programme.
- Plan progressions and adaptations to exercises that are safe and effective and ensure that participants can progress.
- Conform to legal requirements for a public performance licence (PPL) and the Performing Right Society (PRS).

Functional exercises involve movement patterns, muscle actions, and components of fitness required for activities used in daily life. Small equipment can be mats, hand weights, and weighted medicine balls — this is not an exhaustive list.

Knowledge and skills

The following table shows the knowledge and skills covered by the unit outcomes:

Knowledge	Skills
Outcome 1 Learners should understand: ♦ safe and effective techniques for a range of fixed weight, free weight, body weight, and functional equipment training methods, which cover the range of movement patterns: — squat — lunge, including multi-planar — hip hinge — push (upper body) — pull (upper body) — rotation — jump, including bilateral and unilateral variations ♦ how exercises across a range of gym-based movements, cardiovascular machines, flexibility and mobility exercises should be safely performed ♦ know the effect of exercise variables on biomechanics and kinesiology ♦ how exercises using a range of training exercises (fixed weight, free weight, body weight and functional equipment) should be safely performed ♦ teaching points for a range of exercises (fixed weight, free weight, body weight and functional equipment) ♦ key muscles used for a range of exercises (fixed weight, free weight, body weight and functional equipment) ♦ adaptations and progressions for a range of exercises (fixed weight, free weight, body weight and functional equipment)	**Outcome 1** Learners can: ♦ develop an exercise library to include: — gym-based movements covering all movement patterns — cardiovascular machines, with a minimum of three machines — flexibility and mobility exercises, covering: dynamic with a minimum of four exercises; static active with a minimum of two exercises; static passive with a minimum of two exercises; and PNF with a minimum of one exercise ♦ apply knowledge in the planning of safe and effective exercise techniques for a range of fixed weight; free weight with at least one dumbbell and one barbell exercise; and body weight and functional equipment movements, which cover a range of movement patterns ♦ identify appropriate teaching points for a range of exercises using fixed weight, free weight, body weight and functional equipment across a range of movements patterns ♦ identify key muscles used for a range of exercises using fixed weight, free weight, body weight and functional equipment across a range of movements patterns ♦ identify adaptations and progressions for a range of exercises using fixed weight, free weight, body weight and functional equipment across a range of movements patterns

Knowledge	Skills
Outcome 1 (continued) Learners should understand: ♦ joint actions for a range of exercises using fixed weight, free weight, body weight and functional equipment: — shoulder: flexion, extension, abduction, adduction — elbow: flexion, extension — shoulder girdle: elevation, depression — spine: flexion, extension — hip: flexion, extension, adduction, abduction — knee: flexion, extension	**Outcome 1 (continued)** Learners can: ♦ identify joint actions for a range of exercises using fixed weight, free weight, body weight and functional equipment across a range of movements patterns: — shoulder: flexion, extension, abduction, adduction — elbow: flexion, extension — shoulder girdle: elevation, depression — spine: flexion, extension — hip: flexion, extension, adduction, abduction — knee: flexion, extension ♦ identify a range of movement patterns: — squat — lunge, including multi-planar — hip hinge — push (upper body) — pull (upper body) — rotation — jump, including bilateral and unilateral variations Learners must demonstrate the following during the analysis of assessment data: ♦ a comparison of client data to normative data ♦ the health screening and fitness assessment justification and results analysis, included as part of the evidence for the gym-based programme planning for their client

Knowledge	Skills
Outcome 2 Learners should understand: ♦ how to plan and tailor a safe and effective gym-based induction with a minimum of three and maximum of five people, to include exercises from the exercise library: — gym-based movements covering all movement patterns — cardiovascular machines, with a minimum of three machines — flexibility and mobility exercises, covering: dynamic with a minimum of four exercises; static active with a minimum of two exercises; static passive with a minimum of two exercises; and PNF with a minimum of one exercise **Client induction process** Learners should know how to induct clients in the gym environment, including: ♦ policies and/or procedures in and around the gym and/or facility, relevant to own role ♦ facility walkthrough and/or show around: — gym floor — class and spin studios — cardiovascular machines — resistance equipment, including machine and free weights — functional equipment ♦ how to adapt inductions for individuals and small groups of a maximum of five people to maintain effectiveness	**Outcome 2** Learners can: ♦ apply knowledge to the planning of safe and effective gym-based inductions, with a minimum of three and maximum of five people, using a range of equipment and exercise methods ♦ plan two gym-based exercise inductions to both an individual and a small group, with each session being for a minimum of 30 minutes using exercises from the exercise library generated in outcome 1. Plans must include these training variables: — sets — reps — intensity — recovery time Plan 1 — formative assessment to be conducted with a small group (minimum three and maximum five people) covering the content below: ♦ 1 × cardiovascular machine warm-up ♦ 1 × cardiovascular machine cool-down ♦ 1 × dynamic warm-up stretch ♦ 1 × static passive cool-down stretch ♦ 1 × fixed weight exercise ♦ 1 × body weight exercise ♦ 1 × free weight exercise, including at least 1 × dumbbell and 1 × barbell exercise

Knowledge	Skills
	Outcome 2 (continued) Learners can: Plan 2 — summative assessment to be conducted with an individual client covering the content below: ♦ 1 × cardiovascular training main session using fartlek, interval and/or continuous training ♦ 2 × free weight exercises, including at least 1 × dumbbell and 1 × barbell exercise ♦ 2 × fixed weight exercises ♦ 1 × functional exercise using small equipment ♦ 1 × static active stretch ♦ 1 × PNF stretch The warm-up, main cardiovascular training method and cool-down should all be planned on different cardiovascular machines. Functional exercises involve movement patterns, muscle actions, and components of fitness required for activities used in daily life.
Outcome 3 Learners should understand: ♦ the local demographics of their organisation's customers and how this affects the products and services they offer ♦ customer expectations and aspirations in the fitness facility environment ♦ how to build social support and inclusion in the fitness facility environment ♦ how to obtain feedback to support membership retention	**Outcome 3** Learners can: ♦ assess a client's readiness to exercise and the need for signposting or referral to other relevant professionals ♦ conduct safe and effective consultations, assessments, gym inductions and reviews with clients ♦ adapt inductions for individuals and small groups, with a maximum of five people to maintain effectiveness

Knowledge	Skills
Outcome 3 (continued) Learners should know evidence-based pre-exercise health screening methods: ♦ PAR-Q, PAR-Q+, organisation and/or employer devised methods, health commitment statement, informed consent ♦ risk stratification models and when to signpost or refer a client to other specialist exercise professionals and/or medical professionals: — how to risk-stratify clients ♦ clear understanding of the absolute contraindications to exercise and factors that indicate that a client is at low, medium or high risk of an adverse event occurring during exercise, and/or propensity for risk ♦ recognised tools: — Irwin and Morgan traffic light system — other national or international evidence-based tools — national or locally agreed protocols, referrals, and care pathways ♦ relevant health history and current health status, particularly in relation to risk factors for heart disease Learners should understand: ♦ the identification of medical conditions that would require medical clearance or referral to an appropriate medical professional or other clinician or medically supervised exercise programme, past and present injuries and disabilities ♦ demonstrate when and how to signpost or refer to other services such as health services, GP's, other professionals in the sector for clients where medical conditions have been highlighted from the consultation process	**Outcome 3 (continued)** Learners can: ♦ provide a 'client experience' during consultations, assessments and gym inductions: — engage and build rapport with clients with varying needs — show empathy — give positive, motivating, timely and relevant feedback to clients — be accountable and take responsibility for clients — use effective communication methods to find out a client's needs and enhance the customer experience — signpost clients to other areas of the facility if they show an interest in other activities and services provided by the organisation ♦ conduct a client consultation and apply and analyse appropriate health and fitness assessments for a healthy client. The following should be covered during the client consultation: ♦ collection of informed consent and data protection to meet the general data protection regulation (GDPR) ♦ collate lifestyle information ♦ assessment of a client's readiness to exercise, identifying risks and the need to refer to other professionals, if applicable ♦ elicit and provide information and advice on physical activity including benefits and risks that are pertinent to an individual

Knowledge	Skills
	Outcome 3 (continued) The following should be covered during the client consultation: ♦ elicit and determine the type or types of physical activity most appropriate for the individual to ensure that client preference is accommodated and that chances of adherence are maximised ♦ elicit and where appropriate provide current, relevant information pertinent to the individual, their stage of change, health status and priorities

Knowledge	Skills
Outcome 3 (continued) Learners should understand: ♦ when to refer, signpost or take action and what action to take in each circumstance of low, medium or high risk ♦ a range of health and fitness assessments relevant to the gym-based client: — the use of lifestyle questionnaires to gather relevant information, for example previous and current level of activity, exercise likes and dislikes — selecting assessments appropriate to the client and assessment conditions or expectations of the organisation — the range of assessments relevant to the general population, for example resting heart rate; blood pressure; sub-maximal cardio-respiratory fitness and muscular strength; body mass index (BMI); waist circumference; progress photographs; and if desired, contra-indications and limitations for testing ♦ how to monitor and review client progress: — the importance of building-in re-assessments and/or reviews to support client progress, motivation and adherence — how to review a gym-based exercise programme in consultation with the client, based on their results, goals, individual needs and/or changing circumstances	

Knowledge	Skills
Outcome 4 Learners should understand: ♦ how to plan and tailor safe and effective gym-based exercise programmes for a range of clients in the scope of practice ♦ national recommended guidelines for physical activity and health for different ages including the dose-response relationship, for example guidelines from the UK chief medical officer (CMO) ♦ credible information sources and research methods ♦ the importance of evidence-based practice ♦ recognised national and international guidelines for developing the different components of fitness ♦ health-related components of fitness: — cardiovascular endurance — local muscular endurance — strength — flexibility ♦ skill-related components of fitness: — power — speed — agility — co-ordination — reaction time — balance ♦ principles and variables of fitness and training, including: — FITT principles — adaptation, modification and progression for each component of FITT — implications of specificity, progressive overload, reversibility, adaptability, individuality, recovery time	**Outcome 4** Learners can: ♦ apply knowledge to the planning of safe and effective gym-based exercise programmes for a range of clients in scope of practice, using appropriate equipment and methods Develop an individual gym-based eight-week exercise training programme, including a minimum of two weekly sessions that must include the following components of fitness: ♦ health-related: — strength or local muscular endurance — cardiovascular endurance covering at least two training methods using fartlek, interval and/or continuous and flexibility ♦ skill-related: — select a minimum of one skill-related component

Knowledge	Skills
Outcome 4 (continued) Learners should understand: — differences between programming exercise for physical fitness and health benefits — safe and effective warm-ups and cool-downs — effect of speed of movement on posture, alignment and intensity — different learning styles, for example goals, needs, likes and dislikes, and how these should be reflected in the planning stage — the full range of available equipment and how to select the most appropriate exercise or exercise modes to meet the client's needs and goals — the provision of alternative activities, exercises, and participation options — how to demonstrate the considerations for training clients in a range of different environments, for example: — gym — fitness studio — outdoor space ♦ the provision of adaptations, progressions and regressions for each exercise included in the programme ♦ how to set and adapt meaningful specific, measurable, achievable, relevant, and time-bound (SMART) goals linked to a client's individual needs, wants and motivators ♦ fixed weight, free weight, and body weight resistance exercises that target the major muscles and muscle groups ♦ the importance of muscle balance when planning programmes	**Outcome 4 (continued)** Learners can: ♦ apply and justify application of training principles where possible, for example: — specificity — progressive overload — reversibility, individuality and recovery time — FITT in the eight-week planned programme ♦ apply acute training variables for each fitness component intervention developed in the eight-week exercise training programme ♦ apply knowledge of the principles of training in the planning of safe and effective exercise programmes for a range of clients ♦ provide evidence that demonstrates considerations for training clients in a range of different environments: — gym — fitness studio — outdoor space **Application of exercise anatomy and physiology** ♦ apply knowledge of anatomy and physiology in the planning of safe and effective exercise programmes for a range of clients ♦ aerobic and anaerobic systems, muscle balance, heart rate response to exercise, short- and long-term physiological adaptations to exercise, energy demands of different activities, tailoring exercise to individual needs and goals

Knowledge	Skills
Outcome 4 (continued) Learners should understand: ♦ how to programme exercise to develop: — cardiovascular fitness — muscular fitness — flexibility — functional skills and abilities ♦ how to minimise any risks relevant to the programme	

Knowledge	Skills
Outcome 4 (continued) Learners should understand realistic timings and sequences for a range of gym-based exercise training methods to cover: ♦ cardiovascular exercise: — fartlek — interval — continuous ♦ resistance exercise: — single-set training — circuit resistance training — basic sets — DeLorme and Watkins 10 RM system — Berger 6 RM system — super-sets ♦ functional exercise and functional equipment: — movement patterns — muscle actions — components of fitness required for activities in daily life ♦ flexibility and range of motion exercise: — static stretching — mobilisation of joints ♦ safe and effective technique for a range of gym-based exercises: — cardiovascular machines — body weight exercise — machine weights, for example a range of motion, rate, joint alignment — free weights, for example lifting, passing and spotting technique — small equipment, for example use of mats for core and/or abdominal exercise — this list is not exhaustive	

Knowledge	Skills
Outcome 4 (continued) Learners should understand: ♦ functional exercise and functional equipment, which are: — exercises that address the movement patterns — muscle actions — components of fitness required for activities in daily life ♦ flexibility and range of motion exercise: — static stretching — mobilisation of joints	
Outcome 5 Learners should understand: ♦ the local demographics of their organisation's customers and how this affects the products and services they offer ♦ customer expectations and aspirations in the fitness facility environment ♦ how to build social support and inclusion in the fitness facility environment ♦ how to obtain feedback to support membership retention ♦ how to plan and tailor safe and effective group exercise programmes for a range of clients in the scope of practice ♦ national recommended guidelines for physical activity and health for different ages, for example the guidelines from the UK CMO ♦ credible information sources and research methods ♦ the importance of evidence-based practice ♦ the health- and skill-related components of fitness	**Outcome 5** Learners can: ♦ analyse information collected from a PAR-Q, identify client goals, and use information gained to help plan a sequence of four sessions which meet the aims and objectives of the client(s) or participant(s) ♦ identify potential reasons for temporary deferral of exercise ♦ develop session plans which allow the client(s) or participant(s) to improve their skills and techniques to ensure safe, accurate and effective exercise performance ♦ devise plans for two different training methods and sessions that: — last a minimum 45 minutes — include cardiovascular, muscular strength, muscular endurance, flexibility, and agility training — include warm-up and cool-down components

Knowledge	Skills
Outcome 5 (continued) Learners should understand: ♦ principles and variables of fitness and training: — FITT principles — adaptation — modification and progression for each component of FITT — implications of specificity — progressive overload — reversibility — adaptability — individuality — recovery time ♦ differences between programming exercise for physical fitness and for health benefits ♦ how to structure sessions to include warm-up, main component and cool-down ♦ the effect of speed of movement on posture, alignment and intensity ♦ recognised national and international guidelines for developing the different components of fitness ♦ different learning styles, goals, needs, likes and/or dislikes, and how these should be reflected in planning ♦ the full range of available equipment and how to select the most appropriate exercise or exercise modes to meet the client's needs and goals ♦ the provision of alternative activities, exercises and participation options ♦ the provision of adaptations, progressions and regressions for each exercise included in the programme ♦ how to set and adapt meaningful SMART goals linked to a client's individual needs, wants and motivators	**Outcome 5 (continued)** Learners can: ♦ select a variety of exercises and movement patterns to ensure a balanced programme ♦ select progressions and adaptations to exercises that are safe and effective and ensure that participants can progress ♦ select appropriate equipment for the session ♦ conform to legal requirements for PPL and PRS **Application of exercise anatomy and physiology** ♦ apply knowledge of anatomy and physiology in the planning of safe and effective exercise programmes for a range of clients ♦ aerobic and anaerobic systems, muscle balance, heart rate response to exercise, short- and long-term physiological adaptations to exercise, energy demands of different activities, tailoring exercise to individual needs and goals

Knowledge	Skills
Outcome 5 (continued) Learners should understand: ♦ how to programme exercise to develop cardiovascular fitness, muscular fitness, flexibility and functional skills and abilities ♦ how to minimise any risks relevant to the programme ♦ realistic timings and sequences for sessions ♦ different participant types, demographics and motivations and how these can have an impact on planning group exercise session content and delivery approaches ♦ health screening and risk stratification methods and the importance of conducting verbal screening before group exercise sessions ♦ how participant numbers and the exercise environment have an impact on session design, safety and effectiveness ♦ different group exercise class types or genres	

Knowledge	Skills
Outcome 5 (continued) Learners should understand a range of group exercise training methods to cover: ♦ cardiovascular exercise: — fartlek — interval — continuous ♦ resistance exercise: — body weight exercise — use of small equipment ♦ functional exercise and functional equipment: — movement patterns — muscle actions and components of fitness required for activities of daily living ♦ flexibility and range of motion exercise: — static stretching — mobilisation of joints Learners should understand the safe and effective technique for a range of group exercises to cover — this list is not exhaustive: ♦ cardiovascular exercise ♦ body weight exercise ♦ small equipment, for example use of mats for core and/or abdominal exercise ♦ functional exercises, which are: — exercises that address the movement patterns — muscle actions — components of fitness required for activities in daily life ♦ flexibility and range of motion exercise: — static stretching — mobilisation of joints	

Meta-skills

Throughout the unit, learners develop meta-skills to enhance their employability in the physical activity and health sector.

Self-management

This meta-skill includes:

- focusing: collating and organising information gained from the client consultation process and through the health and fitness assessments
- integrity: understanding ethics, being aware of acting on values and principles, work ethic, timekeeping, reliability, discipline, trustworthiness when working with clients during consultation and testing process
- adapting: adapting teaching styles, decision-making, being responsible, responding to changes when working with clients during the consultation and testing process
- initiative: independent thinking, motivation, self-belief, responsibility in preparation for working with a client and more specifically during the consultation and testing process

Social intelligence

This meta-skill includes:

- communicating: receiving information, giving information, listening to others when working with clients either on a one-to-one basis or in groups
- feeling: sense of responsibility, empathy, understanding how others feel when working with clients, developing an understanding of when to show empathy, developing the ability to build relationships, working with clients and planning around their needs, accepting the perspectives of others to understand their feelings and motivations
- collaborating: operating in different settings, building relationships with clients, working towards shared goals and team working with other professionals
- leading: inspiring and motivating others, influencing others and being a role model, developing others when working with clients

Innovation

This meta-skill includes:

- curiosity: noticing significant information, asking questions, information sourcing, problem recognition
- creativity: creating enjoyable programmes and sessions for clients, responding to different situations and adapting, coming up with solutions to problems when working with clients and groups
- sense-making: analysing client information gained from the consultation and testing process, analysing client programme data and making sense of constant changes when working with clients

- critical thinking: analysing client information gained from the consultation and testing process, analysing client programme data and making sense of constant changes when working with clients

Delivery of unit

This is a mandatory unit in the HNC in Physical Activity and Health.

The notional design length is 120 hours. However, the amount of time you allocate to each outcome is at your centre's discretion.

This unit can be delivered as a stand-alone unit or with the following mandatory units:

- Anatomy and Physiology for Exercise and Human Movement (SCQF level 7)
- Exercise Practitioner 1 (SCQF level 7)
- Preparing to Work in the Physical Activity and Health Industry (SCQF level 7)
- Health Promotion, Behaviour Change and Nutrition (SCQF level 7)

We recommend that you integrate unit delivery of Exercise Practitioner 1 at SCQF level 7 and Training Principles for Exercise at SCQF level 7. Training Principles for Exercise at SCQF level 7 includes the screening and planning aspects for working with clients and provides the planning basis for the practical delivery assessments in Exercise Practitioner 1 at SCQF level 7.

Possible delivery methods include:

- classroom activities
- field trips
- visits and group work

You should use learning and teaching approaches that are varied and appropriate to the aims of the unit.

There are opportunities for cross assessment and/or holistic assessment across the mandatory units in the HNC in Physical Activity and Health. Centres should refer to the Next Generation Higher National Educator Guide for guidance and support notes.

Develop an exercise library for gym-based movements, cardiovascular exercises, flexibility exercises and mobility exercises (outcome 1)

We recommend that learners' exercise library development includes a range of exercises across three categories:

- gym-based movements
- cardiovascular exercise machines
- flexibility and mobility exercises

Gym-based movements cover the following movement patterns:

- squat
- lunge, including multi-planar
- hip hinge
- push (upper body)
- pull (upper body)
- rotation
- jumping, including bilateral and unilateral variations.

They should also select exercises for each movement pattern that are from a range of fixed weight and free weight, and must include at least 1 × dumbbell and 1 × barbell, body weight and functional equipment training exercises.

The following table shows examples of gym-based movements — this is not an exhaustive list.

Movement patterns	Fixed weight	Free weight	Body weight	Functional equipment
Squat	♦ leg press ♦ hack squat	♦ barbell (BB) back squat ♦ overhead BB step up	♦ gorilla ♦ prisoner squat	♦ kettlebell (KB) goblet squat ♦ sandbag zombie squat
Lunge, including multi-planar	♦ split squat on a cable machine	♦ dumbbell (DB) forward lunge ♦ overhead split squat	♦ forward lunge walk ♦ backward lunge	♦ KB lateral lunge ♦ sandbag zombie split squat
Hip hinge	♦ hip thrust on machine ♦ cable/pulley pull throws	♦ BB good morning ♦ BB Romanian deadlift (RDL)	♦ single leg airplane RDL ♦ hip thrust using shoulders on box or bench	♦ banded RDLs ♦ KB good morning
Push (upper body)	♦ chest press ♦ shoulder press	♦ DB chest press ♦ BB shoulder press	♦ push ups ♦ dips	♦ Swiss ball (SB) push ups ♦ banded push ups
Pull (upper body)	♦ lat pulldown ♦ seated row	♦ single arm DB row ♦ BB bent over row	♦ pull up (close grip — supinated) ♦ pull up (wide grip — pronated)	♦ total resistance exercise (TRX) row ♦ KB renegade row

Movement patterns	Fixed weight	Free weight	Body weight	Functional equipment
Rotation	♦ cable/pulley standing rotations ♦ cable/pulley split stance rotation chop	♦ seated BB rotations ♦ DB Russian twist	♦ lying wipers ♦ hanging wipers	♦ medicine ball (MB) overhead rotation slams ♦ MB rotation throws
Jumping, including bilateral and unilateral variations	N/A	♦ trap bar jumps ♦ DB jumps	♦ counter-movement jump (CMJ) ♦ skater jumps	♦ weighted jacket CMJ ♦ box jumps

- ♦ Apply knowledge in the planning of safe and effective exercise techniques for a range of cardiovascular machines.
- ♦ Apply knowledge in the planning of safe and effective exercise techniques for a range of flexibility and mobility methods, which cover the range provided on the following list:
  - — dynamic
  - — static active
  - — static passive
  - — PNF
- ♦ The exercise library provides the basis for the induction plans and developed individual exercise programme and group sessions.

Plan an appropriate gym-based induction for an individual and small group (outcome 2)

Learners should plan their induction sessions from the exercise library developed in outcome 1. They must plan for the gym environment they are coaching in.

In the HNC in Physical Activity and Health there are opportunities for cross assessment and holistic assessment across the mandatory units. Centres should refer to the Next Generation Higher National Educator Guide for guidance and support notes.

Conduct a client consultation and apply appropriate fitness and health assessments for a healthy client (outcome 3)

We recommend that learners include a selection and justification of tests in their client programme planning process covered in outcome 4. Learners can carry out the practical administration of their selected tests in a peer setting. You can assess this through a live observation or a recorded submission.

Examples of standardised tests for each of the fitness components are:

- power:
  - vertical jump
  - standing long jump
  - standing triple jump
  - force plate data
- flexibility:
  - hamstring extension
  - modified sit and reach
  - Thomas test
  - use of goniometry in flexibility testing
  - functional movement screening (FMS) protocols
  - Y Balance
- strength:
  - 1 to 5 repetition maximum
  - isokinetic tests
  - dynamometer tests
- anaerobic endurance:
  - line drill
  - jam test
  - repeated sprint test
  - phosphate decrement test
- aerobic endurance:
  - multi-stage fitness test
  - Cooper 12-minute run test
  - Yo-Yo test

  - direct VO_2 max tests
  - onset of blood lactate accumulation value (OBLA) or maximal lactate steady state (MLSS) test
- speed and agility:
  - 5 to 40 metres sprint
  - 'T' test
  - agility tests
  - change of direction tests (COD)
  - 505 and modified versions

Examples for measuring body composition are:

- callipers
- body mass
- height
- measuring tape
- bioelectrical impedance analysis equipment

After testing, learners should analyse results against available norms and offer appropriate client feedback. They should record results in a portfolio and use them in the development of the client's exercise programme.

Develop an individual training intervention (outcome 4); and Develop a group training intervention (outcome 5)

Learners demonstrate all the knowledge and skills from outcomes 4 and 5 through the application of the training principles and training guidelines in both an individual's and groups' exercise programme development. We recommend that the health- and skill-related components of fitness are used to plan both an individual's programme (eight-week period) and group-based sessions (two sessions).

Opportunities for e-assessment

Assessment that is supported by information and communication technology (ICT), such as e-testing or the use of e-portfolios or social software, may be appropriate for some assessments in this unit.

If you want to use e-assessment, you must ensure that you apply the national standard to all evidence and that conditions of assessment (as provided in the 'Evidence requirements' section) are met, regardless of the mode of gathering evidence.

Professional recognition

Learners completing the HNC in Physical Activity and Health can become a member of the Chartered Institute of Management of Sport and Physical Activity (CIMSPA) as a gym instructor practitioner, group exercise instructor practitioner and health navigator.

Additional guidance

The guidance in this section is not mandatory.

In this unit, you teach learners the science behind the craft of coaching, and build the technical competencies required in the planning and preparation of both individual and group-based exercise and/or physical activity sessions. The client consultation, and health and fitness testing, assists in the planning of safe and effective exercise programmes for a range of clients. We recommend that you deliver the outcomes in conjunction with Exercise Practitioner 1 at SCQF level 7, where knowledge and understanding supports practical delivery.

The portfolios generated by learners in the unit may provide opportunities for evidence capture from the following mandatory units:

- Anatomy and Physiology for Exercise and Human Movement (SCQF level 7)
- Health Promotion, Behaviour Change and Nutrition (SCQF level 7)

Experiencing a range of assessment methods helps learners to develop different skills that should be transferable to work or further and higher education.

Equality and inclusion

This unit is designed to be as fair and as accessible as possible with no unnecessary barriers to learning or assessment.

You should take into account the needs of individual learners when planning learning experiences, selecting assessment methods or considering alternative evidence.

Guidance on assessment arrangements for disabled learners and/or those with additional support needs is available on the assessment arrangements web page: www.sqa.org.uk/assessmentarrangements.

Information for learners

Training Principles for Exercise (SCQF level 7)

This section explains:

- what the unit is about
- what you should know or be able to do before you start
- what you need to do during the unit
- opportunities for further learning and employment

Unit information

This unit enables you to develop an appreciation of the science behind the craft of coaching and build the technical competencies you need to plan and prepare both individual and group-based exercise and physical activity sessions.

You develop knowledge and applied skills of physical and health-related assessments with a client, and develop training interventions with formulated rationales.

On completion of the unit, you can:

1 develop an exercise library for gym-based movements, cardiovascular, flexibility and mobility exercises
2 plan an appropriate gym-based induction for an individual and small group
3 conduct a client consultation and apply appropriate fitness and health assessments for a healthy client
4 develop an individual training intervention
5 develop a group training intervention

Delivery methods can include varied learning and teaching approaches, such as:

- classroom activities
- practical sessions
- field trips
- visits
- group work

Assessment of the unit includes a range of approaches which can include:

- stand-alone assignments
- oral questioning
- creation of educational handouts that form part of an overall unit project

The unit is part of the Higher National Certificate (HNC) in Physical Activity and Health. On successful completion of this qualification, you can become a member of the Chartered Institute of Management of Sport and Physical Activity (CIMSPA) as a gym instructor practitioner, group exercise instructor practitioner and health navigator.

Meta-skills

Throughout the unit, you develop meta-skills to enhance your employability in the creative industries sector.

Meta-skills include self-management, social intelligence and innovation.

Self-management

This meta-skill includes developing the ability to focus. You sort information into categories and understand the relationship between that information. Adaptability is developed, where you refine the ability to critically reflect on new knowledge and experiences to gain a deeper understanding, and embed and extend your learning. This unit supports your ability to make decisions and employ a considered choice after appropriately using intuition and careful thought.

Social intelligence

This includes developing your level of communication through the ability to receive, understand and process verbal or written communication. Application of unit knowledge and understanding in client work develops the meta-skill of collaboration. You are able to build relationships when supporting and educating your client. You identify and initiate connections, developing mutual benefit.

Innovation

This unit encourages curiosity, critical thinking and creativity by asking questions, researching, generating ideas, visualising, problem-solving and engaging with and understanding industry practice. Sense-making is developed through the process of organising, manipulating, pruning and filtering gathered data into cohesive structures for information-building.

Administrative information

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Superclass: MA

History of changes

Version	Description of change	Date
2.0	Updated knowledge and skills table for outcome 3 in relation to client consultation, to reflect changes in policy and industry.	August 2023
3.0	Wording added to outcome 3 and Knowledge table for outcome 4.	May 2024

Note: please check SQA's website to ensure you are using the most up-to-date version of this document.