

Level 3 Certificate in Personal Training (4926-03)

Qualification handbook

500/8049/0

City & Guilds

www.cityandguilds.com
April 2010
Version 1.0



REPs
The Register of
Exercise Professionals
PART OF THE SKILLSACTIVE GROUP

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Qualification title	Number	Cert Claim Number
Level 3 Certificate in Personal Training	4926-03	974

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Contents

Introduction to the qualification	4
2 Centre requirements	7
2.3 Claiming Certificates for Pathways	8
3 Proxy Units	8
4 Units	9
Unit 301 Anatomy and Physiology for Exercise and Health	10
Unit 202 Health, Safety and Welfare in a Fitness Environment	18
Unit 203 Principles of Exercise, Fitness and Health	23
Unit 204 Know how to Support Clients who Take Part in Exercise and Physical Activity	31
Unit 305 Applying the Principles of Nutrition as Part of a Personal Training Programme	36
Unit 306 Programming Personal Training with Clients	46
Unit 307 Delivering Personal Training Sessions	60
5 Assessment	69
6 Course design and delivery	72
Appendix 1 Reading List	74
Appendix 2 Relationships to other qualifications	75
Appendix 3 Muscles, muscle action, bones, joints and joint action	76

Introduction to the qualification

Qualification title and level	City & Guilds qualification number	Ofqual accreditation number	Last registration date	Last certification date
Level 3 Certificate in Personal Training	4926-03	500/8049/0	31/12/2013	31/12/2016

1.1 Qualification structure

To achieve the Level 3 Certificate in Personal Training, learners must achieve **all** mandatory units, a total of **36 credits / 245 GLH**

Accreditation unit reference	City & Guilds unit number	City & Guilds Unit title	Unit title	Mandatory/ optional for full qualification
A/600/9051	Unit 301	Anatomy and Physiology for Exercise and Health	Level 3	Mandatory
T/600/9016	Unit 202	Health, Safety and Welfare in a Fitness Environment	Level 2	Mandatory
A/600/9017	Unit 203	Principles of Exercise, Fitness and Health	Level 2	Mandatory
M/600/9015	Unit 204	Know how to Support Clients who Take part in Exercise and Physical Activity	Level 2	Mandatory
L/600/9054	Unit 305	Applying the Principles of Nutrition as Part of a Personal Training Programme	Level 3	Mandatory
F/600/9052	Unit 306	Programming Personal Training with Clients	Level 3	Mandatory
J/600/9053	Unit 307	Delivering Personal Training Sessions	Level 3	Mandatory

1.2 Opportunities for progression

On completion of this qualification candidates may progress into employment or to the following City & Guilds qualifications:

- Level 3 NVQ Certificate in Personal Training
- Level 4 NVQ in Sport and Active Leisure

Candidates completing these qualifications are also eligible to join the Register of Exercise Professionals (REPS). For further information, please contact

Register of Exercise Professionals

Address 10 Crown Hill
Croydon,
Surrey, CR0 1RZ
Telephone +44 (0)20 8686 6464
e-mail info@exerciseregister.org
URL **www.exerciseregister.org**

Apprenticeship frameworks

The Level 3 Certificate in Personal Training has been approved by SkillsActive as a technical certificate for the Apprenticeship in Exercise and Fitness.

Full details of the requirements of the apprenticeship frameworks for the Active Leisure and Learning Sector are available from:

SkillsActive
Address Castlewood House
77 – 91 New Oxford Street
London
WC1A 1PX.
Telephone 0207 632 2000
Fax 0208 632 2001
e-mail skills@skillsactive.com
URL **www.skillsactive.com**

1.3 Qualification support materials

City & Guilds also provides the following publications and resources specifically for these qualifications:

Description	How to access
Sample test papers	www.cityandguilds.com/sport
Assignment guide for centres	www.cityandguilds.com/sport
Gola	Walled Garden
Qualification Handbooks	www.cityandguilds.com/sport
SmartScreen	www.smartscreen.co.uk

2 Centre requirements

This section outlines the approval processes for Centres to offer these qualifications and any resources that Centres will need in place to offer the qualifications including qualification-specific requirements for Centre staff.

Centres already offering City & Guilds qualifications in this subject area

Centres approved to offer the qualification Level 3 Certificate in Advanced Fitness Instructing (4853) may apply for approval for the new Level 3 Certificate in Personal Training (4926-03/93) using the fast-track approval form, available from the City & Guilds website.

Centres may apply to offer the new qualifications using the fast-track form

- providing there have been no changes to the way the qualifications are delivered, and
- if they meet all of the approval criteria specified in the fast track form guidance notes.

Fast-track approval is available for 12 months from the launch of the qualification. After this time, the qualification is subject to the Qualification Approval Process. It is the centre's responsibility to check that fast-track approval is still current at the time of application.

2.1 Resource requirements

Physical resources

Centres must have access to sufficient equipment in the centre or workplace to ensure candidates have the opportunity to cover all of the practical activities. It is acceptable for centres to use specially designated areas within a centre for the practical units.

Centre staff

Centre staff must satisfy the requirements for occupational expertise for these qualifications. These requirements are as follows:

- staff should be technically competent in the areas for which they are delivering training and or should also have experience of providing training
- assessors and tutors should hold a Level 3 qualification in Personal Training, or a related equivalent qualification
- assessors and tutors should ideally have at least 18 months recent relevant experience in the specific area they will be assessing
- knowledge of and a commitment to the Exercise and Fitness Code of Ethical Practice
- actively involved in a process of industry relevant Continuing Professional Development (CPD) during the last two years.

Desirable criteria

It is desirable for all assessors and verifiers to be registered with the Register of Exercise Professionals (REPS) or recognised registers in Scotland or Northern Ireland.

Centre staff may undertake more than one role, eg tutor and assessor or internal verifier, but must never internally verify their own assessments.

Assessors and internal verifiers

While the Assessor/Verifier (A/V) units are valued as qualifications for centre staff, they are not currently a requirement for the qualifications.

Continuing professional development (CPD)

Centres are expected to support their staff in ensuring that their knowledge remains current of the occupational area and of best practice in delivery, mentoring, training, assessment and verification, and that it takes account of any national or legislative developments.

2.2 Candidate entry requirements

Candidates should not be entered for a qualification of the same type, content and level as that of a qualification they already hold.

Given that candidates may embark on this qualification with no Level 2 qualification in the area, it is imperative that centres provide opportunity for candidates to acquire the underpinning knowledge and skills required to enable them to achieve the qualification. For example, candidates may not have previously covered anatomy and physiology for exercise, or planning and instructing gym based exercise, the knowledge of which would be assumed going into this qualification.

However, it is a prerequisite requirement for entry onto REPS (Registered Exercise Professionals) that learners must have completed the Level 2 NVQ Diploma in Instructing Exercise and Fitness prior to the Level 3 NVQ Diploma in Personal Training.

Age restrictions and legal considerations

These qualifications are not approved for use by candidates under the age of 16, and City & Guilds cannot accept any registrations for candidates in this age group. However, it is advisable that candidates when completing the qualification are approaching 18 years of age.

It is advisable that candidates undertaking the water based exercise route either hold a current life guarding qualification or ensure that a suitably qualified person is available in line with the HSE Managing Health and Safety in Swimming Pools Guidelines.

If candidates are required to work with minors then any CRB checks should be carried out in accordance with current guidelines.

2.3 Claiming Certificates for Pathways

Certificate Claim Unit Numbers

The pathways have the same qualification number therefore to ensure you receive the right certificate when you register your learners please use the certificate claim numbers from the tables below.

You must enter the relevant Certificate Claim Number as a P or X in Walled Garden in order to claim the correct Certificate.

Qualification title	Cert Claim Number
4926-03	
Level 3 Certificate in Personal Training	974

3 Proxy Units

City and Guilds understand the need to recognise common units completed through other Awarding Organisations. Therefore 3 Proxy units have been set up in the Level 3 Certificate in Personal Training that will acknowledge this prior learning for units 202, 203 and 204; these are 802,803 and 804

4 Units

Availability of units

The units for these qualifications follow.

They may also be obtained from the centre resources section of the City & Guilds website.

The learning outcomes and assessment criteria are also viewable on the National Database of Accredited Qualifications (NDAQ) www.accreditedqualifications.org.uk

Structure of units

The units in these qualifications are written in a standard format and comprise the following:

- City & Guilds reference number
- title
- level
- credit value
- unit aim
- relationship to NOS, other qualifications and frameworks
- endorsement by a sector or other appropriate body
- information on assessment
- learning outcomes which are comprised of a number of assessment criteria
- notes for guidance

Summary of units

City & Guilds unit number	Unit title	Level	Credit value	Guided learning hours	Accreditation unit reference
Mandatory					
Unit 301	Anatomy and Physiology for Exercise and Health	Level 3	6	43	A/600/9052
Unit 202	Health, Safety and Welfare in a Fitness Environment	Level 2	2	16	T/600/9016
Unit 203	Principles of Exercise, Fitness and Health	Level 2	4	28	A/600/9017
Unit 204	Know how to Support Clients who Take part in Exercise and Physical Activity	Level 2	2	13	M/600/9015
Unit 305	Applying the Principles of Nutrition as Part of a Personal Training Programme	Level 3	6	40	L/600/9054
Unit 306	Programming Personal Training with Clients	Level 3	7	47	F/600/9052
Unit 307	Delivering Personal Training Sessions	Level 3	9	58	J/600/9053

Level: 3

Credit value: 6

Unit aim

This unit covers the knowledge an instructor needs about anatomy and physiology relating to exercise programming for a range of clients.

Learning outcomes

There are **six** learning outcomes to this unit. The learner will be able to:

1. Understand the heart and circulatory system and its relation to exercise and health
2. Understand the musculoskeletal system and its relation to exercise
3. Understand postural and core stability
4. Understand the nervous system and its relation to exercise
5. Understand the endocrine system and its relation to exercise
6. Understand energy systems and their relation to exercise

Guided learning hours

It is recommended that **43** hours should be allocated for this unit. This may be on a full-time or part-time basis.

Details of the relationship between the unit and relevant national occupational standards

This unit is linked to the Instructing Exercise and Fitness 2009 NOS.

Endorsement of the unit by a sector or other appropriate body

This unit is endorsed by SkillsActive.

Assessment and grading

This unit will be assessed by:

- An online examination (Gola).

Unit 301 Anatomy and Physiology for Exercise and Health

Outcome 1 Understand the heart and circulatory system and its relation to exercise and health

Underpinning knowledge

The learner can:

1. Explain the function of the heart **valves**
2. describe the coronary circulation
3. explain the effect of disease processes on the structure and function of blood vessels
4. explain the **short and long term** effects of exercise on blood pressure, including the valsalva effect
5. explain the **cardiovascular benefits** and risks of endurance/aerobic training
6. define blood pressure classifications and associated health risks.

Range

Valves

Bicuspid, tricuspid (atrioventricular valves), aortic and pulmonary (semilunar valves)

Short term

Increase in systolic pressure, diastolic pressure remains approximately the same

Long term

Decrease in both systolic and diastolic pressures to a healthy rate

Cardiovascular benefits

Interaction of the energy systems and production of ATP during a range of cardiovascular activities, energy systems used, effects of exercise intensity, effects of duration, effects of clients fitness levels, reduced risk of CHD

Unit 301 **Anatomy and Physiology for Exercise and Health**

Outcome 2 Understand the musculoskeletal system and its relation to exercise

Underpinning knowledge

The learner can:

1. explain the cellular structure of **muscle fibres**
2. describe the sliding filament theory
3. explain the **effects of different types of exercises** on muscle fibre type
4. identify and locate the muscle attachment sites for the major muscles of the body
5. name, locate and explain the **function** of skeletal muscle involved in physical activity
6. identify the **anatomical axis and planes** with regard to joint actions and different exercises
7. explain the joint actions brought about by specific muscle group contractions
8. describe **joints/joint structure** with regard to range of motion/movement and injury risk
9. describe joint movement potential and joint actions
10. describe the **structure of the pelvic girdle** and associated **muscles and ligaments**.

Range

Muscle fibres

Slow twitch (Type I), Fast twitch (Type IIb), Fast twitch (Type IIa)

Effects of different types of exercises

Slow twitch: increase in size and number of mitochondria, increase in myoglobin, increase in capillary network, increase in glycogen stores

Fast twitch: increase in phosphocreatine stores, increase in glycogen stores, increase in glycolytic enzymes, increase lactic acid threshold

Function

Movement of joints/limbs during exercise/activities

Anatomical axis and planes

Sagittal plane: flexion, extension, protraction, retraction, plantar flexion, dorsi flexion

Frontal plane: abduction, adduction, lateral flexion, elevation, depression, inversion, eversion

Transverse plane: rotation, horizontal flexion, horizontal extension

Joints/joint structure

joint capsule, ligaments, tendons, muscle attachment

Structure of the pelvic girdle

Pelvic structure: ilium, ishium, pubis, pubis symphysis, acetabulum, gender differences, sacroiliac joints, sacrum, coccyx

Muscles (Pelvis)

Rectus abdominus, external obliques, internal obliques, transverse abdominus, erector spinae, quadratus lumborum, multifidus, pelvic floor muscles (levator ani, coccygeus)

Unit 301 **Anatomy and Physiology for Exercise and Health**

Outcome 3 Understand postural and core stability

Underpinning knowledge

The learner can:

1. describe the structure and function of the **stabilising ligaments and muscles** of the spine
2. describe local muscle changes that can take place due to **insufficient stabilisation**
3. explain the potential effects of abdominal adiposity and poor posture on movement efficiency
4. explain the potential problems that can occur as a result of postural deviations
5. explain the impact of core stabilisation exercise and the potential for injury/aggravation of problems
6. explain the benefits, risks and applications of the following types of stretching:
 - Static (passive and active)
 - Dynamic
 - Proprioceptive Neuromuscular Facilitation.

Range

Stabilising ligaments and muscles

Ligaments: anterior Longitudal, posterior Longitudal

Muscles: splenius, erector spinae, transverse spinalis (multifidus, rotatores), intertransverarii

Insufficient stabilisation

Kyphosis: muscular imbalance, upper body adiposity, osteoporosis of the upper thoracic vertebrae

Lordosis: weak abdominal muscles, lower body adiposity, pregnancy

Scoliosis: genetic abnormality, muscular imbalance

Flatback syndrome: tight hamstrings

Problems: impingement of peripheral nerve fibres, bulging of intervertebral discs, damage to spinal ligaments, abnormal postural alignment, pelvic tilt, shoulder girdle problems, soft tissue dysfunction, balance

Unit 301 **Anatomy and Physiology for Exercise and Health**

Outcome 4 Understand the nervous system and its relation to exercise

Underpinning knowledge

The learner can:

1. describe the specific roles of:
 - the **central nervous system (CNS)**
 - the **Peripheral Nervous System (PNS)** including somatic and autonomic systems
2. describe nervous control and transmission of a nervous impulse
3. describe the structure and function of a neuron
4. explain the role of a motor unit
5. explain the process of **motor unit recruitment** and the significance of a motor unit's size and number of muscle fibres
6. explain the function of muscle **proprioceptors** and the stretch reflex
7. explain reciprocal inhibition and its relevance to exercise
8. explain the **neuromuscular adaptations** associated with exercise/training
9. explain the **benefits** of improved neuromuscular coordination/efficiency to exercise performance.

Range

CNS

Brain and spinal cord

PNS

Peripheral nerves (afferent/sensory nerves, efferent/motor nerves), somatic branch, autonomic branch (sympathetic, parasympathetic)

Motor unit recruitment

Motor unit (motor nerve/neuron and muscle fibres), single twitch, wave summation, tetanus

Proprioceptors

Muscle spindles, golgi-tendon organs (GTOs)

Neuromuscular adaptations

Improved motor unit synchronisation, improved ability to recruit more motor units, autogenic inhibition

Benefits

Improved coordination, recruitment of muscle fibres, improved reaction time, improved balance, proprioception

Unit 301

Anatomy and Physiology for Exercise and Health

Outcome 5

Understand the endocrine system and its relation to exercise

Underpinning knowledge

The learner can:

1. describe the functions of the endocrine system
2. identify the **major glands** in the endocrine system
3. explain the function of hormones including:
 - growth hormone
 - thyroid hormones
 - corticosteroids
 - catecholamines
 - insulin
 - glucagons.

Range

Major glands

Pituitary, adrenal, thyroid, parathyroid, sex organs (testes, ovaries), pancreas

Unit 301

Anatomy and Physiology for Exercise and Health

Outcome 6

Understand energy systems and their relation to exercise

Underpinning knowledge

The learner can:

1. identify the contribution of energy according to:
 - duration of exercise/activity being performed
 - type of exercise/activity being performed
 - intensity of exercise/activity being performed
2. identify the **by-products** of the three energy systems and their significance in muscle fatigue
3. describe the **effect** of endurance training/advanced training methods on the use of fuel for exercise.

Range

By-products

Heat, lactic acid, carbon dioxide, water (sweat), free radicals

Effect

Increased aerobic base, increased anaerobic threshold, increase tolerance to build up to lactic acid, Onset of Blood Lactate Accumulation (OBLA)

Unit 202

Health, Safety and Welfare in a Fitness Environment

Level: 2

Credit value: 2

Unit aim

This unit covers the knowledge and understanding that instructors need to maintain health, safety and welfare in a fitness environment, including the safeguarding of children and vulnerable adults.

Learning outcomes

There are **four** learning outcomes to this unit. The learner will be able to:

1. Understand emergency procedures in a fitness environment
2. Understand health and safety requirements in a fitness environment
3. Understand how to control risks in a fitness environment
4. Understand how to safeguard children and vulnerable adults

Guided learning hours

It is recommended that **16** hours should be allocated for this unit. This may be on a full-time or part-time basis.

Details of the relationship between the unit and relevant national occupational standards (if appropriate)

This unit is linked to the Instructing Exercise and Fitness 2009 NOS C22 Promote health, safety and welfare in active leisure and recreation

Endorsement of the unit by a sector or other appropriate body

A letter of support from SkillsActive is required for any qualification in which this unit is used.

Assessment and grading

This unit will be assessed by:

- A short-answer test covering practical skills and underpinning knowledge.

Unit 202

Health, Safety and Welfare in a Fitness Environment

Outcome 1

Understand emergency procedures in a fitness environment

Underpinning knowledge

The learner can:

1. identify the types of **emergencies** that may occur in a fitness environment
2. describe the roles that different **staff and external services** play during an emergency
3. explain the importance of following emergency procedures calmly and correctly
4. describe how to maintain the safety of people involved in typical emergencies, including children, older people and disabled people.

Range

Emergencies

Fire, bomb scare, major accident/incident , power cut, structural failure, gas leak

Staff and external services

Manager, receptionist, leisure assistant, instructor, police, fire brigade, ambulance, bomb disposal, technical expert (electrician, engineer etc)

Unit 202

Health, Safety and Welfare in a Fitness Environment

Outcome 2

Understand health and safety requirements in a fitness environment

Underpinning knowledge

The learner can:

1. outline why health and safety is important in a fitness environment
2. identify the **legal and regulatory requirements** for health and safety relevant to working in a fitness environment
3. describe Duty of Care and professional role boundaries in relation to special population groups
4. identify the different roles of individuals responsible for health and safety in a fitness organisation
5. describe the types of security procedures that may apply in a fitness environment
6. describe the key **health and safety documents** that are relevant in a fitness environment.

Range

Legal and regulatory requirements

Risk assessment, risk scoring, risk management

Legal and regulatory procedures: Health and Safety At Work Act, RIDDOR, COSHH, Disability, Discrimination Act (DDA), Manual Handling

Organisational procedures: Equal Opportunities, Emergency Action Plan (EAP), Normal Operating Procedures (NOP)

Health and safety documents

Emergency Action Plan (EAP), Normal Operating Procedure (NOP), PAR-Q, Staff Training records

Unit 202

Health, Safety and Welfare in a Fitness Environment

Outcome 3

Understand how to control risks in a fitness environment

Underpinning knowledge

The learner can:

1. identify possible hazards in a fitness environment, relating to:
 - **facilities**
 - **equipment**
 - working practices, including lifting and handling of equipment
 - client behaviour
 - security
 - hygiene
2. describe how to risk assess the types of possible hazards in a fitness environment
3. describe how to control risks associated with hazards in a fitness environment
4. identify the appropriate person/position to contact within a fitness organisation when hazards and risks cannot be controlled personally.

Range

Facilities

Lighting, flooring, structure, size of room, temperature, routes of egress

Equipment

Loose weights, moving parts, mechanisms, wear and tear

Unit 202

Health, Safety and Welfare in a Fitness Environment

Outcome 4

Understand how to safeguard children and vulnerable adults

Underpinning knowledge

The learner can:

1. describe what is meant by safeguarding the welfare of children and vulnerable adults
2. describe the **responsibilities and limitations** of a fitness instructor in regard to safeguarding children and vulnerable adults
3. identify the types of abuse which an instructor may encounter: physical, emotional, neglect, bullying and sexual
4. identify possible signs of abuse: physical, emotional, neglect, bullying and sexual
5. describe a fitness organisation's policies and procedures in relation to safeguarding children and vulnerable adults, including typical reporting procedures
6. describe the procedures to follow to protect oneself from accusations of abuse
7. identify the **statutory agencies** responsible for safeguarding children and vulnerable adults
8. explain when it may be necessary to contact **statutory agencies**
9. describe how to maintain the confidentiality of information relating to possible abuse.

Range

Responsibilities and limitations

Qualifications, training, ability, specialist requirements to carry out tasks (inductions, lifestyle questionnaires/PAR-Q, health screening, programmes, cleaning and maintenance, reception duties, sales and marketing, first aid, teaching classes, memberships, motivators, pool plant operation)

Statutory agencies

Police, social services, NSPCC

Level: 2

Credit value: 4

Unit aim

This unit covers knowledge an instructor needs to programme safe and effective exercise for range of clients, the health benefits of physical activity and the importance of healthy eating.

Learning outcomes

There are **seven** learning outcomes to this unit. The learner will be able to:

1. Understand the effects of exercise on body systems
2. Understand the components of fitness
3. Understand how to apply the principles and variables of fitness to an exercise programme
4. Understand the exercise contraindications and key safety guidelines for special populations
5. Understand how to safely monitor exercise intensity
6. Understand the health benefits of physical activity
7. Understand the importance of healthy eating

Guided learning hours

It is recommended that **28** hours should be allocated for this unit. This may be on a full-time or part-time basis.

Details of the relationship between the unit and relevant national occupational standards

This unit is linked to the Instructing Exercise and Fitness 2009 NOS.

Endorsement of the unit by a sector or other appropriate body

This unit is endorsed by SkillsActive.

Assessment and grading

This unit will be assessed by:

- On-line multiple-choice test (Gola).

Unit 203

Outcome 1

Principles of Exercise, Fitness and Health

Understand the effects of exercise on body systems

Underpinning knowledge

The learner can:

1. describe **cardiovascular** and **respiratory adaptations** to endurance/aerobic training
2. identify the **short and long term effects of exercise on blood pressure**
3. describe the *blood pooling* effect following exercise
4. describe the **effects of exercise on bones and joints** including the significance of weight bearing exercise
5. describe delayed onset of muscle soreness (DOMS)
6. identify exercises or techniques likely to cause delayed onset of muscle soreness
7. describe the **short and long term effects** of different types of exercise on muscle
8. describe different exercises that can improve posture.

Range

Cardiovascular adaptations

Increase size of left ventricle, increase in thickness and strength of the left ventricular wall, increased stroke volume, decreased resting heart rate, improved blood profile (haemoglobin), improved tissue capillary network increased, cardiac output

Respiratory adaptations

Increased pulmonary capillary network, increased lung efficiency (tidal volume, forced vital capacity), breathing muscles more efficient

Short and long term effects of exercise on blood pressure

During exercise systolic pressure increases whilst diastolic pressure remains approximately the same, long term both systolic and diastolic pressures are reduced

Effects of exercise on bones and joints

Bones: Density (weight bearing exercise), tendon and ligament attachments, articular cartilage, tendon and ligaments

Joints: Synovial fluid, joint range of movement

Increase in mechanical stress on the skeletal system, increased production of synovial fluid, lubrication and nourishment of the joint. Increased bone density at muscle attachment sites.

Improved joint stability

Short and long term effects

Short term: Increased temperature within the working muscle, increased blood flow to the working muscle, creation of micro tears within the muscle fibre, creation of a catabolic state within the muscle tissue, increased pliability, increased capillary dilation, increased metabolic activity, improved neuromuscular response and range of joint movement

Long term: Creation of an anabolic state within the muscle tissue, increased muscle mass/hypertrophy, increase in thickness and strength of tendons/ligaments, improved posture, improved inter and intra muscular coordination, improved neuromuscular function, increased strength, increased capillarisation of muscle tissue, increase in the size and number of muscle mitochondria, improved capacity to store Creatine phosphate and glycogen, improved strength and endurance, improved muscle tone, increased myoglobin stores, increased motor neuron size

Underpinning knowledge

The learner can:

1. define the **components of health-related fitness**
2. define the **components of skill-related fitness**
3. identify the **factors** that affect health and skill related fitness.

Range

Components of health related fitness

Muscular strength, muscular endurance, flexibility, cardio-vascular fitness, aerobic and muscular fitness

Components of skill related fitness

Balance, coordination, agility, reaction time, speed

Factors

Frequency of training, intensity of training, duration of training, type of exercise (FITT), adherence
Additional factors: adherence, recovery

Unit 203

Outcome 3

Principles of Exercise, Fitness and Health

Understand how to apply the principles and variables of fitness to an exercise programme

Underpinning knowledge

The learner can:

1. describe the physiological implications of:
 - specificity
 - progressive overload
 - reversibility
 - adaptability
 - individuality
 - recovery time
2. explain the principles of FITT (Frequency, Intensity, Time and Type)
3. explain the **principles of a progressive training programme** in developing components of fitness
4. explain how to recognise **when and how to regress** a training programme
5. explain the principles of adaptation, modification and progression for each component of FITT (Frequency, Intensity, Time and Type)
6. describe the effect of speed on posture, alignment and intensity
7. describe the effect of levers, gravity and resistance on exercise
8. describe the differences between programming exercise for physical fitness and for health benefits.

Range

Principles of a progressive training programme

Increase exercise intensity (increase speed, increase level, increase resistance), increase range of movement, change body position, change hand position, increase complexity of movement, change exercise, change system, mode

When and how to regress

Poor exercise technique, complexity of the exercise, frequency of performing the exercise, communication with the client, regular reviews, injury rehabilitation

Unit 203

Outcome 4

Principles of Exercise, Fitness and Health

Understand the exercise contraindications and key safety guidelines for special populations

Underpinning knowledge

The learner can:

1. describe the **exercise contraindications** and **key safety guidelines** for working with older people (50 plus)
2. describe the **exercise contraindications** and **key safety guidelines** for working with antenatal and postnatal clients
3. describe the **exercise contraindications** and **key safety guidelines** for working with young people (14-16)
4. describe the **key safety considerations for working with disabled people**.

Range

Exercise contraindications (older people): balance, posture, isometric training, blood pressure, joint stiffness, osteoporosis, medication

Key safety guidelines (older people): strength exercises, balance exercises, stretching exercises, endurance exercises

Exercise contraindications (antenatal postnatal clients): raising body temperature, high intensity exercise, over extending joints (hormone relaxing), lying on back after 20 weeks (reduces blood flow to baby), isometric training

Key safety guidelines (antenatal postnatal clients): maintain fitness level, reduce resistance, limit range of movement, reduce high impact exercise, start pelvic floor exercises, upper body exercises to prepare for carrying the baby

Exercise contraindications (young people): puberty, growth plate fractures, avulsion fractures, Osgood Schlatters disease, hormones (oestrogen, testosterone)

Key safety guidelines (young people): no flexibility training, reduce resistance, reduce repetitive high impact exercises, ensure regular breaks when training, regular rehydration

Key safety considerations (disabled people)

Stop exercising if feel pain or discomfort, ensure client drinks plenty of water, advise appropriate clothing, set realistic goals, adapt and support client, ensure supervision appropriate to clients needs and ability

Unit 203

Outcome 5

Principles of Exercise, Fitness and Health

Understand how to safely monitor exercise intensity

Underpinning knowledge

The learner can:

1. describe the **benefits** and **limitations** of different methods of monitoring exercise intensity including:
 - the talk test
 - Rate of Perceived Exertion (RPE)
 - heart rate monitoring and the use of different heart rate zones.

Range

Benefits

Encourages observation, client can work to their perceived exertion level, heart rate zones suitable for client fitness level

Limitations

Unclear of the RPE scale, honesty, inaccurate heart rate readings, subjective

Underpinning knowledge

The learner can:

1. describe the **health benefits** of physical activity
2. describe the **effect** of physical activity on the **causes** of certain diseases including:
 - Coronary Heart Disease
 - some cancers
 - Type 2 Diabetes
 - Hypertension
 - Obesity
 - Osteoporosis.

Range

Health benefits

Reduced risk of coronary heart disease, osteoporosis, certain cancers, high blood pressure, high cholesterol, obesity, diabetes, musculoskeletal disorders, stress, depression

Improved circulation, blood, sleep, body awareness, posture, body composition, confidence, self-esteem

Effect

Reduced risk of CHD, reduced risk of cancers, body fat reduction (leading to reduced risk of diabetes), stronger bones, efficient hormone transport, reduction in blood pressure

Causes

Inactivity, poor diet, smoking, excessive alcohol, stress, family history

Underpinning knowledge

The learner can:

1. describe the national food model guide
2. describe key healthy eating advice that underpins a healthy diet
3. explain the importance of adequate hydration
4. explain professional role boundaries in relation to offering nutritional advice
5. explain the dietary **role of the key nutrients**
6. identify the common dietary **sources of the key nutrients**
7. describe the energy balance equation
8. explain the health risks of poor nutrition.

Range

Role of key nutrients

Carbohydrates: energy provision, gut function, dietary fibre

Fats: energy provision, protection of internal organs, insulation from cold, insulation of nerve

Fibres: storage of fat soluble vitamins, production of oestrogen

Proteins: growth and repair of body tissue, productions of enzymes, formation of hormones,
energy: when carbohydrate stores are low

Sources of key nutrients

Carbohydrates: simple sugars (sugar, fruit, sweets, jam, honey, milk, energy drinks), complex starches (bread, pasta, oats, corn, barley, potatoes, rice, beans, lentils, peas, vegetables)

Fats: saturated fats (butter, lard, cream, yoghurt, pies, pastries, avocado) unsaturated fats (sunflower oil, olive oil, rapeseed oil, flaxseed oil, nuts, fish)

Proteins: eggs, fish, meat, poultry, milk, rice, soya beans, tofu, textured vegetable protein

Unit 204

Know how to Support Clients who Take Part in Exercise and Physical Activity

Level: 2

Credit value: 2

Unit aim

This unit covers the knowledge an instructor needs to provide ongoing customer service and how to support clients taking part in exercise and physical activity.

Learning outcomes

There are **five** learning outcomes to this unit. The learner will be able to:

1. Understand how to form effective working relationships with clients
2. Understand how to address barriers to exercise/physical activity that clients experience
3. Understand how to support clients to adhere to exercise/physical activity
4. Understand how to provide ongoing customer service to clients

Guided learning hours

It is recommended that **13** hours should be allocated for this unit. This may be on a full-time or part-time basis.

Details of the relationship between the unit and relevant national occupational standards

Instructing Exercise and Fitness 2009 NOS Instructing Physical Activity and Exercise 2009 NOS

Endorsement of the unit by a sector or other appropriate body

This unit is endorsed by Skillsactive.

Assessment and grading

This unit will be assessed by:

- A short-answer test covering practical skills and underpinning knowledge.

Unit 204

Know how to Support Clients who Take Part in Exercise and Physical Activity

Outcome 1

Understand how to form effective working relationships with clients

Underpinning knowledge

The learner can:

1. explain why it is important to form effective working relationships with clients
2. explain why it is important to present oneself and the organisation positively to clients
3. describe how different **communication** skills can be used to assist clients with motivation
4. explain the importance of valuing equality and diversity when working with clients.

Range

Communication

Verbal: use of words in a written or spoken format, tone, volume, pitch, pace, rhythm, open and closed questioning, probing questions

Non-verbal: body language (facial expressions, eye contact, posture, positioning, motions, mirroring), attitude, personal presentation (dress, hygiene), conduct

Unit 204

Know how to Support Clients who Take Part in Exercise and Physical Activity

Outcome 2

Understand how to address barriers to exercise/physical activity that clients experience

Underpinning knowledge

The learner can:

1. identify the typical **barriers to exercise/physical activity** that clients experience
2. explain how incorporating clients' exercise/physical activity preferences into their programme can strengthen motivation and adherence
3. describe different incentives and rewards that can strengthen clients' motivation and adherence
4. describe different strategies that can help clients overcome typical barriers to exercise/physical activity.

Range

Barriers to exercise/Physical activity

Physical: age, injury, disability, health

Emotional: self conscious, shy, worry

Motivational: goal setting, boredom

Time: other commitments (work, family)

Availability: facilities, finance, resources, clothing

Unit 204

Know how to Support Clients who Take Part in Exercise and Physical Activity

Outcome 3

Understand how to support clients to adhere to exercise/physical activity

Underpinning knowledge

The learner can:

1. explain why it is important for a client to take personal responsibility for their own fitness and motivation
2. describe how to assist clients to develop their own **strategy for motivation** and adherence
3. identify different **behaviour change** approaches/strategies to encourage adherence to exercise/physical activity
4. describe how to set short, medium and long term **SMART** goals
5. describe how to review and revise short, medium and long term **SMART** goals.

Range

Strategy for motivation

Goal setting, rewards, focusing, support systems, contingency plan or alternative exercises, strategies for relapsed clients, lifestyle changes, self recognition of client's own barriers, voice pitch and tone, body language and positioning, engaging client in conversation

Behaviour change

Pre-contemplation, contemplation, preparation, action, maintenance, relapse, termination

SMART

Specific, measurable, achievable, realistic, time

Unit 204

Know how to Support Clients who Take Part in Exercise and Physical Activity

Outcome 4

Understand how to provide ongoing customer service to clients

Underpinning knowledge

The learner can:

1. explain the importance of client care both for the client and the organisation
2. explain why it is important to deal with clients needs to their satisfaction
3. identify where to source relevant and appropriate information to meet clients needs
4. explain the importance of dealing with any delay in meeting clients needs timely and effectively
5. give examples of how to exceed customer expectations, when appropriate
6. explain the importance of handling client complaints positively following an organisations procedures.

Unit 305

Applying the Principles of Nutrition as Part of a Personal Training Programme

Level: 3

Credit value: 6

Unit aim

This unit covers the learner's ability to apply the principles of nutrition to support client goals as part of an exercise and physical activity programme.

Learning outcomes

There are **nine** learning outcomes to this unit. The learner will be able to:

1. Understand the principles of nutrition
2. Understand key guidelines in relation to nutrition
3. Understand nationally recommended practice in relation to providing nutritional advice
4. Understand the relationship between nutrition and physical activity
5. Understand how to collect information relating to nutrition
6. Understand how to use nutritional information
7. Understand the principles of nutritional goal setting with clients
8. Be able to collect and analyse nutritional information
9. Be able to apply the principles of nutrition to a physical activity programme

Guided learning hours

It is recommended that **40** hours should be allocated for this unit. This may be on a full-time or part-time basis.

Details of the relationship between the unit and relevant national occupational standards

This unit is linked to the Instructing Physical Activity and Exercise 2009 NOS D462 Apply the principles of nutrition to support client goals as part of an exercise and physical activity programme

Endorsement of the unit by a sector or other appropriate body

A letter of support from SkillsActive is required for any qualification in which this unit is used.

Assessment and grading

This unit will be assessed by:

- A short-answer test covering practical skills and underpinning knowledge.

Unit 305

Applying the Principles of Nutrition as Part of a Personal Training Programme

Outcome 1

Understand the principles of nutrition

Underpinning knowledge

The learner can:

1. describe the **structure** and function of the digestive system
2. explain the meaning of key nutritional terms including:
 - diet
 - healthy eating
 - nutrition
 - balanced diet
3. describe the function and metabolism of:
 - **macro nutrients**
 - **micro nutrients**
4. explain the **main food groups** and the nutrients they contribute to the diet
5. identify the calorific value of nutrients
6. explain the common terminology used in nutrition including:
 - UK dietary reference values (DRV)
 - Recommended daily allowance (RDA)
 - Recommended daily intake (RDI)
 - Glycemic Index
7. interpret food labelling information
8. explain the significance of healthy food preparation
9. explain the relationship between nutrition, physical activity, body composition and health including:
 - links to disease/disease risk factors
 - cholesterol
 - types of fat in the diet.

Range

Structure

Mouth, epiglottis, oesophagus, stomach, duodenum, small intestine, large intestine, anus

Macro nutrients

Carbohydrates, proteins, fats

Bread, rice, pasta, and starch foods / fruits and vegetables / milk and dairy / meat / fish and alternatives / foods high in fat or sugar

Micro nutrients

Vitamins (A, B1, B2, B12, Niacin, Folic Acid, C, D, E, K), minerals (calcium, iron, magnesium, phosphorus, potassium, sodium, sulphur)

Main food groups

Carbohydrates, proteins, fats

Unit 305

Applying the Principles of Nutrition as Part of a Personal Training Programme

Outcome 2

Understand key guidelines in relation to nutrition

Underpinning knowledge

The learner can:

1. identify the range of **professionals and professional bodies** involved in the area of nutrition
2. Explain key healthy eating advice that underpins a healthy diet
3. Describe the nutritional principles and key features of the **National Food Model/Guide**
4. Define **portion sizes** in the context of the National food model/guide
5. Explain how to access reliable **sources of nutritional information**
6. distinguish between evidence-based knowledge versus the unsubstantiated marketing claims of suppliers

Range

Professionals and professional bodies/ Sources of nutritional information

World Health Organisation (WHO), British Nutrition Foundation, British Diabetic Association, Health Education Authority (HEA), British Heart Foundation, British Diabetic Foundation, Food Standards Agency (FSA)

National food model/guide

Recommended daily allowance, eatwell plate

Portion sizes

Starch carbohydrates: 6-11 servings, vegetables: 3-5 servings, fruit: 2-4 servings, dairy products: 2-3 servings, meat, fish, poultry: 2-3 servings, fats, oils, sweets: use sparingly

Unit 305

Applying the Principles of Nutrition as Part of a Personal Training Programme

Outcome 3

Understand nationally recommended practice in relation to providing nutritional advice

Underpinning knowledge

The learner can:

1. explain professional role boundaries with regard to offering nutritional advice to clients
2. explain the importance of communicating **health risks** associated with weight loss fads and popular diets to clients
3. evaluate the potential health and performance implications of **severe energy restriction**, weight loss and weight gain
4. identify clients at risk of nutritional deficiencies
5. explain how cultural and religious dietary practices can influence nutritional advice
6. describe safety, effectiveness and contraindications relating to protein and vitamin supplementation
7. explain why detailed or complex dietary analysis that incorporates major dietary change should always be referred to a registered dietician.

Range

Health risks

Yo-yo dieting, low body fat resulting in loss of periods (amenorrhoea), osteoporosis, insufficient vitamins and minerals, unhealthy cholesterol levels

Severe energy restriction

Irregular metabolism, break down of body tissues (muscle), low in energy stores, impaired performance, physical/sporting performance

Unit 305

Applying the Principles of Nutrition as Part of a Personal Training Programme

Outcome 4

Understand the relationship between nutrition and physical activity

Underpinning knowledge

The learner can:

1. define the role of carbohydrate, fat and protein as fuels for **aerobic** and **anaerobic** energy production
2. explain the **components of energy expenditure** and the energy balance equation
3. explain how to calculate and estimate Basal Metabolic Rate (BMR)
4. explain how to estimate energy requirements based on physical activity levels and other relevant factors
5. identify energy expenditure for different physical activities
6. evaluate the nutritional requirements and hydration needs of clients engaged in physical activity.

Range

Aerobic

Aerobic glycolysis/aerobic system (carbohydrates and fats)

Anaerobic

Anaerobic glycolysis/lactic acid system (carbohydrates), CP/PC system (Creatine phosphate)

Components of energy expenditure

Aerobic system: Low/moderate intensity, prolonged duration exercise

Lactic Acid System: High intensity, short duration exercise

Creatine Phosphate system: Very high intensity, very short duration exercise

Unit 305

Applying the Principles of Nutrition as Part of a Personal Training Programme

Outcome 5

Understand how to collect information relating to nutrition

Underpinning knowledge

The learner can:

1. explain why it is important to obtain clients' informed consent before collecting nutritional **information**
2. describe the information that needs to be collected to offer nutritional advice to clients
3. explain the legal and ethical implications of collecting nutritional information
4. describe different **formats** for recording nutritional information
5. explain why confidentiality is important when collecting nutritional information
6. describe issues that may be sensitive when collecting nutritional information
7. explain different **methods** that can be used to measure body composition and health risk in relation to weight.

Range

Information

Food consumed, fluid intake, portions of food, times food is consumed

Formats

Pie charts, food diary, graphs, reports

Methods

Body fat percentage, skin callipers, hydrostatic weighing, bio-electrical impedance, hip waist ratio

Unit 305

Applying the Principles of Nutrition as Part of a Personal Training Programme

Outcome 6

Understand how to use nutritional information

Underpinning knowledge

The learner can:

1. describe basic **dietary assessment methods**
2. explain how to analyse and interpret collected information so that clients' needs and nutritional goals can be identified with reference to the National food model/guide recommendations
3. describe how to interpret information gained from methods used to assess body composition and health risk in relation to weight
4. explain how to sensitively divulge collected information and 'results' to clients
5. explain how to recognise the **signs and symptoms of disordered eating** and healthy eating patterns
6. describe the key features of the industry guidance note on '**Managing users with suspected eating disorders**'
7. explain the circumstances in which a client should be recommended to visit their GP about the possibility of referral to a registered dietician.

Range

Dietary assessment methods

Food diary, reports, consultation, observation

Signs and symptoms of disordered eating

Frequency of meals, quantity of meals, quality of meals, consistency, attitude to eating, behaviour

Managing users with suspected eating disorders

There is a document on the website outlining this information

Unit 305

Applying the Principles of Nutrition as Part of a Personal Training Programme

Outcome 7

Understand the principles of nutritional goal setting with clients

Underpinning knowledge

The learner can:

1. explain how to apply the **principles of goal setting** when offering nutritional advice
2. explain how to translate nutritional goals into basic healthy eating advice that reflects current National guidelines
3. explain when **people** other than the client should be involved in nutritional goal setting
4. define which other people could be involved in nutritional goal setting
5. identify the **barriers** which may prevent clients achieving their nutritional goals
6. explain how to apply basic **motivational strategies** to encourage healthy eating and prevent non-compliance or relapse
7. explain the need for reappraisal of clients' body composition and other relevant health parameters at agreed stages of the programme.

Range

Principles of goal setting

SMART- Specific, Measurable, Achievable, Realistic, Time bound

People

General practitioner, registered dietician, coach, nutritional specialist

Barriers

Motivation, finance, time, commitments (family, work), religion/culture, lifestyle, medication

Motivational strategies

Goal setting, rewards, focusing, support systems, contingency plan or alternative foods, lifestyle changes, self recognition of clients own barriers

Unit 305

Applying the Principles of Nutrition as Part of a Personal Training Programme

Outcome 8

Be able to collect and analyse nutritional information

Practical skills

The learner can:

1. collect information needed to provide clients with appropriate healthy eating advice
2. record information about clients and their nutritional goals in an approved format
3. analyse collected information including nutritional needs and preferences in relation to the clients current status and nutritional goals.

Unit 305

Applying the Principles of Nutrition as Part of a Personal Training Programme

Outcome 9

Be able to apply the principles of nutrition to a physical activity programme

Practical skills

The learner can:

1. access and make use of credible **sources of information** and advice in establishing goals
2. design and agree nutritional goals that are compatible with the analysis, accepted good practice and national guidelines
3. identify and obtain credible educational resources for use with clients
4. ensure that the nutritional goals support and integrate with other programme components
5. agree review points with the clients
6. review the clients understanding of how to follow the nutritional advice as part of their physical activity programme
7. monitor, evaluate and review the clients' progress towards their nutritional goals.

Range

Sources of information

World Health Organisation (WHO), British Nutrition Foundation, British Diabetic Association, Health Education Authority (HEA), British Heart Foundation, British Diabetic Foundation, Food Standards Agency (FSA)

Level: 3

Credit value: 7

Unit aim

This unit covers the knowledge and skills of a learner needs to design, manage, and adapt a personal training programme with apparently healthy adults of all ages. This may include young people in the 14-16 age range, provided they are part of a larger adult group. The unit also covers working with individual older adults, ante and postnatal clients and disabled clients, provided the relevant contraindications and key safety guidelines are observed. This unit, however, does not cover running specialist whole classes for young people, older adults, ante and postnatal and disabled clients. Specialist units are available for these types of classes.

Learning outcomes

There are **thirteen** learning outcomes to this unit. The learner will be able to:

1. Understand how to prepare personal training programmes
2. Understand the importance of long term behaviour change for personal training
3. Understand the principles of collecting information to plan a personal training programme
4. Understand how to screen clients prior to a personal training programme
5. Understand how to identify personal training goals with clients
6. Understand how to plan a personal training programme with clients
7. Understand how to adapt a personal training programme with clients
8. Be able to collect information about clients
9. Be able to agree goals with clients
10. Be able to plan a personal training programme with clients
11. Be able to manage a personal training programme
12. Be able to review progress with clients
13. Be able to adapt a personal training programme with clients

Guided learning hours

It is recommended that **47** hours should be allocated for this unit. This may be on a full-time or part-time basis.

Details of the relationship between the unit and relevant national occupational standards

This unit is linked to the Personal Training 2009 NOS D460 Design, manage and adapt a personal training programme with clients.

Endorsement of the unit by a sector or other appropriate body

This unit is endorsed by SkillsActive.

Assessment and grading

This unit will be assessed by:

- an assignment covering practical skills and underpinning knowledge.

Unit 306

Outcome 1

Programming Personal Training with Clients

Understand how to prepare personal training programmes

Underpinning knowledge

The learner can:

1. describe the **range of resources** required to deliver a personal training programme, including:
 - environment for the session
 - portable equipment
 - fixed equipment
2. explain how to work in **environments** that are not specifically designed for exercise./ physical activity.

Range

Range of resources

portable equipment: Dumbbells, barbells, bands, medicine balls, kettle bells, wobbles boards, bosu, cones, step box, mats

fixed equipment: Cable machines, smith machines, squat racks, resistance machines, cardiovascular machines

Environments

Office, home, outdoors (garden, woods), garage, warehouse, field, park, village hall

Unit 306
Outcome 2

Programming Personal Training with Clients
Understand the importance of long term behaviour change for personal training

Underpinning knowledge

The learner can:

1. explain why it is important for clients to understand the **advantages of personal training**
2. explain why it is important for a personal trainer to work together with clients to agree goals objectives, programmes and adaptations
3. explain the importance of long-term **behaviour change** in developing client fitness
4. explain how to ensure clients commit themselves to long-term change.

Range

Advantages of personal training

Motivation, inspiration, progressive overload, knowledge and experience, safe exercises reflecting good practice

Behaviour change

Positive behaviour, diet, eating habits, routine, regular exercise and physical activity, lifestyle change

Unit 306

Outcome 3

Programming Personal Training with Clients

Understand the principles of collecting information to plan a personal training programme

Underpinning knowledge

The learner can:

1. explain the principles of informed consent
2. explain why informed consent should be obtained before collecting information for a personal training programme
3. summarise the client information that should be collected when designing a personal training programme to include:
 - personal goals
 - lifestyle
 - medical history
 - physical activity history
 - physical activity likes and dislikes
 - motivation and barriers to participation
 - current fitness level
 - stage of readiness
 - posture and alignment
 - functional ability
4. explain how to select the most appropriate **methods** of collecting client information according to client need
5. explain the legal and ethical implications of collecting client information, including confidentiality.

Range

Methods

Interview, questionnaire, observation, advantages and disadvantages of each method, methods most appropriate to the client

Unit 306

Outcome 4

Programming Personal Training with Clients

Understand how to screen clients prior to a personal training programme

Underpinning knowledge

The learner can:

1. explain how to interpret information collected from the client in order to identify client needs and **goals**
2. explain how to analyse client responses to the Physical Activity Readiness Questionnaire (PAR-Q)
3. describe the types of **medical conditions** that will prevent personal trainers from working with a client unless they have specialist training and qualifications
4. explain how personal trainers should refer clients to **another professional**.

Range

Goals

SMART (Specific, Measurable, Achievable, Realistic, Time bound), goals reflecting short/medium/long term, related to physical activity, lifestyle, adherence

Medical conditions

Coronary Heart Disease, Hypertension, Injuries, respiratory disorders, cardiac problems, mental health, pregnancy, some cancers

Another professional

GP, nutritionist, physiotherapist, coach

Unit 306

Outcome 5

Programming Personal Training with Clients

Understand how to identify personal training goals with clients

Underpinning knowledge

The learner can:

1. explain how to identify clients' short, medium and long term goals to include:
 - general health and fitness
 - physiological
 - psychological
 - lifestyle
 - social
 - functional ability
2. identify when personal trainers should involve **others**, apart from their clients, in goal setting
3. explain how to use specific, measurable, achievable, realistic and time bound (SMART) objectives in a personal training programme.

Range

Others

Parents, colleagues, coaches, nutritionalists, physiotherapists, general practitioners

Unit 306

Outcome 6

Programming Personal Training with Clients

Understand how to plan a personal training programme with clients

Underpinning knowledge

The learner can:

1. identify credible sources of guidelines on programme design and safe exercise
2. summarise the **key principles** of designing programmes to achieve short, medium and long term goals, including the order and structure of sessions
3. describe a range of safe and effective exercises/physical activities to develop:
 - cardiovascular fitness
 - muscular fitness
 - flexibility
 - motor skills
 - core stability
4. explain how to include physical activities as part of the client's lifestyle to complement exercise sessions
5. explain how to design programmes that can be run in environments not designed specifically for exercise
6. identify when it might be appropriate to share the programme with other professionals.

Range

Key principles

Choice of exercises, order of exercises, intensity, frequency, duration, specificity, barriers to exercise, medical history, progressive overload, equipment, recovery time, type of training

Unit 306

Outcome 7

Programming Personal Training with Clients

Understand how to adapt a personal training programme with clients

Underpinning knowledge

The learner can:

1. explain how the **principles of training** can be used to adapt the programme where:
 - goals are not being achieved
 - new goals have been identified
2. describe the **different training systems** and their use in providing variety and in ensuring programmes remain effective
3. explain why it is important to keep accurate records of changes and the reasons for change.

Range

Principles of training

Specificity, Progression, Overload, Adaptability, Reversibility, Individuality

Different training systems

Cardiovascular systems: continuous training (long slow distance, tempo training), interval training (cruise intervals, expletive intervals), fartlek training (alternating pace, random programming)

Resistance systems: circuit weight training, single sets, basic sets, Delorme-Watkins (10RM), Berger (6RM), pyramids (ascending/descending), super sets, tri sets, giant sets

Resistance methods: forced reps, drop sets/stripping, negatives, cheating, strict form, rest-pause, partial reps

Practical skills

The learner can:

1. establish a rapport with the client
2. explain **own role and responsibilities** to clients
3. collect the **information** needed to plan a programme using appropriate **methods**, to include physical/fitness assessments
4. show sensitivity and empathy to clients and the information they provide
5. record the information using appropriate formats in a way that will aid analysis
6. treat confidential information correctly.

Range

Own role and responsibilities

Follow relevant code of ethical practice, be honest with the client, provision of client consultation and medical screening, motivation and encouragement, design of programme that meets clients needs, provision of relevant modifications to client's program, regular reviews of progress, social support for the client, client confidentiality, respect professional boundaries

Information

Personal goals, lifestyle, medical history, physical activity history, physical activity likes and dislikes, motivation and barriers to participation, current fitness level, stage of readiness, posture and alignment, functional ability

Methods

Interview, questionnaire, observation, advantages and disadvantages of each method, methods most appropriate to the client

Unit 306
Outcome 9

Programming Personal Training with Clients
Be able to agree goals with clients

Practical skills

The learner can:

1. work with clients to agree short, medium and long-term goals appropriate to their needs
2. ensure the goals are:
 - specific, measurable, achievable, realistic and time bound
 - consistent with industry good practice
3. agree with clients their needs and readiness to participate.

Unit 306

Outcome 10

Programming Personal Training with Clients

Be able to plan a personal training programme with clients

Practical skills

The learner can:

1. plan specific outcome measures, stages of achievement and exercises/physical activities that are:
 - appropriate to **clients' goals and level of fitness**
 - consistent with accepted good practice
2. ensure the **components of fitness** are built into the programme
3. apply the **principles of training** to help clients to achieve short, medium and long term goals
4. agree the demands of the programme with clients
5. agree a timetable of sessions with clients
6. agree appropriate **evaluation methods** and review dates
7. identify the resources needed for the programme, including the use of environments not designed for exercise
8. record **plans** in a format that will help clients and others involved to implement the programme
9. agree how to maintain contact with the client between sessions.

Range

Clients' goals and level of fitness

Health status and any contraindications, injury status and any specific recommended adaptations if appropriate, any other precautions identified during client consultation

Components of fitness

Cardiovascular fitness, muscular fitness, flexibility, motor skills, core stability

Principles of training

Specificity, Progression, Overload, Adaptability, Reversibility, Individuality

Evaluation methods

Self-evaluation, peer feedback, client feedback, tutor/assessor feedback

Plans

Exercises, intensities, duration, set, repetitions, resistance, recovery/rest, instructions

Unit 306

Outcome 11

Programming Personal Training with Clients

Be able to manage a personal training programme

Practical skills

The learner can:

1. monitor effective integration of all programme exercises/physical activities and sessions
2. provide alternatives to the programmed exercises/physical activities if clients cannot take part as planned
3. monitor clients' progress using appropriate methods.

Unit 306

Programming Personal Training with Clients

Outcome 12

Be able to review progress with clients

Practical skills

The learner can:

1. explain to clients the purpose of **review**
2. review short, medium and long-term goals with clients at agreed points in the programme, taking into account any **changes in circumstances**
3. encourage clients to give their own views on progress
4. use suitable methods of **evaluation** that will help you to review progress against goals and initial baseline data
5. give feedback to clients during their review that is likely to strengthen their motivation and adherence
6. agree review outcomes with clients
7. keep an accurate record of reviews and their outcome.

Range

Review

Long-term and short-term SMART goals, individual or group, stage of fitness, client needs, abilities, lifestyle and preference

Changes in circumstances

Occupation, finance, geographical, increase in responsibilities, time, injury/illness,

Evaluation

Self-evaluation, peer feedback, client feedback, tutor/assessor feedback

Evaluate category of client, individual or group assessment, stage of fitness, components of fitness appropriate to activity and programme, lifestyle, fitness levels, adherence, satisfaction

Unit 306

Outcome 13

Programming Personal Training with Clients

Be able to adapt a personal training programme with clients

Practical skills

The learner can:

1. identify goals and exercises/physical activities that need to be **redefined or adapted**
2. agree **adaptations, progressions** or **regressions** to meet clients' needs to optimise achievement
3. identify and agree any changes to resources and environments with the client
4. introduce adaptations in a way that is appropriate to clients and their needs
5. record changes to programme plans to take account of adaptations
6. monitor the effectiveness of adaptations and update the programme as necessary.

Range

Redefined or adapted

Individual activities, exercise intensity, client SMART goals, changes in circumstances, stage of fitness, clients needs, abilities and lifestyle, exercise preferences, available resources, services and time

Regressions

Reduce exercise intensity (speed, level, resistance), decrease range of movement, change body position, change hand position, reduce complexity of movement

Progressions

Increase exercise intensity (speed, level, resistance), increase range of movement, change body position, change hand grip, increase complexity of movement

Adaptations

Change position (body/hand), use of further responses (chair, mat), change in anatomical plane

Unit 307

Delivering Personal Training Sessions

Level: 3

Credit value: 9

Unit aim

This unit covers the skills and knowledge a personal trainer needs to deliver exercise and physical activity as part of a programme for apparently healthy adults of all ages. This may include young people in the 14-16 age range, provided they are part of a larger adult group. The unit also covers working with individual older adults, ante and postnatal clients and disabled clients provided the relevant contraindications and key safety guidelines are observed. This unit, however, does not cover running specialist whole classes for young people, older adults, ante and postnatal and disabled clients. Specialist units are available for these types of classes.

Learning outcomes

There are **eight** learning outcomes to this unit. The learner will be able to:

1. Understand how to instruct exercise during personal training sessions
2. Understand how to adapt exercise to meet client needs during personal training sessions
3. Understand how to review personal training sessions with clients
4. Be able to plan and prepare personal training sessions
5. Be able to prepare clients for personal training sessions
6. Be able to instruct and adapt planned exercises
7. Be able to bring exercise sessions to an end
8. Be able to reflect on providing personal training sessions

Guided learning hours

It is recommended that **58** hours should be allocated for this unit. This may be on a full-time or part-time basis.

Details of the relationship between the unit and relevant national occupational standards

This unit is linked to the Personal Training 2009 NOS D461 Deliver exercise and physical activity as part of a personal training programme.

Endorsement of the unit by a sector or other appropriate body

This unit is endorsed by SkillsActive.

Assessment and grading

This unit will be assessed by:

- an assignment covering practical skills and underpinning knowledge.

Unit 307

Outcome 1

Delivering Personal Training Sessions

Understand how to instruct exercise during personal training sessions

Underpinning knowledge

The learner can:

1. explain the importance of non-verbal communication when instructing clients
2. describe how to adapt communication to meet clients' needs
3. evaluate different **methods** of maintaining clients' motivation, especially when clients are finding exercises difficult
4. explain the importance of **correcting client technique**.

Range

Methods

Goal setting, rewards, focusing, support systems, contingency plan or alternative exercises, strategies for relapsed clients, lifestyle changes, self recognition of clients own barriers, voice pitch and tone, body language and positioning, engaging client in conversation

Correcting client technique

Clear instructions, feedback, motivational, reinforcement of teaching points

Unit 307

Outcome 2

Delivering Personal Training Sessions

Understand how to adapt exercise to meet client needs during personal training sessions

Underpinning knowledge

The learner can:

1. explain why it is important to monitor individual progress especially if more than one client is involved in the session
2. describe different methods of **monitoring** clients' progress during exercise
3. explain when it may be necessary to adapt planned exercises to meet clients' needs
4. explain how to **adapt exercise**/exercise positions as appropriate to individual clients and conditions
5. explain how to **modify the intensity of exercise** to match clients' response to physical activity.

Range

Monitoring

Safety, intensity, technique, identification of errors

Adapt exercise

Number of clients, clients needs and abilities, equipment, environment

Modify the intensity of exercise

Rate of Perceived Exertion (RPE) (6-20 or 0-10), talk test, heart rate monitoring (age related/Karnoven)

Unit 307

Outcome 3

Delivering Personal Training Sessions

Understand how to review personal training sessions with clients

Underpinning knowledge

The learner can:

1. explain why personal trainers should give clients **feedback** on their performance during a session
2. explain why clients should be given the opportunity to ask questions, provide feedback and discuss their performance
3. explain how to give clients feedback on their performance in a way that is accurate but maintains client motivation and commitment
4. explain why clients need to see their progress against **objectives** in terms of their overall goals and programme
5. explain why clients need information about future exercise and physical activity, both supervised and unsupervised

Range

Feedback

Timely, constructive, relevant to goals

Objectives

Physical, nutritional, social, psychological

Unit 307

Outcome 4

Delivering Personal Training Sessions

Be able to plan and prepare personal training sessions

Practical skills

The learner can:

1. plan a range of exercises/physical activities to help clients achieve their objectives and goals, covering:
 - cardiovascular fitness
 - muscular fitness
 - flexibility
 - motor skills
 - core stability
2. identify, obtain and **prepare the resources** needed for planned exercises/physical activities, improvising safely where necessary

Range

Prepare the resources

Selection of appropriate equipment, check that equipment is in good working order, ensure sufficient space and layout for safe exercise, ensure appropriate temperature and ventilation

Unit 307

Outcome 5

Delivering Personal Training Sessions

Be able to prepare clients for personal training sessions

Practical skills

The learner can:

1. help clients feel at ease in the exercise environment
2. explain the planned objectives and exercises/physical activities to clients
3. explain to clients how objectives and exercises/physical activities support their goals
4. explain the physical and technical demands of the planned exercises/physical activities to clients
5. explain to clients how planned exercise/physical activity can be **progressed** or **regressed** to meet their goals
6. assess clients' **state of readiness** and motivation to take part in the planned exercises/physical activities
7. negotiate and agree with clients any changes to the planned exercises/physical activities that:
 - meet their goals and preferences
 - enable them to maintain progress
8. record changes to clients plans

Range

Progressed

Increase intensity (increase speed, increase resistance, increase level), change body position, change hand position, increase range of movement, increase complexity of exercise

Regressed

Decrease intensity (decrease speed, decrease intensity, decrease level), change body position, change hand position, decrease range of movement, decrease complexity of exercise

State of readiness

Pre contemplation, contemplation, preparation, action, maintenance, relapse, termination

Unit 307

Outcome 6

Delivering Personal Training Sessions

Be able to instruct and adapt planned exercises

Practical skills

The learner can:

1. use motivational styles that:
 - are appropriate to the clients
 - are consistent with accepted good practice
2. explain the purpose and value of a **warm-up** to clients
3. provide warm-ups appropriate to the clients, planned exercise and the environment
4. make best use of the **environment** in which clients are exercising
5. provide instructions, explanations and demonstrations that are technically correct, safe and effective
6. adapt verbal and non-verbal communication methods to make sure their clients understand what is required
7. ensure clients can carry out the exercises safely on their own
8. analyse clients' performance, providing positive reinforcement throughout
9. correct techniques at appropriate points
10. progress or regress exercises according to clients' performance.

Range

Warm-up

Mobility, pulse raising, preparatory stretching

Environment

Temperature, equipment, ventilation, space, lighting

Unit 307

Outcome 7

Delivering Personal Training Sessions

Be able to bring exercise sessions to an end

Practical skills

The learner can:

1. allow sufficient time for the closing phase of the session
2. explain the **purpose and value** of cool-down activities to clients
3. select **cool-down** activities according to the type and intensity of physical exercise and client needs and condition
4. provide clients with **feedback** and positive reinforcement
5. explain to clients how their progress links to their **goals**
6. leave the environment in a condition suitable for future use.

Range

Purpose and value

Return body back to pre-exercise state, promote venous return, prevent blood pooling, maintain/improve flexibility

Cool-down

Dynamic cool down, post workout stretching (maintenance, developmental, Proprioceptive Neuromuscular Facilitation (PNF)

Feedback

Verbal, visual, written, question and answer, praise

Goals

SMART (Specific, Measurable, Achievable, Realistic, Time bound) goals reflecting short/medium/long term, related to physical activity, lifestyle and/or adherence

Unit 307

Outcome 8

Delivering Personal Training Sessions

Be able to reflect on providing personal training sessions

Practical skills

The learner can:

1. **review** the outcomes of working with clients including their feedback
2. identify:
 - how well the sessions met clients' goals
 - how effective and motivational the relationship with the client was
 - how well the instructing styles matched the clients' needs
3. identify how to **improve personal practice**
4. explain the value of **reflective practice**.

Range

Review

Long-term and short-term SMART goals, individual or group, stage of fitness, client needs, abilities, lifestyle and preferences

Improve personal practice

Identify strategies to improve performance (reflective practice), establish methods of reviewing progress on an ongoing basis

Reflective practice

Self evaluation, self development (CPD), action plan from feedback given, adaptations/alternatives

5 Assessment

5.1 Summary of assessment methods

For this qualification, candidates will be required to complete the following assessments:

Unit No.	Title	Assessment Method	Where to obtain assessment materials
301	Anatomy and Physiology for Exercise and Health	City & Guilds Online 4926-301 multiple choice test (GOLA). The assessment covers all of the knowledge outcomes.	Examinations provided on GOLA.
202	Health, Safety and Welfare in a Fitness Environment	Assignment 4926-202 Short- answer test. The assessment covers all of the knowledge outcomes. Externally set test, internally marked and externally verified.	Order Assessment pack from publications or access it on our website. Stock code: TS024926
203	Principles of Exercise, Fitness and Health	City & Guilds Online 4926-203 multiple choice test (GOLA). The assessment covers all of the knowledge outcomes.	Examinations provided on GOLA.
204	Know how to Support Clients who Take part in Exercise and Physical Activity	Assignment 4926-204 Short- answer test. The assessment covers all of the knowledge outcomes. Externally set test, internally marked and externally verified.	Order Assessment pack from publications or access it on our website. Stock code: TS024926
305	Applying the Principles of Nutrition as Part of a Personal Training Programme	Short- answer test. Externally set internally marked and externally verified. The assessment covers all of the knowledge outcomes.	Order Assessment pack from publications or access it on our website. Stock code: EN034926
306	Programming Personal Training with Clients	Assignment 4926-306 The assessment covers the practical activities for all outcomes and will also sample underpinning knowledge to verify coverage of the unit. City & Guilds devised assignment, internally marked, externally verified.	Order Assessment pack from publications or access it on our website. Stock code: EN034926
307	Delivering Personal Training Sessions	Assignment 4926-307 The assessment covers the practical activities for all outcomes and will also sample underpinning knowledge to verify coverage of the unit. City & Guilds devised assignment, internally marked, externally verified.	Order Assessment pack from publications or access it on our website. Stock code: EN034926

Time constraints

All assignments must be completed and assessed within the candidate's period of registration. Centres should advise candidates of any internal timescales for the completion and marking of individual assignments.

5.2 Assignments

The assignments are set by City & Guilds and are administered by the centre when the candidate is ready. They are then marked internally, by the centre, using the information provided and the results recorded on the documents provided by City & Guilds. Assignments are subject to internal and external verification.

5.3 Test specifications

The test specifications for the units 301,203 are below:

Test 1: Unit 301 Anatomy and Physiology for Exercise and Health (4926-301)
Duration: 75 mins

Unit number	Outcome	No. of questions	%
301	1. Understand the heart and circulatory system and its relation to exercise and health	6	13
	2. Understand the musculoskeletal system and its relation to exercise	14	30
	3. Understand postural and core stability	8	17
	4. Understand the nervous system and its relation to exercise	10	22
	5. Understand the endocrine system and its relation to exercise	4	9
	6. Understand energy systems and their relation to exercise	4	9
	Total	46	100

Test 2: Unit 203 Principles of Exercise, Fitness and Health (4926-203)
Duration: 60 mins

Unit number	Outcome	No. of questions	%
4926-203	1. Understand the effects of exercise on body systems	10	25
	2. Understand the components of fitness	3	7.5
	3. Understand how to apply the principles and variables of fitness to an exercise programme	10	25
	4. Understand the exercise contraindications and key safety guidelines for special populations	4	10
	5. Understand how to safely monitor exercise intensity	1	2.5
	6. Understand the health benefits of physical activity	2	5
	7. Understand the importance of healthy eating	10	25
	Total	40	100

5.4 Recording forms

Candidates and centres may decide to use a paper-based or electronic method of recording evidence.

City & Guilds endorses several ePortfolio systems. Further details are available at:

www.cityandguilds.com/eportfolios

City & Guilds has developed a set of *Recording forms* including examples of completed forms, for new and existing centres to use as appropriate.

N/SVQ Recording forms are available on the City & Guilds website.

Although it is expected that new centres will use these forms, centres may devise or customise alternative forms, which must be approved for use by the external verifier, before they are used by candidates and assessors at the centre.

Amendable (MS Word) versions of the forms are available on the City & Guilds website.

5.5 Accreditation of prior learning and experience (APEL)

Accreditation of Prior Learning (APL) and Accreditation of Prior Experience and Learning (APEL) recognise the contribution a person's previous experience could contribute to a qualification.

Please note that for candidates who have successfully completed City & Guilds Level 2 Certificate in Fitness Instructing (4926-02 and 4926-92) and progress through to City & Guilds Level 3 Certificate in Personal Training (4926-03 and 4926-93) units **202**, **203** and **204** will be used as APL.

6 Course design and delivery

6.1 Initial assessment and induction

Centres will need to make an initial assessment of each candidate prior to the start of their programme to ensure they are entered for an appropriate type and level of qualification.

The initial assessment should identify:

- any specific training needs the candidate has, and the support and guidance they may require when working towards their qualifications. This is sometimes referred to as diagnostic testing
- any units the candidate has already completed, or credit they have accumulated which is relevant to the qualifications they are about to begin.

City & Guilds recommends that centres provide an induction programme to ensure the candidate fully understands the requirements of the qualifications they will work towards, their responsibilities as a candidate, and the responsibilities of the centre. It may be helpful to record the information on a learning contract.

Further guidance about initial assessment and induction, as well as a learning contract that centres may use, are available on the City & Guilds website.

6 Course design and delivery

6.2 Recommended delivery strategies

Centre staff should familiarise themselves with the structure, content and assessment requirements of the qualifications before designing a course programme.

Centres may design course programmes of study in any way which:

- best meets the needs and capabilities of their candidates
- satisfies the requirements of the qualifications.

In particular, staff should consider the skills and knowledge related to the national occupational standards.

City & Guilds recommends that centres address the wider curriculum, where appropriate, when designing and delivering the course. Centres should also consider links to the National Occupational Standards and other related qualifications.

Centres may wish to include topics as part of the course programme which will not be assessed through the qualifications.

For further information to assist with the planning and development of the programme, please refer to the following:

- Useful material is available on SmartScreen.
- SkillsActive website address www.skillsactive.com

Appendix 1 Reading List

Archer, David & Coulson, Morc (2008) - The Advanced Fitness Instructor's Handbook (Fitness Professionals), A & C Black

Barough, Nina (2004) - Walking for Fitness, Dorling Kindersley Publishers Ltd

Beachle, Thomas R & Groves, Roger (3rd edition 2006) - Weight Training - Steps to Success, Human Kinetics

Bean, A (3rd edition 2008) - The Complete Guide to Strength Training, A & C Black

Brooks, Douglas (2001) - Effective Strength Training, Human Kinetics

Champion, Nigel, Hurst, A & C Black (2000) - The Aerobic Instructors Handbook

Coulson, Morc (2007) – The Fitness Instructor's Handbook: A Complete Guide to Health and Fitness (Fitness Professionals), A & C Black

Delavier, Frederic (2005) - Strength Training Anatomy, Human Kinetics Europe Ltd

Dalgleish, Julia & Dollery, Staurt (2001) – The Health & Fitness Handbook, Longman

Egger, Gary, Champion, Nigel and Bolton, Alan (4th edition 2004) - The Fitness Leader's Handbook, A & C Black

Lawrence, Debbie & Hope, Bob (2nd edition 2007) - The Complete Guide to Circuit Training, A & C Black

Lawrence, Debbie (3rd edition 2009) - The Complete Guide to Exercise to Music, A & C Black

Lawrence, Debbie & Barnett, Louise (2006) - GP Referral Schemes (Fitness Professionals), A & C Black

Lawrence, Debbie (3rd edition 2008) - Exercise in Water (Complete Guide to), A & C Black

Matt, M (1982) - Human Anatomy Colouring Book, Dover Publications

Netter, Frank (2006) - Atlas of Human Anatomy, Icon Learning Systems

Norris, Christopher (20029) – The Complete Guide to Abdominal Training, Complete Guides, A & C Black

Norris, Christopher (2004) - The Complete Guide to Stretching, A & C Black

Pahmeier, Iris & Niederbaumer, Corinna (2000) - Step Aerobics – The complete guide, Meyer & Meyer

Stark, Freddy (2000) - Start exploring "Gray's Anatomy" – A fact filled colouring book, Running Press

Walker, Brad (2007) – The Anatomy of Stretching – Lotus Publishing

Appendix 2 Relationships to other qualifications

Links to other qualifications and frameworks

City & Guilds has identified the connections to other qualifications. This mapping is provided as guidance and suggests areas of overlap and commonality between the qualifications. It does not imply that candidates completing units in one qualification are automatically covering all of the content of the qualifications listed in the mapping.

Centres are responsible for checking the different requirements of all qualifications they are delivering and ensuring that candidates meet requirements of all units/qualifications. For example, units within a QCF qualification may be similar in content to units in the NQF qualification which the candidate may have already undertaken and this may present opportunities for APL.

These qualifications have connections to the:

- Level 3 N/SVQ in Personal Training
- Sports and Recreation

Appendix 3 Muscles, muscle action, bones, joints and joint action

Muscles of the neck and trunk

Muscle Name	Origin(s)	Insertion(s)	Action
Sternocleidomastoid	<ul style="list-style-type: none"> • Sternum • Clavicle 	<ul style="list-style-type: none"> • Temporal bone • Occipital bone 	<ul style="list-style-type: none"> • Lateral flexion of the head and neck • Rotation of the head and neck
Splenius capitis	<ul style="list-style-type: none"> • Cervical vertebrae • Thoracic vertebrae 	<ul style="list-style-type: none"> • Temporal bone 	<ul style="list-style-type: none"> • Extension and hyper-extension of the head and neck • Lateral flexion of the head and neck • Rotation of the head and neck
Splenius cervicus	<ul style="list-style-type: none"> • Thoracic vertebrae 	<ul style="list-style-type: none"> • Cervical vertebrae 	<ul style="list-style-type: none"> • Extension and hyper-extension of the head and neck • Lateral flexion and rotation of the head and neck
Erector spinae	<ul style="list-style-type: none"> • Sacrum • Iliac crest • Lumbar vertebrae • Thoracic vertebrae • Ribs • Cervical vertebrae 	<ul style="list-style-type: none"> • Thoracic vertebrae • Ribs • Cervical vertebrae • Temporal bone 	<ul style="list-style-type: none"> • Extension and hyper-extension of the vertebral column • Lateral flexion of the vertebral column
Multifidus	<ul style="list-style-type: none"> • Articular process of each vertebrae 	<ul style="list-style-type: none"> • Spinous process two to four vertebrae above the origin. 	<ul style="list-style-type: none"> • Extension of the vertebral column • Rotation of the vertebral column
Rotatores	<ul style="list-style-type: none"> • Transverse process of each vertebrae 	<ul style="list-style-type: none"> • Spinous process of the next vertebrae above 	<ul style="list-style-type: none"> • Extension of the vertebral column • Rotation of the vertebral column
Internal intercostals	<ul style="list-style-type: none"> • Inferior border of the ribs 	<ul style="list-style-type: none"> • Superior border of the rib below 	<ul style="list-style-type: none"> • Draws the rib cage upward during inspiration.
External intercostals	<ul style="list-style-type: none"> • Rib cartilages • Inferior border of the ribs 	<ul style="list-style-type: none"> • Superior border of the rib below 	<ul style="list-style-type: none"> • Draws rib cage downward during forced expiration
Internal obliques	<ul style="list-style-type: none"> • Ribs 	<ul style="list-style-type: none"> • Iliac crest • Linea alba 	<ul style="list-style-type: none"> • Laterally flexion of the vertebral column • Rotation of the vertebral column • Compression of the abdomen
Rectus abdominus	<ul style="list-style-type: none"> • Pubis 	<ul style="list-style-type: none"> • Cartilages of lower ribs • Sternum 	<ul style="list-style-type: none"> • Flexion of the vertebral column • Compression of the abdomen
External obliques	<ul style="list-style-type: none"> • Iliac crest • Thoracolumbar fascia • Inguinal ligament 	<ul style="list-style-type: none"> • Cartilages of the lower ribs • Linea alba 	<ul style="list-style-type: none"> • Laterally flexion of the vertebral column • Rotation of the vertebral column • Compression of the abdomen
Transversus abdominus	<ul style="list-style-type: none"> • Iliac crest • Thoracolumbar fascia • Inguinal ligament 	<ul style="list-style-type: none"> • Linea alba 	<ul style="list-style-type: none"> • Compression of the abdomen
Quadratus lumborum	<ul style="list-style-type: none"> • Iliac crest 	<ul style="list-style-type: none"> • Lumbar vertebrae 	<ul style="list-style-type: none"> • Lateral flexion of the vertebral column

Muscles of the shoulder and arm

Muscle Name	Origin(s)	Insertion(s)	Action
Pectoralis major	<ul style="list-style-type: none"> • Clavicle • Sternum • Aponeurosis of external oblique 	<ul style="list-style-type: none"> • Humerus 	<ul style="list-style-type: none"> • Flexion and horizontal flexion of the shoulder joint • Extension of the shoulder joint • Adduction of the shoulder joint
Pectoralis minor	<ul style="list-style-type: none"> • Ribs 	<ul style="list-style-type: none"> • Coracoid process of the scapula 	<ul style="list-style-type: none"> • Protraction of the shoulder girdle
Anterior deltoid	<ul style="list-style-type: none"> • Clavicle 	<ul style="list-style-type: none"> • Humerus 	<ul style="list-style-type: none"> • Flexion and horizontal flexion of the shoulder joint
Medial deltoid	<ul style="list-style-type: none"> • Acromion process of the scapula 	<ul style="list-style-type: none"> • Humerus 	<ul style="list-style-type: none"> • Abduction of the shoulder joint
Posterior deltoid	<ul style="list-style-type: none"> • Scapula 	<ul style="list-style-type: none"> • Humerus 	<ul style="list-style-type: none"> • Extension and horizontal extension of the shoulder joint
Supraspinatus	<ul style="list-style-type: none"> • Supraspinous fossa of the scapula 	<ul style="list-style-type: none"> • Humerus 	<ul style="list-style-type: none"> • Abduction of the shoulder joint • Stabilization of the shoulder joint
Infraspinatus	<ul style="list-style-type: none"> • Infraspinous fossa of the scapula 	<ul style="list-style-type: none"> • Humerus 	<ul style="list-style-type: none"> • Lateral rotation of the shoulder joint • Stabilization of the shoulder joint
Teres minor	<ul style="list-style-type: none"> • Scapula 	<ul style="list-style-type: none"> • Humerus 	<ul style="list-style-type: none"> • Lateral rotation of the shoulder joint • Adduction of the shoulder joint • Stabilization of the shoulder joint
Subscapularis	<ul style="list-style-type: none"> • Anterior surface of the scapula 	<ul style="list-style-type: none"> • Humerus 	<ul style="list-style-type: none"> • Medial rotation of the shoulder joint • Stabilization of the shoulder joint
Trapezius	<ul style="list-style-type: none"> • Occipital bone • Cervical vertebrae • Thoracic vertebrae 	<ul style="list-style-type: none"> • Clavicle • Scapula 	<ul style="list-style-type: none"> • Elevation and depression of the shoulder girdle • Retraction of the shoulder girdle
Latissimus dorsi	<ul style="list-style-type: none"> • Sacrum • Iliac crest • Lumbar vertebrae • Thoracic vertebrae 	<ul style="list-style-type: none"> • Humerus 	<ul style="list-style-type: none"> • Adduction of the shoulder joint. • Extension and horizontal extension of the shoulder joint
Rhomboid major	<ul style="list-style-type: none"> • Thoracic vertebrae 	<ul style="list-style-type: none"> • Scapula 	<ul style="list-style-type: none"> • Retraction and stabilization of the shoulder girdle.
Rhomboid minor	<ul style="list-style-type: none"> • Cervical vertebrae 	<ul style="list-style-type: none"> • Scapula 	<ul style="list-style-type: none"> • Retraction and stabilization of the shoulder girdle.
Biceps brachii	<ul style="list-style-type: none"> • Supraglenoid tubercle of the scapula • Coracoid process of the scapula 	<ul style="list-style-type: none"> • Radius • Fascia of the forearm 	<ul style="list-style-type: none"> • Flexion of the elbow • Flexion of the shoulder joint
Brachialis	<ul style="list-style-type: none"> • Humerus 	<ul style="list-style-type: none"> • Ulna 	<ul style="list-style-type: none"> • Flexion of the elbow
Triceps brachii	<ul style="list-style-type: none"> • Scapula • Humerus 	<ul style="list-style-type: none"> • Ulna 	<ul style="list-style-type: none"> • Extension of the elbow • Extension of the shoulder joint

Muscles of the hip and leg

Muscle Name	Origin(s)	Insertion(s)	Action
Psoas major	<ul style="list-style-type: none"> Lumbar vertebrae 	<ul style="list-style-type: none"> Femur 	<ul style="list-style-type: none"> Flexion of the hip
Iliacus	<ul style="list-style-type: none"> Anterior surface of the ilium Sacrum 	<ul style="list-style-type: none"> Femur 	<ul style="list-style-type: none"> Flexion of the hip
Gluteus maximus	<ul style="list-style-type: none"> Ilium Sacrum 	<ul style="list-style-type: none"> Femur Iliotibial tract 	<ul style="list-style-type: none"> Extension of the hip Abduction of the hip Lateral rotation of the hip
Gluteus medius	<ul style="list-style-type: none"> Ilium 	<ul style="list-style-type: none"> Femur 	<ul style="list-style-type: none"> Abduction of the hip Lateral rotation of the hip
Gluteus minimus	<ul style="list-style-type: none"> Ilium 	<ul style="list-style-type: none"> Femur 	<ul style="list-style-type: none"> Abduction of the hip Medial rotation of the hip
Tensor fasciae latae	<ul style="list-style-type: none"> Iliac crest 	<ul style="list-style-type: none"> Iliotibial tract 	<ul style="list-style-type: none"> Abduction of the hip
Rectus femoris	<ul style="list-style-type: none"> Ilium 	<ul style="list-style-type: none"> Tibia via the patella tendon 	<ul style="list-style-type: none"> Flexion of the hip Extension of the knee
Vastus lateralis	<ul style="list-style-type: none"> Lateral surface of the femur 	<ul style="list-style-type: none"> Tibia via the patella tendon 	<ul style="list-style-type: none"> Extension of the knee
Vastus medialis	<ul style="list-style-type: none"> Medial surface of the femur 	<ul style="list-style-type: none"> Tibia via the patella tendon 	<ul style="list-style-type: none"> Extension of the knee
Vastus intermedius	<ul style="list-style-type: none"> Anterior and lateral surface of the femur 	<ul style="list-style-type: none"> Tibia via the patella tendon 	<ul style="list-style-type: none"> Extension of the knee
Adductor longus	<ul style="list-style-type: none"> Pubis 	<ul style="list-style-type: none"> Femur 	<ul style="list-style-type: none"> Adduction of the hip Medial rotation of the hip
Adductor brevis	<ul style="list-style-type: none"> Pubis 	<ul style="list-style-type: none"> Femur 	<ul style="list-style-type: none"> Adduction of the hip Medial rotation of the hip
Adductor magnus	<ul style="list-style-type: none"> Pubis Ischium 	<ul style="list-style-type: none"> Femur 	<ul style="list-style-type: none"> Adduction of the hip Medial rotation of the hip
Biceps femoris	<ul style="list-style-type: none"> Ischium Femur 	<ul style="list-style-type: none"> Fibula Tibia 	<ul style="list-style-type: none"> Extension of the hip Flexion of the knee
Semitendinosus	<ul style="list-style-type: none"> Ischium 	<ul style="list-style-type: none"> Medial surface of the tibia 	<ul style="list-style-type: none"> Extension of the hip Flexion of the knee
Semimembranosus	<ul style="list-style-type: none"> Ischium 	<ul style="list-style-type: none"> Posterior surface of the tibia 	<ul style="list-style-type: none"> Extension of the hip Flexion of the knee
Tibialis anterior	<ul style="list-style-type: none"> Tibia 	<ul style="list-style-type: none"> Medial cuneiform bone First metatarsal 	<ul style="list-style-type: none"> Dorsi flexion of the ankle
Gastrocnemius	<ul style="list-style-type: none"> Femur 	<ul style="list-style-type: none"> Calcaneus 	<ul style="list-style-type: none"> Plantar flexion of the ankle
Soleus	<ul style="list-style-type: none"> Tibia 	<ul style="list-style-type: none"> Calcaneus 	<ul style="list-style-type: none"> Plantar flexion of the ankle

The following documents contain essential information for centres delivering City & Guilds qualifications. They should be referred to in conjunction with this handbook. To download the documents and to find other useful documents, go to the **Centres and Training Providers homepage** on www.cityandguilds.com.

Providing City & Guilds qualifications – A Guide to Centre and Qualification Approval

contains detailed information about the processes which must be followed and requirements which must be met for a centre to achieve ‘approved centre’ status, or to offer a particular qualification. Specifically, the document includes sections on:

- the centre and qualification approval process and forms
- assessment, verification and examination roles at the centre
- registration and certification of candidates
- non-compliance
- complaints and appeals
- equal opportunities
- data protection
- frequently asked questions.

Ensuring quality contains updates and good practice exemplars for City & Guilds assessment and policy issues. Specifically, the document contains information on:

- management systems
- maintaining records
- assessment
- internal verification and quality assurance
- external verification.

Access to Assessment & Qualifications provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

The **centre homepage** section of the City & Guilds website also contains useful information such on such things as:

- ***Walled Garden***
Find out how to register and certificate candidates on line
- ***Qualifications and Credit Framework (QCF)***
Contains general guidance about the QCF and how qualifications will change, as well as information on the IT systems needed and FAQs
- ***Events***
Contains dates and information on the latest Centre events
- ***Online assessment***
Contains information on how to register for GOLLA assessments.

City & Guilds
Skills for a brighter future



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Useful contacts

Type	Contact	Query
UK learners	T: +44 (0)20 7294 2800 E: learnersupport@cityandguilds.com	<ul style="list-style-type: none"> • General qualification information
International learners	T: +44 (0)20 7294 2885 F: +44 (0)20 7294 2413 E: intcg@cityandguilds.com	<ul style="list-style-type: none"> • General qualification information
Centres	T: +44 (0)20 7294 2787 F: +44 (0)20 7294 2413 E: centresupport@cityandguilds.com	<ul style="list-style-type: none"> • Exam entries • Registrations/enrolment • Certificates • Invoices • Missing or late exam materials • Nominal roll reports • Results
Single subject qualifications	T: +44 (0)20 7294 8080 F: +44 (0)20 7294 2413 F: +44 (0)20 7294 2404 (BB forms) E: singlesubjects@cityandguilds.com	<ul style="list-style-type: none"> • Exam entries • Results • Certification • Missing or late exam materials • Incorrect exam papers • Forms request (BB, results entry) • Exam date and time change
International awards	T: +44 (0)20 7294 2885 F: +44 (0)20 7294 2413 E: intops@cityandguilds.com	<ul style="list-style-type: none"> • Results • Entries • Enrolments • Invoices • Missing or late exam materials • Nominal roll reports
Walled Garden	T: +44 (0)20 7294 2840 F: +44 (0)20 7294 2405 E: walledgarden@cityandguilds.com	<ul style="list-style-type: none"> • Re-issue of password or username • Technical problems • Entries • Results • GOLLA • Navigation • User/menu option problems
Employer	T: +44 (0)121 503 8993 E: business_unit@cityandguilds.com	<ul style="list-style-type: none"> • Employer solutions • Mapping • Accreditation • Development Skills • Consultancy
Publications	T: +44 (0)20 7294 2850 F: +44 (0)20 7294 3387	<ul style="list-style-type: none"> • Logbooks • Centre documents • Forms • Free literature

If you have a complaint, or any suggestions for improvement about any of the services that City & Guilds provides, email: feedbackandcomplaints@cityandguilds.com

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