

YMCA Level 2 Certificate in the Foundations of Strength and Conditioning (Trainer) (603/3413/7)

Syllabus



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YMCA Level 2 Certificate in the Foundations of Strength and Conditioning (Trainer)

Syllabus

Qualification number: 603/3413/7

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Introduction

Qualification aim

The aim of this qualification is to develop the knowledge and skills of learners so they can engage, facilitate, educate and support clients in a strength and conditioning environment. On successful completion of this qualification learners will be able to seek employment and perform competently as a Level 2 Strength and Conditioning Trainer.

Qualification structure

This qualification is made up of five mandatory units.

Unit reference number	Unit title	Level	Credit
K/616/7823	Anatomy and physiology for exercise and fitness instructors	2	6
M/616/7824	Providing a positive customer experience in the exercise environment	2	5
K/616/7949	Lifestyle management and health awareness	2	2
L/617/1461	Plan and prepare strength and conditioning training	2	5
R/617/1462	Delivering Strength and conditioning training	2	4

The total credit value for this qualification is 22.

The total qualification time (TQT) for this qualification is 222.

The total guided learning hours (GLH) for this qualification are 149.

Total Qualification Time (TQT)

This is an estimate of the total amount of time, measured in hours, that a learner would reasonably need to be able to show the level of achievement necessary for the award of a qualification.

Total Qualification Time is made up of the following two elements:

- The number of hours which an awarding organisation has assigned to a qualification for Guided Learning (see below), and
- An estimate of the number of hours a learner will reasonably be likely to spend in preparation, study or any other form of participation in education or training, including assessment, which takes place as directed by (but not under the immediate guidance or supervision of) a lecturer, supervisor, tutor or other appropriate provider of education or training.

Guided Learning Hours (GLH)

This is:

- Face to face delivery (learning delivered by a lecturer, supervisor, tutor or other appropriate member of the training team).
- eLearning with a lecturer, teacher or tutor present/available in real time (the co-presence of learner and tutor can be either remote or in the same physical place).
- Invigilated assessment (external tests sat under controlled or open-book conditions).
- Internal assessment carried out by the learner with a lecturer, teacher or tutor present/available in real time (the co-presence of learner and tutor can be either remote or in the same physical place).

This is **not** unsupervised learning such as:

- eLearning that the learner carries out unsupervised and with no real time support from a lecturer, teacher or tutor.
- Assessment internally carried out by the learner without a lecturer, teacher or tutor present/available in real time eg, completing a Learner Assessment Record (LAR) at home.
- Any additional further study, revision and training activities that the learner does unsupervised to support their learning.

Prerequisites

This qualification has been specifically designed for the 16 plus age group. Ideally they should have some experience of strength and conditioning based exercises through personal practice and should have a certain amount of physical fitness. Learners should also have communication skills which can be developed during the course.

Tutor and assessor requirements

For tutor and assessor requirements please see the relevant section in the qualification specification.

Syllabus information and supporting resources

This syllabus has been created to reflect the knowledge, understanding and skills of the YMCA Level 2 Certificate in the Foundations of Strength and Conditioning (Trainer) (603/3413/7).

This syllabus details the five units, learning outcomes and assessment criteria that make up this qualification, together with the relevant assessment strategies and evidence requirements.

This syllabus does not include the assessment paperwork. Assessment paperwork is included in the Learner Assessment Record (LAR), described next.

Learner Assessment Record (LAR)

This document is used by the learner and assessor to record evidence and assessment decisions. It includes all the assessment paperwork for the 5 units.

The LAR is available to approved centres to download from the YMCA Awards website, or it can be bought in hard copy.

To order resources that support this qualification, please email: awards.resources@ymca.co.uk

Units explained

Units are the building blocks of some qualifications and can include the following:

Learning outcomes

These outcomes set out what a learner is expected to know, understand or be able to perform as a result of their learning. They are described in this syllabus as 'The learner will...'

Assessment criteria

These specify the standard a learner is expected to meet to show that the learning outcomes of that unit have been achieved. They are described in this syllabus as 'The learner can...'

Anatomy and physiology for exercise and fitness instructors (K/616/7823)

Unit aim:

This unit develops the learner's knowledge of anatomy and physiology and how it relates to exercise and fitness.

Unit content:

The learner will:

1. Know the structure and function of the circulatory system

The learner can:

1.1. Identify the location and function of the heart, to include:

- It's the size of an adult's clenched fist.
- The position of the heart – behind the sternum, just to the left of centre.
- The heart is a muscular pump that circulates blood around the body.
- The function of circulating oxygen and nutrients within the blood to the body.
- The function of circulating carbon dioxide and waste products within the blood to be expelled from the body.

1.2. Describe the structure of the heart, to include:

- The heart walls are formed from cardiac muscle (myocardium).
- The four chambers in the heart (two atria, two ventricles).
- The size and description of the atria and ventricles:
 - Atria are smaller than the ventricles and have less muscular walls
 - The left ventricle has thicker, more muscular walls than the right ventricle to enable it to pump blood to the body via the aorta.
- The heart valves:
 - atrioventricular valves (tricuspid valve and bicuspid or mitral valve)
 - semilunar valves (pulmonary valve on right and aortic valve on left)
 - sinoatrial valve – the pacemaker of the heart which initiates the heartbeat.

1.3. Describe how blood moves through the four chambers of the heart, to include:

- How blood is collected and pumped (cardiac cycle).
- How the atria receive blood from veins. The left atrium receives oxygenated blood from the pulmonary veins. The right atrium receives blood from the vena cava.
- How the ventricles pump the blood into the arteries under force.
- How the right ventricle pumps blood to the lungs via the pulmonary arteries.
- The terminology and meanings associated with cardiac cycle, to include:
 - heart rate
 - stroke volume
 - cardiac output.

1.4. Describe systemic and pulmonary circulation, to include:

- a brief overview of systemic and pulmonary circulation
- direction of blood flow
- associated blood vessels.

1.5. Describe the structure and functions of blood vessels, to include:

- The vascular network and how it connects to the heart, lungs and muscles.
- Arteries, veins and capillaries, in terms of:
 - thickness of vessel wall
 - internal diameter
 - blood pressure
 - direction of blood flow
 - function of nonreturn valves in veins.
- Arteries carry blood away from the heart at high pressure (oxygenated blood in all arteries except the pulmonary arteries). They are pressurised and have thick, smooth, muscular walls. The aorta is the major artery that carries blood from the left ventricle to the body. The pulmonary arteries carry blood from the right ventricle to the lungs.
- Veins carry blood towards the heart at low pressure (deoxygenated blood in all except the pulmonary veins) and have thinner, less muscular walls. They have a series of one way (nonreturn) valves to prevent backflow of blood and require the assistance of skeletal muscle to help venous return. The vena cava has two branches (inferior and superior) and returns blood from the body back to the right atrium. The pulmonary veins return blood back to the left atrium.
- Arterioles and venules are smaller versions of arteries and veins respectively.

- Capillaries are the smallest of the blood vessels with very thin walls to allow gaseous exchange to take place.

1.6. Define blood pressure, to include:

- blood pressure as a measure of force in the artery walls
- the body's need for blood pressure
- systolic blood pressure as the pressure in the arteries during ventricular contraction
- diastolic blood pressure as the pressure in the arteries during ventricular relaxation
- the effects of exercise on blood pressure.

1.7. Identify blood pressure classifications, to include:

- optimal, normal blood pressure classifications
- definitions of hypotension and hypertension
- pre-hypertension, stage 1, 2 and 3 hypertension definitions
- the implications for exercise of hypertension
- current and up to date guidelines detailed from the following bodies:
 - World Health Organization (WHO)
 - National Institute for Health and Care Excellence (NICE)
 - American College of Sports Medicine (ACSM).

The learner will:

2. Understand the structure and function of the respiratory system

The learner can:

2.1. Identify the location and function of the lungs, to include:

- the position of the lungs within the thoracic cavity
- the process of gaseous exchange
- the process of respiration:
 - take in air from the atmosphere
 - pass oxygen into the circulatory system
 - remove carbon dioxide from the circulatory system.

2.2. Describe the structure of the lungs, to include:

- the function and location of each structure:
 - trachea (windpipe)

- bronchus (bronchi)
- bronchioles
- alveolus (alveoli)
- capillaries.
- how the alveoli and capillaries link the respiratory and cardiovascular systems.

2.3. Identify the main muscles involved in breathing, to include:

- the function and location of each muscle
 - intercostals (internal and external)
 - diaphragm.

2.4. Describe the passage of air through the respiratory tract, to include:

- the passage of air during inhalation (inspiration) and exhalation (expiration)
- nose and mouth
- pharynx
- larynx
- trachea
- bronchi
- bronchioles
- alveoli.

2.5. Describe the process of gaseous exchange of oxygen and carbon dioxide in the lungs, to include:

- The composition of gases in both inhaled and exhaled air.
- The role of the alveoli and capillaries in gaseous exchange.
- The process of the diffusion of gases from areas of high concentration to areas of low concentration.

The learner will:

3. Understand anatomical terminology

The learner can:

3.1. Identify movements/exercises that occur in each anatomical plane, to include:

- Frontal (coronal) plane of the body, which passes from side to side at right angles to the sagittal plane (also called the coronal plane), divides the body front and back. Movements/exercises include abduction and adduction eg, side leg lifts (abduction), lateral raises, jumping jacks.

- Sagittal vertical plane of the body, which passes from front to rear dividing the body into two symmetrical halves, left and right. Movements/exercises include flexion and extension eg, walking, running, bench press, forward lunge, biceps curl.
- Transverse, any horizontal plane of the body that is parallel to the diaphragm (also called the horizontal plane) divides the body upper and lower. Movements/exercises include rotation, pronation and supination eg, oblique curls/crunches, twisting movement such as boxing jabs.

3.2. Identify anatomical terms of location, to include:

- superior and inferior
- anterior and posterior
- medial and lateral
- proximal and distal
- superficial and deep.

The learner will:

4. Understand the structure and function of the skeleton

The learner can:

4.1. Describe the basic functions of the skeleton, to include:

- movement (levers, attachment sites for ligaments, tendons, muscles)
- storage (calcium is stored in bone)
- production red and white blood cells, platelets
- shape/structure/framework
- protection of vital organs
- skeleton.

4.2. Identify the structures of the axial skeleton, to include:

- cranium
- cervical vertebrae
- thoracic vertebrae
- lumbar vertebrae
- sacral vertebrae
- coccyx
- sternum
- ribs.

4.3. Identify the structures of the appendicular skeleton, to include:

- scapula
- clavicle
- humerus
- ulna
- radius
- carpals
- metacarpals
- phalanges
- ilium
- ischium
- pubis
- femur
- patella
- tibia
- fibula
- tarsals
- metatarsals.

4.4. Explain the classification of bones, to include:

- bones classified by their shape
- examples of major bones that fit into each classification:
 - long bones
 - short bones
 - flat bones
 - irregular bones
 - sesamoid bones.

4.5. Explain the structure of a long bone, to include:

- epiphysis
- diaphysis
- periosteum
- epiphyseal plates (growth plates)

- medullary cavity
- hyaline cartilage
- compact bone
- cancellous bone
- yellow and red bone marrow.

4.6. Explain the stages of bone growth, to include:

- the development of bone from cartilage
- ossification and basic references to osteoclasts and osteoblasts
- the importance of calcium for bone growth.

4.7. Describe posture in terms of curves of the spine, to include:

- neutral spine alignment
- movement potential of the spine
- postural deviations of the spine (to include kyphosis, lordosis and scoliosis):
 - the effect of pregnancy
 - hyper lordosis
 - hyper kyphosis.

The learner will:

5. Understand joints in the skeleton

The learner can:

5.1. Describe the classification of joints, to include:

- common examples of each type of joint:
 - immovable (fused/fibrous)
 - slightly moveable (cartilaginous)
 - freely moveable (synovial).

5.2. Describe the structure of synovial joints, to include:

- the structure, characteristics and functions of:
 - articular cartilage
 - joint capsule
 - synovial membrane
 - synovial fluid

- ligaments
- tendons
- hyaline (articular cartilage).

5.3. Describe the types of synovial joints and their range of motion, to include:

- common examples of each type of joint:
 - gliding
 - hinge
 - pivot
 - ball and socket
 - saddle
 - condyloid.

5.4. Describe joint movement potential and joint actions, to include:

- flexion and extension
- adduction and abduction
- rotation (internal and external)
- circumduction
- horizontal flexion and horizontal extension
- lateral flexion
- elevation and depression
- protraction and retraction
- pronation and supination
- dorsiflexion and plantarflexion
- inversion and eversion.

The learner will:

6. Understand the muscular system

The learner can:

6.1. Identify the three types of muscle tissue, to include:

- examples and location of each different muscle type:
 - voluntary/skeletal

- involuntary/smooth
- cardiac.

6.2. Define the characteristics and functions of the three types of muscle tissue, to include:

- voluntary – striated, under conscious control, controlled by somatic nervous system, found in consciously controlled skeletal muscles
- involuntary – visceral or smooth, under unconscious control, controlled by autonomic nervous system, found in structures not under conscious control
- cardiac – striated and involuntary, under unconscious control, initiated by the sinoatrial node (SA node), found in the heart.

6.3. Describe the basic structure and function of skeletal muscle, to include:

- structure:
 - muscle contents of water (70%), protein (23%), minerals and substrates (7%)
 - muscles cross joints, attach to bones via tendons
 - origins and insertions
 - fascia
 - connective tissue
 - muscle fibres
 - fasciculi
 - epimysium
 - endomysium
 - perimysium
 - myofibrils
 - myofilaments
 - sarcomeres
 - actin and myosin
 - mitochondria.
- function:
 - contract to create movement
 - generate heat (shivering)
 - keep the body upright by resisting the force of gravity
 - protect the skeletal system by preventing excessive or unwanted movement
 - stabilising joints along with the ligaments
 - they have contractility, extensibility, elasticity and excitability

- can be agonists (prime movers), antagonists, synergists, fixators.

6.4. Name and locate major superficial and deep skeletal muscles, to include:

- anterior skeletal muscles:
 - biceps
 - deltoids
 - pectoralis major
 - transverse abdominis
 - rectus abdominis
 - obliques
 - hip flexors (Iliopsoas)
 - quadriceps
 - adductors
 - tibialis anterior.
- posterior skeletal muscles:
 - triceps
 - trapezius
 - latissimus dorsi
 - erector spinae
 - rhomboids
 - gluteals
 - hamstrings
 - gastrocnemius
 - soleus
 - abductors.

6.5. Describe the structure and function of the pelvic floor muscles, to include:

- structure:
 - deep and superficial layers
 - fast and slow twitch muscle fibres
 - muscle attachments.
- function:
 - stability for the pelvic girdle
 - support for organs and growing foetus, during pregnancy

- controlling continence.

6.6. Describe the different types of muscle action, to include:

- Types of muscle contractions:
 - isometric
 - isotonic (concentric and eccentric).
- Advantages and disadvantages of isotonic/isometric movement in relation to everyday activity, activity for health and within an exercise and fitness session, to include:
 - delayed onset muscle soreness (DOMS)
 - Valsalva effect functionality.
- The principles of muscle contraction, to include:
 - basic sliding filament theory – the role of actin and myosin, the formation of a cross-bridge during contraction, the role of ATP, the 'all or none' law, motor neuron impulses, motor unit recruitment
 - muscles – cross over a joint, only pull, they cannot push, contract along the line of fibre, work in pairs.
- types of muscle attachment, to include:
 - via tendon
 - aponeurosis
 - directly onto the bone.
- definition of:
 - agonist (prime mover)
 - antagonist
 - synergist
 - fixators.

6.7. Identify the joint actions brought about by specific muscle actions, to include:

- Identification of the primary concentric and eccentric actions of each muscle detailed below to include:
 - name of the muscle
 - joint(s) crossed
 - prime action when contracting concentrically.
- Identification of the major muscle (from those below) that brings about the following joint actions:
 - flexion and extension

- adduction and abduction
- rotation (internal and external)
- circumduction
- horizontal flexion and horizontal extension
- lateral flexion
- elevation and depression
- protraction and retraction
- pronation and supination
- dorsiflexion and plantarflexion
- inversion and eversion.

- | | | |
|---------------------------|------------------------|--------------------|
| • gastrocnemius | • abductors | • trapezius |
| • soleus | • adductors | • latissimus dorsi |
| • tibialis anterior | • rectus abdominis | • deltoids |
| • hamstring | • erector spinae | • biceps |
| • quadriceps | • obliques | • triceps |
| • gluteus maximus | • transverse abdominis | • rhomboids |
| • hip flexors (Iliopsoas) | • pectoralis major. | |

6.8. Identify skeletal muscle fibre types and their characteristics, to include:

- Slow twitch muscle fibres (type I) have good blood supply, red in colour, many mitochondria, slower to fatigue than type II.
- Fast twitch (type II – including types IIa and IIb) are white in colour.

The learner will:

7. Understand the life-course of the musculoskeletal system and its implications for special populations exercise

The learner can:

7.1. Describe the life-course of the musculoskeletal system, and its implications for special populations exercise, to include:

Young people in the 13–18 age range, to include:

- skeletal development (endomorphs, ectomorphs, mesomorphs)
- growth and development of the spine
- maturation of the skeletal system (13–18 years)
- ossification (primary and secondary sites)

- implications for the incomplete fusing of the epiphyseal plate
- growth plate damage
- fractures
- growth spurts
- considerations for exercise – suitable exercise.

Older people (50 plus), to include:

- ageing and the skeletal system
- hormone changes
- loss of bone mass
- changes in osteoblast/osteoclast activity
- implications of reduction in bone mineral density and connective tissue
- osteopenia/osteoporosis
- osteoarthritis
- hyaline cartilage wear and tear
- increase risk of falls and fractures
- joint degeneration
- reduced range of motion
- considerations for exercise – suitable exercise.

Ante and postnatal, to include:

- Skeletal system changes including potential postural changes.
- Hormone changes – effect of relaxin and other hormones.
- Changes affecting balance.
- Considerations for exercise including warning signs. Includes suitable exercise pre 16 weeks and post 16 weeks together with considerations for postnatal.

The learner will:

8. Understand the structure and function of the digestive system

The learner can:

8.1. Identify the function of the following in the digestive process:

- mouth (tongue, teeth, salivary glands)
- pharynx

- oesophagus
- stomach
- pancreas
- gallbladder and bile ducts
- liver
- small intestine
- large intestine (colon).
- functions of each of the above, including:
 - mastication
 - peristalsis
 - absorption (villi and microvilli – the inner surface folds and finger like projections that provide a large surface area in the small intestine to allow for effective absorption)
 - diffusion
 - emulsification.
- digestive substances and enzymes, to include:
 - salivary amylase (enzyme in saliva)
 - hydrochloric acid (gastric juice released in the stomach)
 - pepsin (enzyme released in the stomach for breaking down protein)
 - lipase (enzyme released by the pancreas to break down fats)
 - amylase (enzyme released by the pancreas to break down carbohydrates into glucose)
 - trypsin (enzyme released by the pancreas to break down protein into amino acids)
 - bile acids (produced by the liver and stored in the gallbladder, until released into the small intestine).

8.2. Describe how the main nutrient groups are broken down and absorbed in the digestive system, to include:

- The transport, storage and metabolised forms of each macronutrient.
- The inability of the body to absorb or use large particles of food, therefore using a process of digestion to break these down into smaller components which can be more easily absorbed and transported.
- How carbohydrates are digested and absorbed as sugars.
- How fats are digested and absorbed as fatty acids.
- How proteins are digested and absorbed as amino acids.
- Macronutrient digestive end products:

- carbohydrate – glucose
- protein – amino acids
- fat – fatty acids.
- digestive enzymes – location of release and affected nutrients:
 - carbohydrate – mouth – salivary amylase
 - protein – stomach – pepsin
 - fat – released from the pancreas into the small intestine – lipase
 - protein – released from the pancreas into the small intestine – trypsin.

8.3. Identify the role of fibre in the digestive process, to include:

- Soluble fibre which dissolves in the water of the digestive system may help to reduce the amount of cholesterol in the blood, and increasing the amount of soluble fibre (fruit, vegetables, oats, golden linseeds) in the diet can reduce constipation.
- Insoluble fibre or non starch polysaccharide (NSP) does not dissolve in water. it passes through the gut without being broken down and helps other foods move through the digestive system more easily. Insoluble fibre prevents digestive problems and keeps the bowels healthy. Sources include root vegetables, nuts and seeds, oats, fruit, cereals and wholemeal bread.

8.4. Identify the role of the liver and pancreas in assisting digestion, to include:

- The function of the liver to process the nutrients absorbed from the small intestine. Bile acids produced from the liver are secreted into the small intestine play an important role in digesting fat.
- The function of the pancreas as an exocrine gland which secretes an enzyme rich fluid needed to aid digestion in the small intestine. Trypsin released by the pancreas breaks down protein into amino acids.

8.5. Identify the timescales for the digestive process to take place, to include:

- Generally, it takes about six to eight hours for food to pass through the stomach and small intestine. Food then enters the large intestine (colon) for further digestion, absorption of water and, finally, elimination of undigested food.
- Food can take 24 to 72 hours to move through the digestive tract.
- The exact time of digestive processes will depend on the amounts and types of foods eaten. The rate is also based on factors such as gender, metabolism and any digestive issues that could slow down or speed up the process.
- Initially, food will travel relatively quickly through the digestive system. Within six to eight hours, the food has moved its way through the stomach, small intestine and large intestine. Once in the large intestine, the partially digested food can sit for more than a day while it's broken down even more.

- Digestion rate depends on what's eaten. Meat and fish can take as long as two days to fully digest due to the complex protein and fat molecules. Fruit and vegetables which contain fibre move through the digestive system in less than a day. Processed foods can be digested in a matter of hours.

8.6. Describe the importance of fluid intake in the digestive process, to include:

- chemical reactions in all cells take place in water
- assisting the removal of waste from the body
- enabling the transport and absorption of nutrients around the body
- preventing constipation.

The learner will:

9. Understand energy systems and their relation to exercise

The learner can:

9.1. Describe how carbohydrates, fats and proteins are used in the production of energy, to include:

- the function of the food groups (fuels) in the production of aerobic/anaerobic energy
- the ATP cycle
- the main factors affecting choice/use of fuel, to include:
 - intensity
 - duration of activity
 - fitness level.

9.2. Explain the use of the three energy systems during exercise, to include:

- How each of the following energy systems relates to exercise duration and intensity, including:
 - creatine
 - phosphate
 - lactic acid
 - aerobic.
- The characteristics for each of the following energy systems:
 - creatine phosphate – high intensity, very short duration, no harmful waste products
 - lactic acid – moderate to high intensity, short duration, lactic acid waste product
 - aerobic – low to moderate intensity, long term duration, CO₂ and water waste products.
- The effects of exercise on energy systems, to include:

- How each energy system works in conjunction with the others to produce energy in a range of activities.
- How exercise variables result in the adaptation of the relative contribution of each energy system.
- The effects of intensity (increased intensity would increase the contribution of the anaerobic systems).
- The effects of duration (longer-duration activities would require increased input from the aerobic energy system because the anaerobic systems cannot function effectively for long periods).
- The effects of type of exercise (unfamiliar exercise would result in a higher anaerobic system contribution in line with the specificity principle).

The learner will:

10. Understand the nervous system and its relation to exercise

The learner can:

10.1. Describe the role and functions of the nervous system, to include:

- Structure and function of central and peripheral systems, in relation to:
 - sensory input
 - interpretation
 - motor output
 - maintaining homeostasis.
- Central nervous system (CNS) including the brain and spinal cord.
- Peripheral nervous system (PNS) – nerves that branch out from the spinal cord.
- PNS consists of the somatic nervous system (voluntary) and the autonomic nervous system (involuntary).
- The autonomic system consists of the sympathetic (fight or flight, war) and parasympathetic (rest and digest) nervous systems.
- Structure of a motor neuron, to include axons, dendrites, cell body, nucleus, myelin sheath.

10.2. Describe the principles of muscle contraction, to include:

- How nerve impulses are conducted.
- Basic sliding filament theory – the role of actin and myosin, the formation of a cross bridge during contraction, the role of ATP, the 'all or none' law, motor neuron impulses, motor unit recruitment.

10.3. Describe the 'all or none law'/motor unit recruitment, to include:

- In relation to strength of muscle contraction.
- How a stimulus must be strong enough to trigger an action potential to pass down the motor neuron.
- All muscle fibres within a single motor unit will be maximally innervated by the action potential or none will.
- The size principle of motor unit recruitment. Motor units are recruited in order of size, from small to large.

10.4. Describe how exercise can enhance neuromuscular connections and improve motor skills, to include:

- Short term and long term effects of exercise on the nervous system.
- Speeding up the frequency of nerve impulses to motor units.
- Improved synchronous recruitment of motor units.

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Assessment specification

Anatomy and physiology for exercise and fitness instructors (K/616/7823)

Assessment element 1: Multiple choice theory paper

This assessment element is used to assess the knowledge required for the Anatomy and physiology for exercise and fitness instructors unit.

It is an externally set multiple choice theory paper relating to the syllabus.

The paper will comprise 30 questions and the time allocation is 45 minutes.

Each question will be worth one mark and learners must achieve a minimum of 21 marks overall to pass (70%).

Guidance relating to theory paper assessment can be found on the YMCA website.

Tutor note: Samples of theory paper questions are available on request.

Assessment element 2: Assessment Workbook

Learners will need to complete an Assessment Workbook. This is a combined assessment element, covering learning outcomes for more than one unit. There are three sections to the Assessment Workbook (A–C). **The section relating to this unit is Section A only.** Each section of the workbook assesses the knowledge required for each unit identified below:

- **Section A:** Anatomy and physiology for exercise and fitness instructors (K/616/7823).
- **Section B (parts 1 & 2):** Providing a positive customer experience in the exercise environment (M/616/7824).
- **Section C:** Lifestyle management and health awareness (K/616/7949).

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Providing a positive customer experience in the exercise environment (M/616/7824)

Unit aim

This unit develops the knowledge and skills an exercise and fitness instructor needs to present themselves in a professional manner, provide excellent customer service and demonstrate effective communication skills. Above all, to provide a positive customer experience an exercise and fitness instructor needs to ensure the exercise environment meets health and safety requirements.

Unit content

The learner will:

1. Understand customer needs and expectations

The learner can:

1.1. Identify the types of customers attending a local exercise and fitness facility, to include:

- Internal customers (colleagues or someone who may work in another department who are dependent on the organisation for specific services or supplies).
- External customers who come from outside the organisation to fulfil their needs.

1.2. Identify the different requirements of customers attending a local exercise and fitness facility, to include:

- Understanding the different range of customers/visitors who visit exercise and fitness facilities, to include:
 - older, younger and special populations
 - sports users
 - club users (weight loss clubs, fitness clubs)
 - gym users
 - studio users (group exercise)
 - swimming pool users
 - leisure users,

1.3. Identify how a local exercise and fitness facility meets different types of customer requirements, to include:

- Understanding the various reasons why customers/visitors would come to an exercise and fitness facility.
- Understanding a customer's requirements (wants and needs) to include younger, older and special populations.
- Understanding the success of the organisation depends on satisfying customer needs
- Examples of customer requirements in their local facility.
- Dealing directly with customers either by telephone, electronically or face to face.
- Responding, handling and resolving customer enquiries and complaints.
- Understanding that customers may have many different needs/issues related to the organisation's product/service offering:
 - communication needs
 - physical needs,
 - problems/complaints/queries.

1.4. Describe how to identify and confirm a customer's expectations, to include:

- Understanding that to provide a quality experience for customers their specific and individual needs must be recognised.
- Understanding that if these needs are identified and met customers will want to return to the facility.
- Understanding that meeting customer needs doesn't just mean matching them to the right product or service. It means addressing their total need during their encounter with the facility.

1.5. Explain the importance of gathering feedback to meet customer expectations, to include:

- The value of feedback to ensure the exercise and fitness facility continues to meet the needs of the customer.
- Giving the customer the opportunity to make suggestions, comments or complaints about services and facilities. These can be positive or negative. But both give the organisation the opportunity to improve.
- How to gather feedback, to include:
 - listening to the feedback
 - being clear about the points being made
 - confirming the points being made
 - recording the feedback

- processing the feedback through agreed channels
- offering solutions, where possible
- thanking customers for any comments
- ensuring that customer feedback will be listened to and acted upon
- ensuring that the customer has a personal reply to their comment or feedback
- sharing feedback with others (staff and customers).

1.6. Identify methods of gathering customer feedback, to include:

- email
- social media
- website reviews
- text reviews
- focus groups
- comment cards/comments box
- evaluation forms
- direct mail survey
- face-to-face (just ask).

1.7. Explain the importance of responding promptly to a customer seeking assistance, to include:

- The importance of responding to customers within an appropriate timescale.
- Understanding that by reacting in a timely fashion it will show the customer that they are important. Customers are then more likely to come back to an organisation.

1.8. Identify ways in which an exercise and fitness instructor could build social support and inclusion in an exercise environment, to include:

- buddy schemes so members don't have to train alone
- team/individual challenges
- group activities
- quizzes and games
- events
- loyalty schemes.

The learner will:

2. Understand the principles of customer service

The learner can:

2.1. Describe the products and services in a local exercise and fitness facility that may be available to customers, to include:

- Examples of products offered by a local exercise and fitness facility (drinks and snacks, retail products, sports and fitness clothing and equipment, nutrition etc).
- Examples of services offered by a local exercise and fitness facility (gym inductions, personal training, group exercise classes, coaching, swimming lessons, sports massage, clubs, activities, health and wellbeing services, memberships, cafe etc).

2.2. Describe the personal attributes required to display a high level of customer service in an exercise environment, to include:

- positive attitude
- effective communication skills (verbal, non-verbal, listening skills, questioning skills)
- ability to approach customers and have an approachable manner
- confidence
- organisational skills
- customer focus (natural empathy)
- team working skills
- caring about customers' problems
- keeping calm even when a customer is angry
- courteous
- helpful
- treating customers with respect, fairness and honesty.

2.3. Identify the ways in which an exercise and fitness instructor could present themselves in a professional and approachable manner, to include:

- Clothing and being smartly dressed according to the organisation's dress code (uniform/name badge).
- Cleanliness and personal hygiene (hair, jewellery).
- Positive body-language and mannerisms.
- Positive behaviours to make a good impression eg, standing tall or sitting appropriately, not slumping or closed body language, not chewing gum or chatting to other staff.
- Aspects in 2.2.

2.4. Describe how an exercise and fitness instructor could contribute to improving customer retention, to include:

- See strategies in 1.8.
- Examples of retention strategies such as frequent communications calendar, keeping in touch with customers using texts, emails, letters, events, phone calls, 'thank you' messages, special offers, follow-ups, and cards or notes with a personal touch.
- Delivering higher than expected levels of service to every customer.
- Being dedicated to customer satisfaction.
- Providing immediate responses to any issues.
- Going above and beyond expectations.

2.5. Explain how to influence a 'customer journey' in an exercise environment, to include:

- Understanding the customer journey from initial enquiry, website interaction, telephone contact, social media, first impression of facility and staff, and customer experience.
- Understanding the customer touch points or points of contact within an exercise environment.
- How touch points form the foundation for the way in which customers perceive and make decisions about the facility and exercise environment.
- The importance of the customer having a positive experience at every touch point. Better customer experiences lead to better results for both the customer and the organisation along customer journeys leading to improved sales and greater customer loyalty.

The learner will:

3. Know how to engage with customers

The learner can:

3.1. Describe different methods of engaging with customers, to include:

- verbal communication (face-to-face, telephone)
- non-verbal communication (body language, gestures, appearance, written and visual communication such as posters, newsletters, social media)
- listening and questioning skills
- how to create a positive impression
- how to get to know different customers
- different ways to build rapport
- different methods of initiating conversation
- behaviours that will make a customer feel special.

3.2. Explain the importance of regular communication with customers, to include:

- offering good customer service
- customer retention
- methods of keeping customers up to date.

3.3. Describe different methods of building rapport with customers, to include:

- Understanding that creating a rapport is essential to retaining customers.
- Rapport as a state of harmonious understanding with another individual or group that enables greater and easier communication.
- A range of rapport techniques, including:
 - verbal techniques (speech tone)
 - active listening
 - non-verbal techniques (body language).
- Strategies in 1.8.

3.4. Explain the importance of being visible and approachable within an exercise environment, to include:

- professionalism
- being available for customer questions
- offering good customer service, support and advice
- demonstration of a positive attitude
- demonstration of job satisfaction
- ability to share knowledge with customers
- customer accessibility.

3.5. Explain the importance of giving health, safety and exercise etiquette information to customers, to include:

- responsibilities of the customers
- minimising risks for the customer
- minimising risks and hazards
- safe and clean environment for all facility users
- awareness of emergency procedures
- positive exercise experience for all facility users
- respect for other users
- maintaining health, safety and welfare of all users.

The learner will:

4. Be able to prepare and maintain the exercise environment

The learner can:

4.1. Clean the exercise environment as required to maintain hygiene levels using appropriate cleaning substances, to include:

- Understanding that different facilities will use different chemicals for completing similar cleaning tasks.
- A range of different substance types that are used to clean exercise environments, for example:
 - abrasive cleaners
 - acidic cleaners
 - alcohol
 - alkali cleaners
 - detergents
 - disinfectants
 - multipurpose cleaners
 - scouring powders
 - soap
 - solvents
 - spot removers.
- Precautions for a range of cleaning substances.
- Descriptions of the common uses of a range of cleaning substances such as those above, for example:
 - acidic cleaners are principally used as toilet or drain cleaners
 - detergents and soaps are used to wash surfaces or items eg, washing up liquid
 - disinfectants are used to kill bacteria or viruses
 - multipurpose cleaners are used to clean floors or surfaces.

4.2. Utilise appropriate signage to identify potential hazards whilst cleaning, to include:

- procedures for restricting customer access whilst cleaning
- use of appropriate signs, cones etc
- safe storage of signs and cones.

4.3. Demonstrate effective communication with customers and colleagues regarding cleaning, to include:

- appropriate customer communication whilst carrying out cleaning operations
- appropriate communication with colleagues regarding cleaning.

The learner will:

5. Understand the importance of professionalism in the health and fitness sector

The learner can:

5.1. Identify governing and/or professional bodies for the health and fitness sector, to include:

- Chartered Institute for the Management of Sport and Physical Activity (CIMSPA)
- Register of Exercise Professionals (REPs), REPs code of ethical conduct
- UK Active
- World Health Organization (WHO)
- National Institute for Health and Care Excellence (NICE)
- American College of Sports Medicine (ACSM).

5.2. Outline the essential principles, values or ethical codes of practice laid out by governing and/or professional bodies for the health and fitness sector, to include:

- REPs code of ethical conduct
- equality act
- health and safety at work act
- scope of practice of a gym instructor
- importance of professionalism
- duty of care
- confidentiality
- data protection.

5.3. Describe how an exercise and fitness instructor can keep knowledge and skills up to date, to include:

- formal and informal development opportunities
- training courses (face to face, online learning)
- managers in a workplace
- research materials (web based research, journals, books, magazines).

5.4. Describe how to identify opportunities and requirements for career progression in the health and fitness sector, to include:

- Internal sources of information such as human resources, job descriptions/specifications, line managers, supervisors, general managers, notice boards, intranet.
- Understanding how can progress from one role to another to follow a career pathway.
- Understanding the differences and similarities in different job roles.

The learner will:

6. Understand operational and legislative procedures within an exercise and fitness facility

The learner can:

6.1. Identify the types of emergencies that may occur in an exercise and fitness facility, to include:

- medical
- accident
- fire
- suspected bomb
- missing persons
- chemical.

6.2. Summarise the procedures and recording documents that should be in place in an exercise and fitness facility to maintain health and safety of staff and customers, to include:

- Risk assessments.
- Cleaning schedules.
- Wearing personal protective equipment.
- Control of Substances Hazardous to Health (COSHH).
- Manual handling techniques.
- Equipment maintenance including electrical safety and security and safe storage of equipment.
- Environmental procedures and policies.

6.3 Suggest types of cleaning materials and equipment that would be suitable for maintaining health and hygiene in an exercise environment, to include:

- See cleaning substances in 4.1.
- Specific substances and equipment to retain hygiene and reduce cross infection risk.

- Examples of health and hygiene related substances such as:
 - detergents and soaps for washing surfaces or items
 - disinfectants for killing bacteria or viruses.
- Processes and systems of work to maintain the standards of cleanliness for hygiene and health (risk assessments, usage analysis of specific environment and equipment).
- The types of cleaning required.
- An organisation's procedure for cleaning included in the normal operating procedure (NOP).
- Cleaning checklists.

6.4 Identify the typical roles of individuals responsible for health and safety in an exercise and fitness facility, to include:

- general manager
- duty manager
- first aid at work qualified staff
- CPR qualified staff
- defibrillator qualified staff
- on duty staff
- health and safety officer
- director of the company.

6.5 Explain the importance of following emergency procedures calmly and correctly, to include:

- how to follow internal accident and emergency procedures
- how to contact emergency services
- how to report an incident/accident in an emergency
- the instructions that must be given to the people involved (staff and external services).

6.6. Describe how to maintain the safety of people involved in typical emergencies, including children, older people and disabled people, to include:

- The individual boundaries of competence to administer first aid (when qualified).
- The role of the unqualified person (how to deal with an emergency before qualified assistance arrives).
- How to deal with an accident/emergency involving children, older adults and disabled persons, including issues of physical contact.

6.7. Outline why health and safety are important in an exercise and fitness facility, to include:

- instructor's duty of care
- specific risks associated with a fitness environment.

6.8. Identify the legal and regulatory requirements for health and safety relevant to working in an exercise and fitness facility, to include:

- Health and Safety at Work Act 1974
- REPs code of ethical conduct
- Disclosure and Barring Service (DBS) checks.

6.9. Describe duty of care and professional role boundaries in relation to special population groups, to include:

- how these are outlined in the REPs code of ethical conduct
- professional boundaries in dealing with specific populations
- how to obtain informed consent from appropriate adults, parents/guardians
- how to maintain confidentiality (data protection).

6.10. Describe the types of security procedures within an exercise and fitness facility, to include:

- opening and closing the facility
- monitoring entry and exit
- security of customers and their belongings
- first aid procedures
- incident reporting procedures
- fire and evacuation procedures, including roll-call procedures
- chemical spillage procedures
- fire alarm testing.

The learner will:

7. Understand how to control risks in an exercise and fitness facility

The learner can:

7.1. Identify possible hazards in an exercise and fitness facility, to include

- facilities
- equipment

- working practices, including lifting and handling of equipment
- client behaviour
- security
- hygiene.

7.2. Describe how to carry out a risk assessment in an exercise environment, to include:

- basic risk assessment policy (with reference to Health and Safety at Work Act 1974)
- the organisation's risk assessment policy
- the five steps of risk assessment.

7.3. Describe how to control risks associated with hazards in an exercise environment, to include:

- environment
- equipment
- clients
- activities
- emergency procedures.

7.4. Identify the appropriate person/position to contact within an exercise and fitness facility when hazards and risks cannot be controlled personally, to include:

- when working in a typical fitness organisation (see also 6.4)
- when working in other facilities.

The learner will:

8. Understand how to safeguard children and vulnerable adults

The learner can:

8.1. Describe what is meant by safeguarding the welfare of children and vulnerable adults, to include:

- The definition of safeguarding the welfare of children, young people and vulnerable adults as 'ensuring their safety; protecting them against maltreatment and removing any risk of harm, neglect or abuse'.
- The definition of 'child' and 'vulnerable adult'.
- The implications of the following acts in relation to working with children and vulnerable adults, to include a brief outline of each of the following:
 - The Equality Act 2010.
 - The Children Act 1989.

- The Disability Discrimination Act (DDA) 1995.
- The Police Act 1997.
- The Protection of Children Act 1999.
- Every Child Matters and the Children Act 2004.
- The Disability Discrimination Act 2005.
- Safeguarding Vulnerable Groups Act 2006.

8.2. Describe the responsibilities and limitations of an exercise and fitness instructor in regard to safeguarding children and vulnerable adults, to include:

- Applying to the Disclosure and Barring Service (DBS) for checks prior to working with children and vulnerable adults.
- Keeping up to date with DBS checks.
- Internal organisational policies.
- Identification of possible abuse and reporting mechanisms.
- Confidentiality.

8.3. Identify the types of abuse an exercise and fitness instructor may encounter, to include:

- physical, emotional, neglect, bullying and sexual
- definitions of each.

8.4. Identify possible signs of abuse, to include:

- physical, emotional, neglect, bullying and sexual
- physical signs and indicators
- behavioural signs and indicators.

8.5. Describe an exercise and fitness facilities typical reporting procedures for safeguarding children and vulnerable adults, to include:

- the appropriate internal person and external agencies to report possible abuse to
- internal complaints procedures.

8.6. Describe the procedures to follow to protect oneself from accusations of abuse, to include:

- up to date DBS checks
- keeping up to date with the organisation's internal safeguarding policies and procedures.

8.7. Identify the statutory agencies responsible for safeguarding children and vulnerable adults, to include:

- Ofsted.

- Local authority (social services).
- Police.
- Local Safeguarding Children Boards (LSCBs).
- Disclosure and Barring Service (DBS).

8.8. Explain when it may be necessary to contact statutory agencies, to include:

- if abuse is suspected, to include:
 - if abuse is observed ie, you witness bullying, harassment or physical abuse taking place
 - signs or indicators of abuse are seen
 - another person reports their concerns
 - a child or vulnerable adult discloses abuse directly.

8.9. Describe how to maintain confidentiality of information relating to possible abuse, to include:

- legal and ethical responsibilities.

The learner will:

9. Understand processes to support a health and fitness business

The learner can:

9.1. Identify the components of financial planning for a health and fitness business, to include:

- Responsibilities for:
 - calculating profit and loss, to include:
 - annual budgets, income and expenditure budgets, forecasting cash flow, defining gross and net profit, typical business costs, direct and indirect costs.
 - calculating tax and national insurance, to include:
 - requirements for the employed and self-employed, keeping business records.
 - public liability and music license fees, to include:
 - professional indemnity, public liability, personal accident, motor, cyber and data risk, home business insurance, playing music in public, music licenses.

9.2. Identify a typical product offer within an exercise and fitness facility and how an exercise and fitness instructor may be able to support this, to include:

- Examples of typical product offers such as water bottles, towels, sporting equipment and clothing.
- Being able to identify additional products that may interest customers.

- Identifying opportunities for offering additional products to customers.
- Understanding that offering additional products will potentially increase profitability, success, earning power and stimulate more interest.
- How to identify customer wants and needs.
- Communicating offers to target customers.

9.3. Describe the use of social media within a health and fitness business, to include:

- marketing/advertising
- gaining feedback
- members groups
- event organisation
- information sharing
- information gathering.

9.4. Identify how to set up a social media/digital profile, to include:

- Individual company policies regarding social media.
- Responsibilities of setting up a digital profile, including how to deal with negative comments and complaints.
- Understanding digital footprint.

Assessment specification

Providing a positive customer experience in the exercise environment (M/616/7824)

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Assessment element 7: Observation of summative strength-based training

For this unit, **learning outcome 4 'Be able to prepare and maintain the exercise environment'** will be assessed via observation as part of the preparation phase of the strength-based training element during the final summative observation

Paperwork provided by YMCA Awards will include:

- Assessor and learner guidance (summative strength-based training delivery).
- Summative observation record and feedback.

Lifestyle management and health awareness (K/616/7949)

Unit aim

This unit develops the knowledge an exercise and fitness instructor needs to promote a healthy and active lifestyle. This includes the importance of healthy eating and offering behaviour change strategies to support clients to adopt behaviours that will help to prevent a range of health conditions.

Unit content

The learner will:

1. Understand how to promote a healthy lifestyle

The learner can:

1.1. Define the components of health- and skill-related fitness, to include:

Health related fitness

- the components of total fitness:
 - emotional
 - social
 - physical
 - nutritional
 - mental
 - medical
 - spiritual.
- the components of physical fitness:
 - cardiovascular endurance
 - muscular strength
 - muscular endurance
 - flexibility
 - body composition.
- the interrelationship between the components of total fitness and those of physical fitness:

Skill-related fitness

- agility
- speed
- coordination
- reaction time
- balance
- power.

1.2. Describe the benefits of a healthy and active lifestyle, to include:

- Health behaviours which offer the greatest potential to improve health and reduce morbidity associated with chronic health conditions:
 - smoking cessation
 - reducing alcohol and drug misuse
 - diet/healthy eating (with an emphasis on fruit and vegetable consumption)
 - reducing inactivity
 - managing stress
 - improving the quality of sleep.
- Small changes to any of these health behaviours can lead to significant increases in life expectancy.

1.3. Describe the implications of obesity in the UK, to include:

- Current statistics regarding obesity including scale of the problem and forecasts for the future.
- Obesity is defined as 'abnormal or excessive fat accumulation that may impair health'. 'obesogenic environments' are places, often urban, that encourage unhealthy eating and inactivity. Cars, TVs, computers, desk jobs, high calorie foods and clever food marketing all contribute to inactivity and overeating and therefore obesity. Long working hours and desk bound jobs limit opportunities for activity during the working day.

1.4. Describe how physical activity/exercise can help prevent common health conditions:

Chronic conditions including:

- coronary heart disease
- stroke
- some cancers
- type 2 diabetes

- **hypertension**
- **obesity**
- **musculoskeletal conditions**
- **mental health conditions.**
 - Understanding that inactivity has been cited as a contributory factor for many chronic health conditions. Being physically inactive and leading a sedentary lifestyle is reported to have an impact on health and wellbeing equivalent to that of smoking.
 - Physiological benefits of activity, to include:
 - improving all body systems ie, muscular, skeletal, cardiovascular
 - stronger heart muscle, improved circulation
 - stronger bones and muscles
 - strengthening the immune system
 - assisting with the management of the above chronic diseases
 - cutting risk of premature death and the development of the above diseases
 - reduce risk of falls in older adults
 - improved functional capacity and the maintenance of independence (older people)
 - improved bone density
 - weight loss and weight management
 - psychological wellbeing
 - quality of life and general wellbeing.

1.5. Identify ways in which an exercise and fitness instructor could communicate the benefits of a healthy lifestyle to clients, to include:

- Approaching clients with relevant healthy lifestyle information that would benefit them.
- Know where to find reputable and evidenced based health and wellbeing advice for communicating the benefits of a healthy lifestyle to clients.
- Creating handouts and newsletters for clients and information boards in the gym based on research.
- Leading information sessions or seminars for clients on the benefits of making lifestyle and behaviour changes.
- Determining what information is relevant to the client, using details of client communications and collected information.
- Providing credible information to the client that is relevant to them, their goals and aspirations.

- Signposting clients to relevant products and services that may increase their capability or opportunity to make lifestyle and behaviour changes.
- Explaining how to include everyday physical activities as part of a client's lifestyle to complement exercise sessions.

1.6. Identify when an exercise and fitness instructor should refer a client to another professional regarding their health and wellbeing, to include:

- Instructor limitations.
- Seeking further information relating to client needs.
- Obtaining medical clearance.
- Alternative professional services that may be more appropriate or better support the client's needs.

1.7. Identify the relevant professionals an exercise and fitness instructor could refer a client to regarding their health and wellbeing, to include:

- examples of professionals and services, such as:
 - alcohol and smoking cessation and support services
 - alternative therapy practitioners
 - chiropractor/osteopath/physiotherapist
 - counselling services
 - dietitian
 - exercise referral instructors/schemes
 - self-help groups
 - specialist instructors eg, for low back pain, cardiac rehabilitation, falls prevention, mental health, obesity and diabetes
 - sports massage therapist/sports therapists
 - other qualified instructors eg, t'ai chi, yoga, Pilates, water-based class, walking/running group, personal trainers.

1.8. Describe how technology can assist in a client's journey towards a healthy lifestyle

- wearable technology, pedometers, mobile phone applications.

The learner will:

2. Understand the importance of healthy eating

The learner can:

2.1. Describe the national food model/guide, to include:

- The most current documentation on this subject. Please refer to the current national healthy eating guidelines from the government and Food Standards Agency.

2.2. Describe key healthy eating advice that underpins a healthy diet, to include:

- current national healthy eating guidelines from national food guides
- guidelines for a balanced diet including key nutrients and their sources
- portion sizes
- calorie consumption guidelines.

2.3. Explain the importance of adequate hydration, to include:

- dietary sources of water
- functions of water in the body, to include:
 - transport of nutrients
 - transit of waste
 - brain and body functioning
 - joint lubrication
 - body temperature regulation.

2.4. Explain professional role boundaries in relation to offering nutritional advice, to include:

- Giving advice in relation to the national current healthy eating guidelines.
- Giving nutritional advice to healthy individuals.
- Giving advice about healthy eating habits, but not about nutrition, for ill health or the use of dietary supplements.

2.5. Describe the energy balance equation, to include:

- Calories (energy) taken in versus calories burned as energy (out).
- Neutral energy balance – calories taken in are equal to the calories expended.
- Positive energy balance – more calories are taken in than expended and therefore weight is gained.
- Negative energy balance (energy deficit) – consuming fewer calories than the number of calories expended.

2.6. Explain the health risks of poor nutrition, to include:

- obesity
- diabetes
- coronary heart disease

- other lifestyle related illness and disease
- general effects on physiological and psychological functions
- effects on mental health and wellbeing
- effects on daily life such as low mood, lack of energy, effects on sleep
- the risks of fad diets that restrict calories, rely on processed foods or lack essential nutrients
- the risks of excess alcohol and caffeine.

The learner will:

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

The learner can:

3.1. Identify typical barriers to exercise/physical activity, to include:

- Understanding that a barrier is anything that could prevent a person from changing or maintaining their exercise behaviour.
- Physical barriers eg, cost.
- Emotional barriers.
- Motivational barriers (likes, dislikes).
- Time barriers.
- Social barriers.

3.2. Explain why it is important for a client to take personal responsibility for their own fitness and motivation, to include:

- achievement of goals
- increasing activities of daily living (ADL)
- maintenance of and adherence to the programme.

3.3. Identify behaviour change approaches/strategies to encourage adherence to exercise/physical activity, to include:

- theories that relate to clients' readiness to change and how these affect clients, such as:
 - motivational interview techniques
 - rewards
 - SMART goal setting
 - trans-theoretical model.

3.4. Describe how to set short, medium and long term SMART goals, to include:

- Initial goal setting.

- Client needs and aims.
- Disseminating a client's general needs and aims to write clear SMART goals that would help a client achieve their needs and aims.
- Breaking down long term goals into short and medium term goals.

3.5. Identify how to review and revise short, medium- and long term SMART goals, to include:

- Appropriate evaluation procedures.
- The importance of support and encouragement.
- The importance of agreeing and setting regular review dates appropriate to the client goals and time taken to achieve those goals.
- Recognising progress at regular intervals.
- Identifying what information to check at each interval, including which tests or measurements to make to measure success.

Assessment specification

Lifestyle management and health awareness (K/616/7949)

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- **Section C:** Lifestyle management and health awareness (K/616/7949).

All questions must be answered correctly. The work must be the learner's own and group completion is not allowed. This is an open book assessment and the questions refer to the content covered during the course. Information to aid completion can be delivered on the course or via eLearning.

The Assessment Workbook is available in the following formats:

- Paper based document (print via web shop).
- Y-Mark Assessment Workbook (digital auto marking) via Moodle.

To access further information regarding the Assessment Workbooks (print or digital versions) copy and paste the following link into your web browser (centre log in details will be required):

www.ymcaawards.co.uk/centre-resources/y-mark-digital-workbooks.

Plan and prepare strength and conditioning training (L/617/1461)

Unit aim

This unit covers the knowledge and skills a strength and conditioning trainer needs to plan and prepare strength and conditioning based exercise programmes for a range of participants within their scope of practice. This includes demonstrating effective communication to engage and fully support participants.

Unit content

The learner will:

1. Understand the professional role of the strength and conditioning trainer

The learner can:

1.1. Identify governing and/or professional bodies for:

- Strength and conditioning
 - UKSCA
 - International partners, such as NSCA, ASCA.
- A range of sports
 - Learners should be able to identify minimum of three UK sport's national governing bodies (NGB's), with at least one linked to personal involvement.

1.2. Outline the principles, values, and ethical codes for practice laid out by governing bodies and/or professional bodies for:

- Strength and conditioning
 - UKSCA.
- A sport national governing body

Learners need to identify examples of:

- Aims of the organisation in ensuring good practice of coaches
- Safeguarding
- Inclusion and diversity.

1.3. Describe how a strength and conditioning trainer can keep knowledge and skills up to date, to include:

- UKSCA CPD model
- Sport NGB example:
 - Criteria for both above to include:
 - Identify if a CPD points structure is available
 - Identify three ways in which CPD points can be accrued.

1.4. Identify opportunities and requirements for career progression in strength and conditioning, to include:

- Identify examples of levels of qualification progressions
- Identify examples of a career option for each level of qualification.

The learner will:

2. Understand how to promote participation in strength and conditioning

The learner can:

2.1. Describe the benefits of participating in a strength and conditioning programme for the following:

- Youth sport
- Adult recreational activities
- Performance sport
- Older adults' lifestyle activities.

2.2. Describe ways of promoting the benefits of participation in strength and conditioning, to include:

- Myth-busting – two examples of common myths about strength and conditioning that might act as barriers to participation.
- Presentations – an example of giving a presentation to provide accurate information for a target audience.
- Case studies – an example of an existing case study that could be used as an example of good practice.
- Scientific reports – an example of a journal article that could be used as a reference.

The learner will:

3. Understand how to plan an effective strength and conditioning session to meet the needs of the participant

The learner can:

3.1. Identify objectives for a strength and conditioning programme, including:

- Foundation movement skills
- Energy systems training
- Strength
- Muscular endurance
- Speed and agility.
 - For each objective give examples of why these might be of benefit

3.2. Explain why it is important to agree goals and objectives for strength and conditioning with participants, to include:

- Identify specific training objectives
- Identify training preferences
- Identify time available for training
- Select appropriate training systems and exercises
- Provide effective motivational tools.

3.3. Identify a range of environments and equipment for training individuals and groups to develop the following:

Include a minimum of two examples of environments for each of the following:

- Foundation movement skills
- Energy systems training
- Acceleration, deceleration and change of direction
- Resistance training.

3.4. Describe the benefits of:

- Foundation movement skills:
 - Mobility/flexibility – learners to be able to differentiate
 - Balance
 - Coordination

- Movement competency and technical development to progress to effective resistance training.
- Energy systems training:
 - Aerobic:
 - General health
 - Performance.
 - Anaerobic:
 - General health
 - Performance.
- Acceleration, deceleration and change of direction:
 - Reducing the risk of injury
 - Improving performance.
- Resistance training:
 - Muscular endurance
 - General anatomical adaptation
 - Technical development
 - Hypertrophy
 - Muscular strength
 - Explosive strength.

3.5. Outline the structure of a strength and conditioning session, to include:

- Identify the objective of the session
- Warm up content – appropriate movements according to RAMP (Raise, Activate, Mobilise, Potentiate) protocol and determined by specific session content
 - Specific session content
 - Session conclusion.

3.6. Outline how a strength and conditioning programme might be adapted to meet the needs of a range of participants, including:

- Older people
 - Three examples.
- Ante/postnatal:
 - Three examples of antenatal considerations
 - Three examples of postnatal considerations.
- Young people (prepubescent, pubertal, and adolescent):

- Three examples of prepubescent considerations
- Three examples of considerations around peak height velocity (PHV) including at least one that recognises gender differences.

3.7. Outline the principles of behaviour management for effective group coaching for:

- Adults:
 - Five factors for consideration.
- Children (5-11) (11-18):
 - 5-11: three factors for consideration
 - 11-18: three factors for consideration.

The learner will:

4. Understand the importance of adapting communication techniques when dealing with customers with differing needs

The learner can:

4.1. Identify the most appropriate ways of communicating with participants to meet their needs considering background, culture, and experience, to include:

- Use of phones or the internet to communicate in advance
- In-person consultations
- Consideration of physical impairments
- Consideration of cultural influences on activities and attire
- Identify how training history and training objectives will affect communication techniques.

4.2. Explain how non-verbal behaviour and environment can affect the behaviour of participants, to include:

- Personal presentation
- Condition of the facility and equipment
- Other users.

The learner will:

5. Understand how to collect information to plan a strength and conditioning programme

The learner can:

5.1. Identify different methods to collect participant information, appropriate to the individual, including:

- PARQ/PARQ+
 - adult
 - youth.
- Questionnaire
- Interview/consultation
- Informed consent
- Observation
- Fitness testing/physical measurements.

5.2. Explain the importance of following protocols for screening participants prior to strength and conditioning training

5.3. Identify risk stratification models that can be utilised by a strength and conditioning trainer, to include:

- Initial ACSM Risk Stratification
- Morgan and Irwin.

5.4. Identify the variables that can be used when risk-stratifying participants

5.5. Explain what is meant by low, medium, and high risk

5.6. Identify methods of supporting participants in overcoming barriers towards exercise, to include:

- Identify concerns and prior experience
- Goals and objectives
- Identify education strategies
- Incentives, rewards and tracking systems.

5.7. Identify the importance of safely storing participants' information

The learner will:

6. Understand how to use participants' information to plan a strength and conditioning programme

The learner can:

6.1. Give examples of how participants' information affect the planning of strength and conditioning training, to include:

- Medical issues
- Age
- Training history
- Time available
- Goals and objectives
- Personal qualities (for example: confidence and positivity)
- Training preferences.

6.2. Identify the reasons for temporary deferral of exercise

6.3. Describe why it is important to have information on a participant's sleep pattern, to include:

- The impact of poor sleep on food choices
- The impact of poor sleep on the immune system
- The impact of poor sleep on activity levels
- The impact of poor sleep on response to aerobic exercise
- The impact of poor sleep on strength training.

6.4. Identify the minimum sleep recommendations for different stages of maturation, to include:

- The sleep council's 'seven stages' guidelines.

6.5. Give examples of how a participant can improve their sleep habits, to include:

- Sleep diary
- Sleep tracking devices
- Five positive habits to cover the following:
 - Bedtime environment
 - Lifestyle
 - Food and drink habits.

The learner will:

7. Be able to collect information to plan a strength and conditioning programme for a range of participants

The learner can:

7.1. Use appropriate methods to collect information to plan strength and conditioning programmes, including:

- Lifestyle questionnaire
- PARQ/PAR-Q+
 - For adults
 - For youths.
- Informed consent (Parental consent for youth participants)
- Physical assessments
 - Height, weight, BMI
 - Two methods to identify energy systems training objectives
 - At least four exercises to monitor muscular endurance or strength. One from each of:
 - Lower body dominant
 - Pull - upper body dominant
 - Push – upper body dominant
 - Trunk strength.

7.2. Identify assessment and monitoring strategies for establishing stage of maturation for youth participants, to include:

- Physical assessments - height and seated height
- Use of available formulae to determine predicted peak height velocity
- Use of Youth Physical Development model to identify appropriate training protocols.

7.3. Use effective communication methods to engage and fully support the participant, to include:

- Personal presentation
- Smiling
- Introduction
- Explanation
- Questioning and listening.

7.4. Identify participant needs and any possible risks from participation in a strength and conditioning programme, signposting when required, to include:

- Needs ie, summarise physical activity history, likes/dislikes and goals
- Risks ie, summarise areas of concern and how to address these
- Signposting ie, give examples of participant needs that would require referral to an Accredited S&C coach or allied professional.

7.5. Maintain client confidentiality, to include:

- Eight principles of the Data protection Act 2018.

7.6. Interpret individual participant information and agree objectives

7.7. Suggest other activities to complement their programme according to interests

7.8. Plan how to minimise risks relevant to the programme, to include:

- Facility layout and equipment storage
- Handling and use of equipment
- Technical understanding and demonstration.

The learner will:

8. Be able to use participant information to plan a strength and conditioning session

The learner can:

8.1. Set short, medium- and long term SMART goals for a range of training objectives, to include:

- Improving fundamental movement skills:
 - Identify three specific movements for development
- Improving lifting technique:
 - Identify one exercise from the each of the following categories:
 - Lower body dominant
 - Pull – upper body dominant
 - Push – lower body dominant
 - Trunk strength.
- Increasing muscular endurance:
 - Identify primary objectives for increasing muscular endurance.
 - Identify how progress will be monitored, using one exercise from the each of the following categories, as is appropriate for the client:

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- Lower body dominant
 - Pull – upper body dominant
 - Push – lower body dominant
 - Trunk strength.
- Changing body composition:
 - Identify the participant’s primary goal (can be both):
 - Reduce body fat
 - Increase lean body mass.

Identify available options and limitations for measuring progress.

- Increasing strength:
 - Identify primary objectives for increasing strength.
 - Identify how progress will be monitored, using one exercise from the each of the following:
 - Lower body dominant
 - Pull – upper body dominant
 - Push – lower body dominant
 - Trunk strength.
- Improving energy systems:
 - One example using either a continuous or interval training protocol to improve performance in a selected energy systems training assessment.
- Improving acceleration and change of direction ability:
 - Identify an appropriate activity for monitoring acceleration and change of direction.

8.2. Select appropriate exercises according to training objectives

8.3. Plan realistic timings and sequence of exercises

8.4. Record programme plans in an appropriate format, professionally presented

8.5. Identify the importance of reviewing programmes at regular intervals and set review dates accordingly

Assessment specification

Plan and prepare strength and conditioning training (L/617/1461)

Assessment element 3: Knowledge questions

The learner will be required to answer externally set knowledge questions. These can be found in the LAR.

All questions and learner responses must be recorded and internally assessed.

Pass mark is 100%.

Paperwork provided by YMCA Awards will include:

- Knowledge questions.

Assessment element 4: Participant consultation record

The learner will be required to conduct a participant consultation in their own time (this assessment element is not observed by the assessor) with the following:

- A healthy adult, filling out all the relevant paperwork
- A youth participant, following appropriate protocols including obtaining parental/guardian consent and filling out all the relevant paperwork (see appendix).

Paperwork provided by YMCA Awards will include:

Consultation:

- Participant consultation record
- PAR-Q
- Informed consent.

Assessment element 5 Programming for participant

The learner must complete a programme card for an external participant of their choice. This should be relevant to the information that is gathered in the consultation as part of assessment element 4 (the same participant should also be used for assessment element 7).

The written plans should include:

- 20 minute foundation movement skills sessions, including an appropriate RAMP (for Raise, Activate, Mobilise, Potentiate) warm up and an example of each of the following movements:
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- Squat
 - Lunge
 - Hinge
 - Rotate
 - Jump
 - Running development
 - Quadrupedal
 - Push.
- **Energy systems training plan:**
 - Two assessment protocols (one maximal, one sub maximal).
 - Two specific sessions, to include the following:
 - Shuttle-run session
 - Sne equipment based session from the following:
 - Rowing machine
 - Air bike
 - Treadmill
 - Upright cycle
 - Cross trainer/elliptical trainer/stepper.
- **Strength-based training session**
 - RAMP warm up (6-8 minutes)
 - Strength-based training – minimum of nine exercises:
 - Two explosive exercises:
 - One jump
 - One throw.
 - Six strength or muscular endurance exercises:
 - One bilateral lower body dominant
 - One unilateral lower body dominant
 - Two pull
 - One vertical press
 - One push

- One trunk strength exercise.
- Session conclusion.

The planned duration of the programme should be a minimum of 45 minutes, maximum 60 minutes.

The learner should be assessed against the learning outcomes detailed on:

- Programming for client assessment record and feedback (assessor).

Therefore, prior to assessment, assessor and learner should make themselves familiar with the guidance in:

Assessor and learner guidance (programming).

Note: See the list of designated lifts in appendix.

Paperwork provided by YMCA Awards will include:

- Planning and programming documents:
 - Assessor and learner guidance (plan)
 - Strength and conditioning programme plan
 - Assessment record (assessor).

Assessment element 6: On-course observation and practical delivery of strength and conditioning protocols

This assessment element is a combined assessment (covers learning outcomes for more than one unit) for the following units:

- **Providing a positive customer experience in the exercise environment**
- **Plan and prepare strength and conditioning training**
- **Delivering Strength and Conditioning sessions.**

The learner will be required to prepare for and deliver a number of strength and conditioning protocols to a combination of individuals and groups (minimum of three people and maximum five for group).

Note: All 3 assessments do not have to be completed on the same day

These sessions must be observed by a tutor/assessor and can be taught using peers from the course.

The learner should be assessed against the following:

1. **On-course assessment of foundation movement skills (five minutes small group micro-coach) – assessment record.**
2. **On-course assessment of energy systems training (including consultation) assessment record.**
3. **On-course assessment of strength-based training (small group coaching) assessment record.**

The learner and assessor need to familiarise themselves with these records to ensure all the areas required for the assessment are covered. The learner should only be put forward for assessment when the tutor deems that they are ready.

The learner will need to pass this assessment element before you can move on to assessment element 7.

Foundation movement skills

The learner should be observed delivering a foundation movement skills session to a **group** of participants (three minimum five maximum). Participants can be peers from the course.

- 20 minute foundation movement skills sessions, including an appropriate RAMP warm up and examples of each of the following movements:
 - Squat
 - Lunge
 - Hinge
 - Rotate
 - Jump
 - Running development
 - Quadrupedal
 - Push.

Energy systems training (EST)

The learner will be observed by the tutor/assessor/peer conducting a participant consultation (including completing the relevant paperwork) with a healthy adult age 16 or over utilising the screening and consultation forms. **EST assessments chosen during consultation must be relevant to the participant and their goals (minimum of two assessments selected).** The participant can be a peer from the course. The peer will also be required to offer feedback to the learner regarding the administration of the EST assessment. The learner should be assessed against the 'on-course assessment of energy systems training observation record'. The learner and assessor needs to familiarise themselves with this form.

The consultation and energy systems training must be completed in one session.

The learner should be observed delivering an EST assessment and training session. This should be a paired, peer session, with pairs randomly assigned by the tutor/assessor to use the following protocols:

- Shuttle run
- Equipment based session assigned from one of the following:
 - Rowing machine
 - Air bike
 - Treadmill

- Upright cycle
- Cross trainer/elliptical trainer/stepper.

The learner will be required to select an **appropriate** EST assessment protocol for their partner, measure their performance, and design an EST session that the learner will then deliver. The learner will be required to effectively induct the participant in the use of the equipment.

Strength-based training

The learner will be observed delivering strength-based exercises to a group of participants (three minimum five maximum). Participants can be peers from the course.

Four exercises must be selected, one from each category:

- Lower body dominant (bilateral or unilateral)
- Pull
- Push
- Trunk.

Note: See the designated lifts to choose from in appendix.

Paperwork provided by YMCA Awards will include:

- On-course assessment of foundation movement skills record
- On-course energy systems training consultation form and programme card
- On-course energy systems training consultation form and programme card assessment record
- On-course assessment of strength-based training assessment record.

Delivering strength and conditioning training (R/617/1462)

Unit aim

This unit covers the knowledge, understanding and skills needed to supervise and train participants using a range of strength and conditioning exercises. Inclusive of:

- Foundation movement skills
- Selected resisted movements for strength-based training
- Energy system training protocols and high intensity running-based activities including acceleration, deceleration and change of direction.

This will allow the strength and conditioning trainer to apply this knowledge in an individual and group setting.

Unit content

The learner will:

1. Be able to instruct foundation movement skills

The learner can:

1.1. Identify safe and effective alignment for a range of basic movement patterns, including identified versions of:

- Squat
- Lunge
- Hinge
- Jump
- Quadrupedal
- Push
- Rotations
- Pulls
- Running based activity.

1.2. Demonstrate different methods of adapting the movement patterns to address common restrictions, to include:

Including and not limited to:

- Squat: explain the relationship between stance width, range of motion and trunk position
- Lunge: forming a 'base' position with the half-kneeling split squat
- Hinge: understand how to address a tendency to flex through the spine rather than hinge at the hip whilst maintaining the natural lumbar curve.

1.3. Ensure appropriate progressions and/or regressions are implemented where required.

1.4. Demonstrate how to safely develop client coordination to include appropriate progressions of intensity and complexity, to include:

Learners to be able to demonstrate:

- A sequence of all lunge variations, progressing in complexity
- A sequence of at least five exercises, each from a different foundation movement category.

The learner will:

2. Be able to deliver an effective warm up for a range of activities

The learner can:

2.1. Demonstrate an effective warm up using combinations of fundamental movement skills

2.2. Use warm up activities that contribute to achieving specific exercise goals, to include:

- Learners must select exercises in the warm up that will enhance technical performance in the main body of the session
- Learners should explain to the participant the link between warm up movements and the exercises selected for the main body of the session.

The learner will:

3. Be able to effectively provide an energy systems training session

The learner can:

3.1. Prepare self, the area, and equipment for energy systems training, to include:

- The learner has appropriate session plans, RPE sheets, writing materials and clipboard
- The area is prepared for the activity. If other users are present, they are aware of how the session will be conducted

- For running based activity, distances are clearly marked with lines and/or cones. When using other equipment such as rowing machines, they are checked prior to use and set up in a way that facilitates effective session management.

3.2. Apply shuttle run and equipment based assessment to establish energy system training objectives, to include:

- Use an advised assessment method to determine individual performance levels in a group setting for:
 - running based field test (shuttle run)
 - equipment based test such as rower or air bike.

3.3. Lead an energy system training session, to include:

- Following the assessment, use the individual scores to calculate each group member's training intensity for a group session.

The learner will:

4. Be able to deliver a strength and conditioning training session

The learner can:

4.1. Prepare self and equipment for a strength and conditioning training session according to the participant needs

4.2. Engage participant from the outset using:

- effective verbal and non-verbal communication
- a positive attitude
- professional presentation:
 - Clothing – neutral sportswear; shorts or leggings that allow for clear demonstration of joint alignment. No headwear or replica kit.
 - Body art – learner to consider whether visible tattoos and/or piercings might be intimidating to some members of the population, and how to mitigate this.

4.3. Perform a verbal health check prior to starting the session, with reference to a recent and detailed PAR-Q, to include:

- Identify any changes to health and injury status since PAR-Q or last session.

4.4. Outline the facility's emergency procedures, to include:

- Fire exits and meeting point, fire alarm protocols
- First aid point and/or identified first aider
- Facility emergency contact (staff member).

4.5. Give explanations and demonstrations that are technically correct, to include:

- Safe and effective alignment of exercise positions
- Accurate use of equipment.

4.6. Demonstrate safe and effective exercises for all components of a strength and conditioning session, inclusive of:

- Warm up using an appropriate RAMP combination and progression of foundation movement skills:
 - squat
 - lunge
 - hinge
 - rotate
 - running development
 - + 1 of any other category.
- Two explosive exercises:
 - one jump
 - one throw.
- Six strength-based exercises:
 - one lower body dominant (LBD) bilateral
 - one lower body dominant (LBd) unilateral
 - one pull
 - one vertical press
 - one push
 - one trunk strength exercise.
- Session conclusion:
 - moderate-low intensity aerobic activity
 - flexibility/mobility
 - session observations, feedback and reflection.

4.7. Adapt strength-based exercises to ensure appropriate progression and/or regression

4.8. Engage with the participant throughout, checking understanding at regular intervals

4.9. Adopt appropriate positions to observe the participant and respond to their needs

- 4.10. Use motivational styles and provide supportive feedback appropriate to the participant and the exercise format**
- 4.11. Engage with the participant, ensuring the environment is left in a condition acceptable for future use, to include:**
- Involve the participant in set up and storage of equipment for every exercise
 - Reinforce positive gym etiquette throughout the session.

The learner will:

5. Be able to reflect on providing a strength and conditioning session

The learner can:

- 5.1. Give the participant the opportunity to reflect on the session**
- 5.2. Review the outcomes of the session, taking into consideration feedback from the participant**
- 5.3. Identify:**
- How the participant responded to the exercises
 - How effective and motivational the relationship with the participant was
 - The safety and effectiveness of the programme and exercises.
- 5.4 Identify how to improve personal practice for future sessions**
- 5.5. Explain the value of reflective practice**

Assessment specification

Delivering Strength and Conditioning Training (R/617/1462)

Assessment element 6: On-course observation and practical delivery of strength and conditioning protocols

This assessment element is a combined assessment (covers learning outcomes for more than one unit) for the following units:

- **Providing a positive customer experience in the exercise environment**
- **Plan and prepare strength and conditioning training**
- **Delivering Strength and Conditioning sessions.**

The learner will be required to prepare for and deliver a number of strength and conditioning protocols to a combination of individuals and groups (minimum of three people and maximum five for group).

Note: All 3 assessments do not have to be completed on the same day

These sessions must be observed by a tutor/assessor and can be taught using peers from the course.

The learner should be assessed against the following:

1. **On-course assessment of foundation movement skills (five minutes small group micro-coach) – assessment record**
2. **On-course assessment of energy systems training (including consultation) assessment record**
3. **On-course assessment of Strength-based training (small group coaching) assessment record.**

The learner and assessor need to familiarise themselves with these records to ensure all the areas required for the assessment are covered. The learner should only be put forward for assessment when the tutor deems that they are ready.

The learner will need to pass this assessment element before you can move on to assessment element 7.

Foundation movement skills

The learner will be observed delivering a foundation movement skills session to a **group** of participants (three minimum five maximum). Participants can be peers from the course.

- The learner must deliver a minimum of 5 minutes of a 20 minute foundation movement skills sessions, including an appropriate RAMP warm up and examples of each of the following movements:
 - Squat

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- Lunge
- Hinge
- Rotate
- Jump
- Running development
- Quadrupedal
- Push.

Energy systems training (EST)

The learner should be observed by your tutor/assessor/peer, conducting a participant consultation (including completing the relevant paperwork) with a healthy adult age 16 or over utilising the screening and consultation forms. **EST assessments chosen during consultation must be relevant to the participant and their goals (minimum of two assessments selected).** The participant can be a peer from the course. The peer will also be required to offer feedback to the learner regarding the administration of the EST assessment. The learner should be assessed against the 'on-course assessment of energy systems training observation record'. The learner and assessor will need to familiarise themselves with this form. **The consultation and energy systems training must be completed in one session.**

The learner should be observed delivering an EST assessment and training session. This should be a paired, peer session, with pairs randomly assigned by the tutor/assessor to use the following protocols:

- Shuttle run
- Equipment-based session assigned from one of the following:
 - Rowing machine
 - Air bike
 - Treadmill
 - Upright cycle
 - Cross trainer/elliptical trainer/stepper.

The learner will be required to select an appropriate EST assessment protocol for their partner, measure their performance, and design an EST session that the learner will then deliver. The learner will be required to effectively induct the participant in the use of the equipment.

Strength-based training

The learner will be observed delivering strength-based exercises to a group of participants (three minimum five maximum). Participants can be peers from the course.

Four exercises must be selected and delivered, one from each category:

- Lower body dominant (bilateral or unilateral)

- Pull
- Push
- Trunk.

Note: See the designated lifts to choose from in appendix

Paperwork provided by YMCA Awards will include:

- On-course assessment of foundation movement skills record
- On-course energy systems training consultation form and programme card
- On-course energy systems training consultation form and programme card assessment record
- On-course assessment of strength-based training assessment record.

Assessment element 7: Observation of summative strength-based training delivery

This assessment element is a combined assessment (covers learning outcomes for more than one unit) for the following units:

- **Providing a positive customer experience in the exercise environment**
- **Plan and prepare strength and conditioning training**
- **Delivering Strength and Conditioning sessions.**

The learner will be required to deliver a strength-based session which will be observed by an assessor. This assessment **must be conducted in one session.**

The learner is required to bring a participant (individual) with them who is an apparently healthy adult age 16 or over (where possible, the same participant as they provided a consultation and plan for).

The learner will be assessed against the **Summative strength-based training observation – assessment record.**

The learner and assessor need to familiarise themselves with this record to ensure they cover all the areas required for the assessment.

The sections on the record are:

Preparing, delivering and evaluating a strength-based session

The learner should be observed delivering the elements of the planned session. These will include:

- Appropriate warm up.

The warm up must follow a RAMP protocol and include the following foundation movements:

- Squat
- Lunge
- Hinge
- Rotate

- Jump
- Running development
- + 1 from: quadrupedal, pull, push.
- **One (1) exercise from each of the following chosen by the assessor:**
 - Explosive exercises:
 - One Jump
 - One throw.
 - Strength-based exercises:
 - One bilateral lower body dominant
 - One unilateral lower body dominant
 - One vertical press
 - One pull exercise
 - One push exercise
 - One trunk strength exercise.
- Session conclusion:
 - Moderate-low intensity aerobic activity (minimum three minutes, maximum four minutes)
 - Flexibility/mobility
 - Identify flexibility/mobility improvements to improve at least one foundation movement. Review key technical points and facilitate low intensity rehearsal, providing supplementary exercises where appropriate.

Note: See the list of designated lifts in appendix.

The exercises selected must be different from those chosen for the assessment in previous element (element 6).

Once the assessor has chosen the exercises they wish to see the learner demonstrate/deliver, the learner should be given a minimum of 5 mins, maximum of 10 mins to complete the strength –based programme overview and programme card (summative observation) programme card and prepare the environment.

Supporting the participant using effective communication

The learner should be observed supporting the participant using appropriate and effective communication skills. This section relates to support the learner gives throughout the whole session.

Evaluation

The learner should complete the session evaluation forms after gaining feedback from the participant.

The observed strength-based session should last a minimum of 45 and maximum of 60 minutes.

Paperwork provided by YMCA Awards will include:

- Assessor and learner guidance (summative strength-based delivery)
- Summative observed strength-based training programme card
- Self-evaluation
- Summative strength-based training observation – assessment record.

Appendix 1

List of foundation movements, strength-based exercises and explosive activities to be used for learning and assessments

Foundation Movements	
Squat patterns	<ul style="list-style-type: none">• Squat – hands on head• Counter-balance squat• Gorilla squat
Hinge	<ul style="list-style-type: none">• Hinge – hands on knees• Hinge A, T, W and Y positions
Lunge	<ul style="list-style-type: none">• ½ kneeling split squat• Alternate linear lunge• Lateral lunge• Rotating (135°) Lunge• Reverse crossover lunge
Jump	<ul style="list-style-type: none">• Jump Position to full extension• Jump and stick• Counter movement jump (CMJ)• Horizontal Progressions:<ul style="list-style-type: none">○ 2 to 2○ 1 to 2○ 2 to 1

	<ul style="list-style-type: none"> ○ 1 to opp.1 ○ 1 to 1.hop 		
Quadrupedal	<ul style="list-style-type: none"> • Basic cat • Dynamic Cat • Pouncing Cat • Push up Plank • Cat walk 		
Push	<ul style="list-style-type: none"> • Push up • Modified push ups 		
Pull	<ul style="list-style-type: none"> • Hang • Monkey bar progressions 		
Rotations	<ul style="list-style-type: none"> • Hip Rolls • Thoracic clams 		
Running development	<ul style="list-style-type: none"> • Heel-toe walk • March • Skip • Lateral shuffle • Split stance start • Bilateral stop • Split stance stop • 180° turn 		
Strength-based Exercises and Explosive Activities			
		Muscle Groups	Concentric Actions
Bilateral squat	<ul style="list-style-type: none"> • Back squat • Overhead Squat • Front Squat • Goblet Squat 	<ul style="list-style-type: none"> • Gluteus maximus • Quadriceps • Gastrocnemius • Soleus 	<ul style="list-style-type: none"> • Hip extension • Knee extension • Plantarflexion • Plantarflexion
Bilateral Hinge Pulls	<ul style="list-style-type: none"> • Deadlift 	<ul style="list-style-type: none"> • Gluteus maximus 	<ul style="list-style-type: none"> • Hip extension

	<ul style="list-style-type: none"> • Trap bar deadlift • Romanian deadlift (RDL) 	<ul style="list-style-type: none"> • Hamstrings • Quadriceps 	<ul style="list-style-type: none"> • Hip extension • Knee extension
Unilateral – Lower body dominant (LBD)	<ul style="list-style-type: none"> • Split squat • Bulgarian split squat • Lunge • Step up 	<ul style="list-style-type: none"> • Gluteus maximus • Quadriceps • Gastrocnemius • Soleus 	<ul style="list-style-type: none"> • Hip extension • Knee extension • Plantarflexion • Plantarflexion
Push and vertical press Upper body dominant (UBD)	<ul style="list-style-type: none"> • Push up • Resisted push up • Bench press • Dumbbell bench press • Strict press (from behind) • Strict press (from front) • Dumbbell strict press • ½ Kneeling press 	<ul style="list-style-type: none"> • Pectoralis major • Anterior deltoids • Triceps brachii • Deltoids • Triceps brachii 	<ul style="list-style-type: none"> • Shoulder horizontal flexion • Shoulder horizontal flexion • Elbow extension • Shoulder abduction • Elbow extension
Push – whole body explosive	<ul style="list-style-type: none"> • Push press (from behind) • Push press (from front) • Dumbbell push press 		
Pulls – Upper body dominant (UBD)	<ul style="list-style-type: none"> • Suspension row progressions • Inverted rows • Bent over rows • Chin ups 	<ul style="list-style-type: none"> • Latissimus dorsi • Posterior deltoids • Biceps brachii • Rhomboids • Mid trapezius 	<ul style="list-style-type: none"> • Shoulder extension • Shoulder extension • Elbow flexion • Shoulder girdle retraction • Shoulder girdle retraction
	<ul style="list-style-type: none"> • Pull ups • Assisted pull ups 	<ul style="list-style-type: none"> • Latissimus dorsi • Biceps brachii 	<ul style="list-style-type: none"> • Shoulder adduction • Elbow flexion
Explosive exercises	<p>Foundation movements:</p> <ul style="list-style-type: none"> • Jump and stick • Counter movement jump (CMJ) • Broad jump • Split stance start 		

	<p>Medicine ball exercises:</p> <ul style="list-style-type: none"> • Caber toss • Supine throw from chest • Supine overhead throw • Rotational throw
<p>Trunk Strength</p>	<ul style="list-style-type: none"> • Plank • Side plank • Reverse plank • Deadbug • Superman • Barbell rollouts • Back extension • Back extension hold • Side hold

Appendix 2 Centre requirements for delivery (equipment)

Essential	Desirable
<ul style="list-style-type: none">• Designated lifting area• Floor area for ground work• Appropriate storage for all equipment• Squat rack• Wooden dowel or equivalent• Barbells – technique bar, 15kg Olympic bar and 20kg Olympic bar• Bumper plates – technique (2.5kg and/or 5kg), 10kg• Clips• Dumbbells and/or kettlebells, appropriate selection for the participant• Pull up bar• Suspension trainer (rings would be suitable)• Mats• Bench or benches suitable for supine pressing, partner assisted trunk training and Bulgarian split squats.	<ul style="list-style-type: none">• Lifting platforms• Rig with monkey bars• Trap bar• Full bumper plate selection• Dumbbells and kettlebells.



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