Specification

Level 2 Certificate in Gym Instructing

Qualification Number: 603/3502/6

CIMSPA Endorsed | Professional Standards

Innovate Awarding is an Ofqual regulated awarding organisation with an innovative and dynamic approach. We develop off-the-shelf, customised and fully bespoke qualifications across a growing number of sectors – all on the Regulated Qualifications Framework (RQF).

Our portfolio is always growing, and we currently have qualifications in the following sectors:

Active Leisure	**Health and Social Care**
Business and Management	**Hospitality and Catering**
Childcare	**IT**
Employability	**Logistics**
Retail	**Education and Training**

We currently offer over 100 qualifications and we're continuously developing and diversifying our portfolio. Please visit our website regularly to keep up-to-date www.innovateawarding.org

This document will be updated if there are any changes so it is important to make sure you are working from the most up-to-date version, which is available to download from our website.

This specification also provides details on administration, quality assurance policies and the requirements as well as responsibilities that are associated with the delivery of vocational qualifications.

Innovate Awarding is recognised as an awarding organisation by the following qualifications regulators – Ofqual (England).

If you have any questions regarding qualifications in general, aspects of specific qualifications or our quality assurance policies and procedures, visit our website where a lot more information is available.

If you cannot find what you are looking for on our website, please call or email our customer support team:

Telephone: 0117 314 2800

Email: contactus@innovateawarding.org

"We work with a wide variety of organisations such as employers, training providers, FE colleges and Sector Skills Councils and develop off-the-shelf, customised and bespoke qualifications."

Qualification summary

Qualification Accreditatic Number (QAN)	603/3502/6
Qualification review date	31st August 2023
Guided Learning Hours (GLH)	Minimum 125 hours
Total Qualification Time (TQT)	203 hours
RQF level	Level 2
Qualification credit value	20 credits
Minimum credits at/above level	20 credits
Assessment requirements	Portfolio of Evidence, Multiple Choice Examination. The unit "A/617/1178 Anatomy and Physiology for Exercise" is assessed by externally assessed Multiple Choice Question (MCQ) examination. Centres will find documentation on how to deliver MCQ examinations on the QuartzWeb portal. The MCQ test consists of 40 questions. The learner must achieve a score of 24/40 to achieve a pass. This equates to 60%. The learner will have 60 minutes to complete the test. Remaining units are internally assessed and internally quality assured by Centre staff and externally quality assured by Innovate Awarding External Quality Advisors (EQAs).
Aims and objectives of the qualification	The objective of this qualification is to provide learners with the skills and knowledge to engage, facilitate, educate and support clients in the gym environment. Focusing on key areas such as: understanding anatomy and physiology elements for exercise, maximising the clients experience within an exercise environment whilst encouraging clients to establish a healthier lifestyle and to understand the importance of physical activity.

Entry guidance	This qualification is suitable for those who work or wish to work within the active leisure sector. Some experience of gym-based exercises would be beneficial.
Progression opportunities	This qualification is designed for individuals aged 16 over who want to complete an industry-recognised qualification and pursue a career within the sector. This qualification outlines the role and scope of a Gym Instructor and the essential knowledge and skills that are needed to meet the requirements of membership with CIMSPA. Learners who achieve this qualification could progress into employment within a gym or leisure organisation. On completion of this qualifications, learners can develop their knowledge and skills further with additional qualifications such as: • IAO Level 3 Diploma in Personal Training
Professional recognition	The agreed industry prerequisite to become a Gym Instructor is to have achieved a CIMSPA endorsed educational product that meets the requirements for membership of CIMSPA.
Funding	For details on eligibility for government funding please refer to the following websites: http://www.education.gov.uk/section96/ https://www.gov.uk/government/organisations/education-and-skills-funding-agency

Innovate Awarding

When you work with Innovate Awarding, you're working with an awarding organisation that sets itself apart – a dynamic company with a collaborative approach to doing business. We're consultative and innovative…everything that our customers say they want an awarding organisation to be.

We're easy to work with, committed and passionate about exceeding our customers' expectations. We're not tied down by bureaucracy and red tape and can think outside the box and respond quickly to our customers' needs.

We have a Performance Pledge that details guaranteed response times. Copies of these can be found on our website www.innovateawarding.org.

Feedback

Your feedback is very important to us. We're always open to suggestions when it comes to enhancing and improving our services, products and systems. Email us at contactus@innovateawarding.org or call us on 0117 314 2800.

Complaints

If we do get things wrong, we will make every effort to resolve your issues quickly and efficiently. If you'd like to raise a formal complaint, then we recommend you read our Complaints Procedure which can be found on our website.

Fees

Our fees structure is transparent and straightforward. Our fees are published on our website in a clear format with no hidden charges. Unlike other awarding organisations, we do not charge an annual centre fee. Visit our website to compare our fees.

Enquiries and appeals

We recognise that sometimes decisions are made that a centre (or learner) may wish to appeal. We have an Enquiries and Appeals Policy and Process on our website that sets out guidelines on grounds for appeal and the process.

Data Protection

Innovate Awarding takes the protection of data seriously; we have a data protection statement outlining how we and our centres, comply with the current legislation on data protection. This statement can be found on our website.

Equality and Diversity

Innovate Awarding is committed to giving everyone who wants to gain one of our qualifications an equal opportunity of achieving it in line with current UK legislation (Equality Act 2010) and EU directives.

Centres are required, as conditions of approval, to use an equality and diversity policy that works together with ours and that they maintain an effective complaint and appeals process. We expect centres to tell learners how to find and use their own equality and diversity and appeals processes. For information, please visit our website.

Reasonable Adjustment and Special Consideration

All learners must be treated fairly and equally and be given every opportunity to achieve our/the qualifications. A copy of our policy on Reasonable Adjustments and Special Considerations, and application form, can be found on our website.

Malpractice and Maladministration

Innovate Awarding has a responsibility to do everything it can to prevent any malpractice or maladministration from occurring, and where it has already occurred, ensuring action is taken proportionate to the gravity and scope of the occurrence.

A copy of our policy and procedure on Malpractice and Maladministration is available on our website.

Recognition of Prior Learning (RPL)

RPL recognises how the contribution of a learner's previous experience could contribute to a qualification or unit. Innovate Awarding have produced guidance on RPL and this can be found within our Information and Guidance for Centres on our website.

Please note the above is not a comprehensive guide to running IAO qualifications. Once approved centres must adhere to the Centre Agreement and Information and Guidance for Centres.

The Regulated Qualifications Framework (RQF)

What is the RQF?

The Regulated Qualifications Framework (RQF) is an Ofqual regulated system of cataloguing qualifications. Qualifications on the RQF can be found by their size or level. Qualifications at a given level can differ depending on their content and purpose.

All of Innovate Awarding's qualifications are on the RQF.

Qualification Level

The level reflects the challenge or difficulty of the qualification. There are eight levels of qualification from 1 to 8, supported by three "Entry" levels.

Qualification Size

The size of a qualification reflects the estimated total amount of time it would take the average learner to study and be assessed. The size of a qualification is expressed in terms of Total Qualification Time (TQT). The time spent being taught or supervised, rather than studying alone, is the Guided Learning Hours (GLH).

Qualifications can sit at different levels, but require similar amounts of study and assessment. Similarly, qualifications at the same level can take different amounts of time to complete.

Credit values

Every unit and qualification on the RQF has been given a credit value, which denotes the number of credits that will be awarded to each candidate who successfully completes the unit or qualification.

- **1** credit represents **10** notional learning hours

Notional learning hours represent the amount of time a learner is expected to take, on average, to complete the learning outcomes of the unit to the standard required within the assessment criteria. It is important to note that notional learning hours is not the same as guided learning hours (GLH). GLH represents the hours during which a tutor or trainer is present and contributing to the learning process. Notional learning hours represents the hours which are needed to successfully cover all the learning required to achieve the unit, either guided or independently.

RQF terminology

Whilst the evidence outcomes required from RQF and NVQ units are the same, the RQF units use different terminology to the NVQ units. The assessment criteria for NVQ units are 'what you must do' and 'what you must know' whereas the RQF units are all 'the Learner can' or 'the Learner is able to'.

Rules of Combination (RoC)

Every qualification on the RQF is structured through Rules of Combination. Rules of Combination are important because they define the number of credits which need to be achieved and where these credits must come from in order for a Learner to achieve the qualification. Rules of Combination also state what the potential is for Learners who wish to transfer credits between qualifications and awarding bodies.

Assessment Strategy

This qualification has been developed in line with CIMSPA's Professional Standards (https://www.cimspa.co.uk/standards-home/professional-standards-library) and covers the knowledge, skills and behaviours contained therein to confer occupational competence to the learner upon successful completion.

The qualification comprises both internal and external assessment as outlined in the table below. Internal assessment should be portfolio based and include practical observation records alongside other methods such as (not exhaustive) workbooks, case studies, professional discussions, witness statements and consultation documents.

Unit title	Level	Assessment
A/617/1178 Anatomy and Physiology for Exercise	2	External: Multiple Choice Question Examination (MCQ)
F/617/1179 Maximising the Customer Experience in the Exercise Environment	2	Internally assessed
T/617/1180 Client Consultation and Lifestyle Management	2	Internally assessed
A/617/1181 Planning and Delivering Gym-Based Exercise Programmes	2	Internally assessed
F/617/1182 Cleaning and Maintenance within a Gym Environment	2	Internally assessed

Planning and delivery guidance

This section of the assessment strategy contains content and guidance for the delivery of this qualification.

Training providers must take steps to ensure their curriculum plans reflect the coverage of Innovate Awarding's syllabus in full, and that they have implemented strategies to ensure their learners have acquired the knowledge, skills and behaviours across the whole qualification, to the standard described, prior to assessment. Innovate Awarding's External Quality Assurance team will undertake verification activities to ensure that these requirements have been met.

The role of Gym Instructor requires sufficient time between engaging a client and final assessment needs to be allowed to show improvements in the client's lifestyle, health, and fitness.

There must be evidence that the learner has planned a gym-based programme over a period, for example a six week programme, by applying the principles and variables of fitness to a range of activities to meet identified client goals and/or to achieve general fitness and health gains. Providers should ensure that learners are supported to engage participants and plan delivery to cover the full requirements of both roles as outlined within this specification.

Assessment requirements

This section of the assessment strategy explains what must be covered within the learner's final submitted evidence. All elements should be scheduled to occur when the learner has reached the required standard to maximise their chances of a successful outcome and reflect their achievement. All work must be the learner's own and evidence authenticity.

Learners who do not meet the required standard for assessment should be allowed to retake their assessments and provided with feedback and further learning to support subsequent attempts**.** Further information on retakes for externally assessed is available in Innovate Awarding's Retakes and Resits policy.

Theory-based elements

Learners must provide evidence that they have the knowledge and understanding specified by the theory-based elements of the specification.

This evidence may be in the form of the following examples:

- Written workbooks
- Digital voice recording (DVR)
- Viva/professional discussion/question and answer
- Exam (MCQ)
- Case studies
- Filmed presentation

The method/s that are selected must be appropriate for the criteria being assessed and meet learner needs.

Workbooks must include questions that are written in such a way as to make clear to learners and assessors the length and breadth of answer required, based on the wording of the assessment criteria. This may be though the use of verb descriptors (i.e. if the assessment criteria asks for an 'explanation' the question asked must make clear that an explanation is the minimum expected requirement), or by ascribing number of marks to each question.

Viva/professional discussion/question and answer must still produce evidence that can be submitted for IQA and EQA. This evidence may be DVR, filmed or a written transcript. A tick sheet will not be sufficient as evidence that the learner has met the assessment criteria requirements.

It may be possible that some assessment criteria and/or specific units can be assessed by means of a long or short answer test or Multiple-Choice Questions. This approach must be created in conjunction with Innovate Awarding Organisation and approved by them before use. Further guidance is available to centres who wish to devise these types of assessments internally. Training Providers should note that these will not be permitted as an alternative to Innovate Awarding's external assessments. Mock assessments for these components will be available to help learners prepare.

Competence-based assessments

Assessment decisions for competence-based elements must be made by an occupationally competent assessor who meets the qualification requirements outlined in the next section of this document. Practical assessment must be conducted where practicably possible in a real-world environment ideally, 'on the job'/at work. This could include; a gym, studio, sports hall, outdoors, client's home or other confined space. Where possible practical observations should be conducted with 'real clients'.

Competence based assessments must include:

- Client programme and observation
- Relevant screening and baseline tests

Some competence-based assessment criteria will generate written evidence and may be included within the learner's portfolio, for example:

- programme and session plans
- health and fitness testing results
- evaluations

These will be submitted as evidence for assessment and must be available for IQA and EQA as requested.

Other elements of learning will produce practically-based evidence and may be included within the learner's portfolio, for example:

- customer service
- professional conduct
- cleaning and maintenance
- session delivery

Practical evidence may take the form of:

- filmed evidence
- DVR
- witness testimony
- confirmation of achievement

Use of filmed evidence or DVRs

Any filmed evidence requires the learner to introduce themselves on camera at the start of the clip, as well as give the date of recording. Footage must have reasonable sound and picture quality to enable others (assessor, IQA, EQA) to see and hear what is taking place.
The footage produced must provide evidence of the achievement of identified assessment criteria and an accompanying reference sheet may need to be provided.

A DVR made by the assessor or a witness can be submitted as evidence. Their spoken commentary must include the name of the learner and date of recording, be of reasonable sound quality and only reference relevant criteria. Commentary should not be a verbal narrative of everything the learner does if aspects included are not required by assessment criteria (e.g. do not include descriptions of the learner's every move if these elements are not in the specification as required as evidence).

It may be necessary to produce a reference sheet to accompany the DVR for ease of assessing and quality assuring.

Witness Testimony

Witness testimony must be provided by an appropriately qualified and experienced professional. Evidence of their level of qualification and experience should be available to Innovate Awarding on request. Their written testimony must be personalised to the learner and should include a brief description of what was seen and/or heard that proves the learner met the identified assessment criteria.

The testimony provided by a witness will provide evidence against which the assessor will make their assessment decision. If insufficient evidence is produced by the witness it may not be possible for the assessor to make a valid and reliable assessment decision.

Simulation

Simulation may only be used as an assessment method where it is impractical to collect evidence in the workplace within an acceptable time frame, or within exceptional circumstances. These circumstances are restricted to situations where evidence cannot be generated through normal work activity and does not present naturally such as dealing with an emergency situation.

Should simulation be used it must be undertaken in a Realistic Working Environment (RWE). A RWE must "provide an environment that replicates the key characteristics of the workplace in which the skill to be assessed is normally employed". The conditions of assessment must be the same as those found in the normal working environment, with similar demands, pressures and requirements.

Should simulation be used as an assessment method, the Centre concerned must seek, prior to its use, advice from the external verifier of the relevant awarding organisation regarding the validity of the method.

Holistic assessment

Innovate Awarding encourage centres to take a holistic approach to assessment where possible. A holistic approach to assessment is one that:

- acknowledges that there is some element of repetition and overlap between units

- serves to reduce burden on learners and assessors by 'grouping' like assessment criteria together
- allows for assessment and evidence gathering across units in a 'horizontal' fashion rather than keeping assessment in a per-unit 'vertical' format
- enables a single piece of evidence to be submitted to meet multiple assessment criteria (sometimes from different units) in the one document or assessment method
- is led by the means of assessing, producing and documenting evidence rather than being driven by the content and format of each unit
- may adopt a 'project-based approach' which enables learners to complete a set sequence of events (e.g. carry out client consultation, plan sessions, deliver sessions, show appropriate delivery techniques, review session) in an appropriate order, whilst producing and gathering evidence to be assessed, rather than working through units individually

Occupational competence requirements

Tutors, Assessors and Quality Assurance Staff

Required Criteria

All Tutors, Assessors and Quality Assurance Staff must:

- Possess a Fitness or Gym Instructing and/or Personal Training specific qualification equivalent to the qualification or units being taught / assessed or quality assured
- Have relevant industry experience
- Have knowledge of and a commitment to the Exercise and Fitness Code of Ethical Practice
- Demonstrate active involvement in a process of industry relevant Continued Professional Development during the last two years (this may be discipline/ context specific or relevant to tutoring assessing or quality assurance)

Tutors

Tutors must hold or be working towards a teaching qualification.

The following are acceptable:

- Level 3 Award, Level 4 Certificate or Level 5 in Education and Training
- Level 3 Award in Preparing to Teach in the Lifelong Learning Sector (PTTLS)
- Level 4 Award in Preparing to Teach in the Lifelong Learning Sector (PTTLS)
- Level 4 Certificate in Teaching in the Lifelong Learning Sector (CTTLS)
- Level 5 Diploma in Teaching in the Lifelong Learning Sector (DTTLS)

Relevant predecessor NQF tutor qualifications

Assessors

Assessors must hold or be working towards any of the following:

- Level 3 Award in Assessing Vocationally Related Achievement
- Level 3 Award in Assessing Competence in the Work Environment
- Level 3 Certificate in Assessing Vocational Achievement
- A1 (previously D32, D33) or
- Relevant predecessor NQF assessor qualifications

Assessors holding historical qualifications such as unit A1, unit A2, and/or unit D32, and/or unit D33, are required to demonstrate that they meet the same standards of assessment practice as set out in the Learning and Development National Occupational Standard - Standard 9 Assess Learner Achievement. Suggested evidence that demonstrates this requirement may include CPD records, a Personal Development Plan (PDP) and/or records of work completed.

Internal Quality Assurers

Internal quality assurers must hold or be working towards any of the following:

- Level 4 Award in the Internal Quality Assurance of Assessment Processes and Practice
- Level 4 Certificate in Leading the Internal Quality Assurance of Assessment Processes and Practice
- V1 (previously D34)
- Relevant predecessor NQF internal quality assurance qualifications

Internal verifiers holding historical qualifications such as unit V1 – Conduct internal quality assurance of the assessment process and/or unit D34, are required to demonstrate that they meet the same standards for monitoring assessment processes and decisions as set out in the Learning and Development National Occupational Standard – Standard 11 Internally monitor and maintain the quality of assessment (Appendix 2). Suggested evidence that demonstrates this requirement may include CPD records, a Personal Development Plan (PDP) and/or records of work completed.

It is recommended that internal quality assurance staff also hold a relevant assessing qualification as detailed above.

External Quality Assurers

External quality assurers must hold or be working towards any of the following:

- Level 4 Award in the External Quality Assurance of Assessment Processes and Practice
- Level 4 Certificate in Leading the External Quality Assurance of Assessment Processes and Practice

- V2 (previously D35)

External verifiers holding historical qualifications such as unit V2 – Conduct external quality assurance of the assessment process and/or unit D35, are required to demonstrate that they meet the same standards for monitoring assessment processes and decisions as set out in the Learning and Development National Occupational Standard – Standard 12 Externally monitor and maintain the quality of assessment *(Appendix 3)*. Suggested evidence that demonstrates this requirement may include CPD records, a Personal Development Plan (PDP) and/or records of work completed.

It is recommended that external quality assurance staff also hold a relevant assessing and internal quality assurance qualifications as detailed above.

All new assessors and quality assurance staff must be given a clear action plan for achieving the appropriate qualification(s) and should be countersigned by an appropriately qualified individual until the qualification(s) are achieved.

Desirable Criteria

It is desirable that all Assessors and Quality Assurers should hold professional registration.

Qualification Structure

Learners must complete all mandatory units to gain the required 20 credits.

The Minimum Guided Learning Hours (GLH) for this qualification is 125 hours.

The Total Qualification Time (TQT) for this qualification is 203 hours.

Unit Structures

All units are listed below.

Those units denoted with * are externally assessed via multiple choice examinations.

Mandatory units

Unit ref	Unit title	Level	Credits	GLH
*A/617/1178	Anatomy and Physiology for Exercise	2	6	40
F/617/1179	Maximising the Customer Experience in the Exercise Environment	2	4	25
T/617/1180	Client Consultation and Lifestyle Management	2	4	26
A/617/1181	Planning and Delivering Gym-Based Exercise Programmes	2	5	30
F/617/1182	Cleaning and Maintenance within a Gym Environment	2	1	4

Title:	**A/617/1178 Anatomy and Physiology for Exercise**
Level:	**2**
Credit Value:	**6**
GLH:	**40**
TQT:	**60**

Learning Outcomes The learner will:	Assessment Criteria The learner can:
1. Understand the structure and function of the cardiorespiratory system	1.1 Describe the structure and functions of the: • heart • blood vessels • lungs 1.2 Describe how blood moves through the four chambers of the heart 1.3 Describe the difference between systemic and pulmonary circulation 1.4 Outline systolic and diastolic blood pressure 1.5 Identify blood pressure classifications 1.6 Identify the main muscles involved in breathing 1.7 Describe the passage of air through the respiratory tract 1.8 Explain the process of gaseous exchange including: • internal respiration • external respiration
2. Understand the structure and function of the skeleton	2.1 Describe the functions of the skeleton 2.2 Identify the bones of the: • axial skeleton • appendicular skeleton

	2.3 Explain the classification of bones 2.4 Describe the structure of a long bone 2.5 Explain the stages of bone growth 2.6 Describe posture, including: • curves of the spine • neutral spine alignment • potential ranges of motion of the spine • postural deviations
3. Understand the joints of the skeleton	3.1 Explain the classification of joints 3.2 Describe the structure of synovial joints 3.3 Describe the types of synovial joints and their range of motion 3.4 Describe joint movement potential and joint actions 3.5 Describe the anatomical planes of movement 3.6 Explain the effect of exercise variables on biomechanics and kinesiology
4. Understand the muscular system	4.1 Describe the characteristics and functions of the three types of muscle tissue 4.2 Describe the structure of skeletal muscle 4.3 Describe the structure of the different types of connective tissue 4.4 Identify anterior and posterior skeletal muscles 4.5 Describe the structure and function of the pelvic floor muscles 4.6 Describe skeletal muscle fibre types and their characteristics 4.7 Describe the different types of muscle actions: • isometric (static) • isotonic (concentric and eccentric) 4.8 Identify the joint actions brought about by specific muscle group contractions 4.9 Define anatomical terms of location

5. Understand the life-course of the musculoskeletal system	5.1 Describe the life-course of the musculoskeletal system and the implications for exercise when working with: • young people (13 – 18) • antenatal and postnatal period • older adults (50 plus)
6. Understand the energy systems and their relation to exercise	6.1 Describe how carbohydrates, fats and proteins are used in the production of energy and adenosine triphosphate 6.2 Describe the by-products of the three energy systems including their significance in muscle fatigue 6.3 Explain the use of the three energy systems during aerobic and anaerobic exercise including the effects of: • exercise type, duration and intensity • endurance training on the use of fuel for exercise 6.4 Describe: • anabolism • catabolism • excess post-exercise oxygen consumption (EPOC)
7. Understand the nervous system and its relation to exercise	7.1 Describe the functions of the nervous system 7.2 Describe the principles of muscle contraction 7.3 Describe the 'all or none law'/motor unit recruitment 7.4 Explain how exercise can enhance: • neuromuscular connections • improve motor fitness
8. Understand the digestive system	8.1 Describe the functions of the alimentary canal 8.2 Explain how fats, proteins and carbohydrates are digested and absorbed 8.3 Explain the role of dietary fibre in the maintenance of gut function

	8.4 Explain the role of the liver and pancreas in assisting digestion 8.5 Identify typical timescales for the digestive process 8.6 Explain the importance of fluid for the digestive process

Additional information

Learning Outcome 1: Understand the structure and function of the cardiorespiratory system

Structures of the heart to include:

- Valves
- Atrium
- Ventricles
- Septum

Functions of the heart to include:

- Pump oxygenated blood to the heart
- To carry deoxygenated blood away from the heart
- Maintain circulation of blood around the body

Function of heart structures:

- Valves – prevent the backflow of blood from the ventricles to the atria
- Atrium / atria – where blood collects when it enters the heart
- Ventricles – pump blood out of the heart to the lungs
- Septum – separates the left and right sides of the heart

Blood vessels, to include:

- Veins and venuoles
- Arteries and arterioles
- Capillaries

Functions of blood vessels:

- Act as a transport system for the blood
- Veins – transport deoxygenated blood back to the heart
- Arteries – transport oxygenated blood from the heart to muscles and other tissues

- Capillaries –transport blood between arterioles and venuoles

Structures of the lungs to include:

- Bronchi / Bronchus
- Bronchioles
- Alveoli

Functions of the lungs to include:

- Gaseous exchange
- Deliver oxygen to the blood
- Remove waste products

Movement of blood through the heart:

- Oxygenated blood moves from the left atrium to left ventricle
- Deoxygenated blood moves from the right atrium to the right ventricle

Systemic circulation:

- The transport of blood between the heart and the tissues of the body

Pulmonary circulation:

- The transport of blood between the lungs and the heart

Systolic blood pressure:

- The pressure within the arteries as the heart contracts

Diastolic blood pressure:

- The pressure within the arteries while the heart rests in between contractions

Blood pressure classifications:

- Hypotension – 90/60 mmHg
- Normal – 120/80 mmHg
- Prehypertension – 120/85 to 139/89 mmHg
- Hypertension – 140/90 mmHg
- Stage 1 hypertension – 140/90 mmHg
- Stage 2 hypertension – 160/100 mmHg

Muscles involved in breathing: to include:

- Diaphragm
- Intercostals – internal and external

Structures of the respiratory tract to include:

- Nasal cavity
- Pharynx
- Larynx
- Trachea
- Bronchi
- Bronchioles
- Alveoli

Gaseous exchange, to include:

- Internal respiration – exchange of oxygen / carbon dioxide between the blood and tissues
- External respiration – exchange of oxygen / carbon dioxide between the lungs and the blood

Learning Outcome 2: Understand the structure and function of the skeleton

Functions of the skeleton, to include:

- Provide support and structure for the body
- Protection (of vital organs)
- Movement (using levers)
- Blood cell production (white and red)
- Attachment (for muscles and tendons)
- Storage of minerals (calcium and phosphorus)

Bones of the axial skeleton, to include:

- Cranium
- Vertebrae
- Ribcage (ribs and sternum)

Bones of the appendicular skeleton, to include:

- Upper limbs - humerus, radius, ulna, carpals, metacarpals, phalanges
- Lower limbs - femur, tibia, fibula, tarsals, metatarsals, phalanges
- Hip girdle
- Shoulder girdle

Classification of bones, to include:

- Flat
- Irregular
- Long
- Short
- Sesamoid

Structure of a long bone, to include:

- Diaphysis (main shaft)
- Epiphysis
- Epiphysial plate (growing area)
- Epiphysial line
- Hyaline cartilage
- Periosteum
- Medullary canal

Stages of bone growth, to include:

- Remodelling
- Ossification

and the role of:

- Osteoclasts
- Osteoblasts
- Calcium

Curves of the spine:

- Cervical
- Thoracic
- Lumbar
- Sacral

Potential ranges of movement of the spine:

- Flexion
- Extension
- Lateral flexion
- Rotation

Postural deviations:

- Kyphosis
- Lordosis
- Scoliosis
- The effects of pregnancy, adiposity/obesity, age

Learning Outcome 3: Understand the joints of the skeleton

Joints:

- Fibrous (immovable or fixed)
- Cartilaginous (slightly immovable)
- Synovial (freely movable)

Structure of synovial joint to include:

- Articulating bones
- Articular cartilage
- Bursa
- Joint capsule
- Ligaments
- Synovial cavity
- Synovial fluid
- Synovial membrane

Types of synovial joints to include:

- Ball and socket
- Condyloid
- Gliding
- Hinge
- Pivot
- Saddle

Joint movement potential and joint actions to include:

- Abduction
- Adduction
- Circumduction
- Flexion
- Extension

- Elevation
- Depression
- Dorsiflexion
- Plantar flexion
- Horizontal abduction and adduction
- Horizontal flexion and horizontal extension
- Hyper extension
- Lateral flexion
- Rotation
- Pronation
- Supination
- Protraction
- Retraction

Anatomical planes of movement:

- Frontal (coronal)
- Sagittal (median)
- Transverse (horizontal)

Exercise variables:

- Leverage
- Single joint (isolation)
- Multi joint (compound)
- Against/across gravity
- Speed
- Weight/load

Learning Outcome 4: Understand the muscular system

The characteristics of muscle types to include:

- Cardiac
  - Involuntary (not under our conscious control, we cannot make them move)
  - only in the heart
  - striated

- Smooth
  - Involuntary
  - In internal organs and blood vessels
  - Not striated

- Skeletal
  - Voluntary (under our conscious control, we can make them move)
  - Attached to the skeleton
  - Striated

The functions of muscle types to include:

- Cardiac
  - Constantly keep the heart pumping

- Smooth
  - Constantly contracts to allow body process such as: digestion and blood flow

- Skeletal
  - Movement
  - Posture
  - Joint stability

The structure of skeletal muscle to include:

- Endomysium
- Perimysium
- Epimysium
- Faciciulus
- Sarcomere
- Myofibrils

The connective tissue structures to include:

- Cartilage
- Ligaments
- Tendons

Anterior muscles to include:

- Quadriceps
- Wrist extensors
- Wrist flexors
- Obliques (external and internal)
- Rectus abdominus
- Biceps brachii
- Pectoralis major
- Deltoid (anterior and medial)
- Tibialis anterior

Posterior muscles to include:

- Soleus
- Gastrocnemius
- Hamstrings
- Gluteals (maximus and medius)
- Erector spinae
- Triceps brachii
- Posterior deltoid
- Latissimus dorsi
- Trapezius
- Rhomboids

The structure of pelvic floor (pelvic diaphragm) muscles to include:

- Pelvic cavity
- Perineum
- Skeletal muscles
- Smooth muscles
- Ligaments

The function of pelvic floor muscles to include:

- Support the organs of the abdomen (bladder and bowel)
- Control the flow of urine
- Resist increases to abdominal pressure (intra-pelvic)

Skeletal muscle fibre types to include:

- Slow twitch type I / type 1
- Fast twitch or fast glycolytic type IIa / type 2a and type IIx / type 2b

Characteristics of muscle fibre types to include:

- **Type I (type 1)**
  - Red in colour
  - Contract slowly
  - Produce low amounts of force
  - Resistant to fatigue
  - High capacity for aerobic respiration
  - Contain many mitochondria and myoglobin

- **Type IIa (type 2a)**
  - Red in colour

- Contract rapidly
- Produce high amounts of force
- Fatigue faster than type 1 fibres
    - Capacity for aerobic and anaerobic respiration
    - Contain mitochondria and myoglobin

- **Type IIb (type 2b / types IIx / type 2x)**
    - White in colour
    - Contract rapidly
    - Produce large amounts of force
    - Fatigue rapidly
    - No capacity for aerobic respiration, anaerobic only,
    - Contain low numbers of mitochondria and myoglobin

The different types of muscle actions to include:

- Isometric (static)
    - Length of the muscle does not change
    - Joint angle does not alter

- Isotonic – concentric
    - Length of the muscle decreases
    - Joint angle decreases

- Isotonic – eccentric
    - Length of the muscle returns to normal (increases)
    - Joint angle increases

Joint actions to include:

- Shoulder
    - Abduction and horizontal abduction
    - Adduction and horizontal adduction
    - Extension
    - Flexion
    - Rotation
    - Circumduction

- Hip
    - Abduction
    - Adduction
    - Extension

- Flexion
- Rotation
- Circumduction

- Knee
  - Extension
  - Flexion
  - Rotation

- Elbow
  - Extension
  - Flexion
  - Pronation
  - Supination

- Wrist
  - Extension
  - Flexion

- Ankle
  - Dorsiflexion
  - Plantar flexion

- Movement of the trunk
  - Flexion and lateral flexion
  - Extension
  - Rotation

Specific muscle group contractions should be taught for the above joint actions

For example:

Elbow flexion – biceps brachii, elbow extension - triceps

Anatomical terms of location:

- Superior and inferior
- Anterior and posterior
- Medial and lateral
- Proximal and distal
- Superficial and deep

Learning Outcome 5: Understand the life-course of the musculoskeletal system

Musculoskeletal system:

- Tendon
- Muscle
- Ligament
- Joint
- Bone

To include, but not limited to - the musculoskeletal implications for exercise when working with:

- Young people (13 – 18)
  - damage to bone growth / epiphysial plates

- Antenatal and postnatal period
  - production of relaxin / increased joint flexibility
  - restarting exercise after birth

- Older adults (50 plus)
  - decrease in testosterone causing sarcopenia
  - vulnerability of fractures / reduction of bone density

Learning Outcome 6: Understand the energy systems and their relation to exercise

The production of energy and ATP to include: carbohydrates, fats, and proteins

- Carbohydrates
  - 1 glucose molecule = 34 ATP

- Fats
  - fatty acid chain oxidisation
  - 1 fatty acid chain = approx. 100 ATP

- Proteins
  - amino acids converted into glucose
  - 1 amino acid = 15 – 18 ATP

The by-products of the three energy systems to include:

- ATP-PC (alactic) System
  - Anaerobic
  - One PC produces the energy for one molecule of ATP

- Lactate System (lactic acid system)
  - Anaerobic glycolysis
  - Partial breakdown of glucose
  - Produces three molecules of ATP

- Aerobic System
  - Reliant on oxygen
  - Produces 38 molecules of ATP

The significance of the three energy systems in muscle fatigue to include:

- ATP-PC (alactic) System
  - No by-products
  - But PC stores are only small, so the amount of energy produced is limited

- Lactate System (lactic acid system)
  - Lactic acid is a by-product which builds up and causes fatigue

- Aerobic System
  - Muscle fatigue is dependent on sources of glucose and oxygen

The use of the three energy systems during aerobic and anaerobic exercise, to include: the effects of exercise type, duration and intensity and endurance training on the use of fuel for exercise

- ATP-PC (alactic) System
  - Suits high intensity exercise for short periods up to 10 seconds
  - Anaerobic, immediate energy system

- Lactate System (lactic acid system)
  - Suits higher intensity over longer periods, around 60 – 90 seconds
  - Anaerobic, short term energy system

- Aerobic System
  - Suits long continuous and moderate intensity periods
  - Aerobic

To include descriptions of:

- Anabolism
  - Larger molecules built from smaller ones

- Catabolism
  - Complex molecules broken down into smaller ones

- EPOC (excess post-exercise oxygen consumption)
  - The increased amount of oxygen the body needs after exercise to return to normal

Learning Outcome 7: Understand the nervous system and its relation to exercise

The functions of the nervous system to include:

- Processing information coming into the body and coordinating responses
- Sending electrical impulses through nerves
- Initiating muscle contractions

The principles of muscle contraction to include:

- Sliding filament theory
  - Thick myosin filaments
  - Thin actin filaments
  - Cross bridges
  - Calcium ions
  - Sarcoplasmic reticulum
  - Troponin and Tropomyosin
  - Sarcomere
  - A band, H zone, Z line

The 'all or none law'/motor unit recruitment:

- When a motor unit receives a stimulus of sufficient intensity to gain a response, all the muscle fibres within the muscle unit will contract at the same time to the maximum possible extent.

- If the stimulus received by the motor unit is not strong enough to gain a response, none of the fibres within the muscle unit will contract.

How exercise can enhance neuromuscular connections and improve motor fitness, to include:

- Neuromuscular connections
  - Enhanced muscle fibre activation and growth

- Improve motor fitness
  - The nervous system learns to recruit the correct number of motor units for a response
  - The ability to recruit existing motor units

Learning Outcome 8: Understand the digestive system

Structures of the alimentary canal to include:

- Mouth
- Oesophagus
- Stomach
- Small intestine
- Large intestine
- Rectum
- Anus

Functions of the alimentary canal to include:

- Mouth - ingestion
- Oesophagus – carries food and liquid to the stomach
- Stomach – digests food
- Small intestine – break down food and absorb water and nutrients
- Large intestine – compacts waste material into faeces
- Rectum – stores undigested food as faeces
- Anus – opening at the end of the digestive system where faeces exit

How food groups are digested and absorbed, to include:

- Fats

- Broken down into fatty acids, by lipases
- Absorbed into the blood stream in the small intestine

- Proteins
  - Broken down into amino acids, by pepsin and trypsin
  - Absorbed into the blood stream in the small intestine

- Carbohydrates
  - Broken down into glucose, by maltase and amylase
  - Absorbed into the blood stream in the small intestine

The role of dietary fibre in the maintenance of gut function to include:

- Acts as a prebiotic
- Maintains regular bowel movements
- Reduces the risk of some disorders

The role of the liver and pancreas in assisting digestion to include:

- Liver
  - Bile production
  - Detoxification
  - Nutrient metabolism

- Pancreas
  - Production of digestive enzymes
  - Regulates hormones

The typical timescales for the digestive process to include:

- Food groups
  - Carbohydrates – 1 to 3 hours
  - Fats – 4 to 6 hours
  - Proteins – 3 to 5 hours
  - Fibre – 24 to 48 hours

- Time to process through the structures of the alimentary canal
  - Mouth – 30 – 120 seconds
  - Stomach – 2 to 4 hours
  - Small intestine – 3 to 5 hours
  - Large intestine – 12 to 48 hours
  - Total time for the digestive process - 24 to 72 hours

The importance of fluid for the digestive process to include: • Saliva production • Stomach function • Nutrient reabsorption • Waste elimination

Unit aim (s)	This unit will give learners the opportunity to show their knowledge and understanding of the structures and functions of key body systems, including how they support exercise and physical activity performance and the effect that training can have on them.
Assessment requirements	This unit is assessed by externally set Multiple Choice Examination
Details of the relationship of the unit and relevant National Occupational Standards	N/A

Title:	**F/617/1179 Maximising the Customer Experience in the Exercise Environment**
Level:	**2**
Credit Value:	**4**
GLH:	**25**
TQT:	**43**

Learning Outcomes The learner will:	Assessment Criteria The learner can:
1. Understand how to assess customer needs in a gym environment	1.1 Outline demographics of customers who use a local gym facility 1.2 Describe how demographics affect the products and services on offer 1.3 Outline needs, expectations and aspirations of different customer groups 1.4 Describe how social support and inclusion can be built into the fitness facility environment 1.5 Describe different methods of obtaining and reporting customer feedback to support membership retention 1.6 Explain the feedback cycle and the impact of own role on the customer experience
2. Understand customer service in a gym environment	2.1 Identify the roles and responsibilities of: • the gym instructor • the client • other professionals 2.2 Describe an organisation's: • customer service promise • products and services • range of classes • systems and technologies that enhance the customer experience

	2.3 Describe the impact of own role on the customer experience 2.4 Outline how to promote additional products and services to customers 2.5 Outline a typical customer journey in a gym environment 2.6 Explain the importance of customer retention 2.7 Explain how to influence customer retention
3. Understand how to engage and communicate with customers	3.1 Describe how different communication techniques can be used to engage with customers in a gym environment 3.2 Explain how to adapt communication methods to meet individual needs 3.3 Explain how to adapt inductions for: • individuals • small groups • larger groups 3.4 Explain why it is important to 'walk the gym floor' 3.5 Explain ways to build rapport to maximise the customer experience 3.6 Explain the importance of being accessible and approachable to clients 3.7 Describe 'conflict situations' that may arise and how these can be dealt with
4. Be able to engage and communicate with customers and colleagues	4.1 Interpret customer data in order to understand different types of customers and their needs 4.2 Demonstrate customer engagement by: • delivering an information tour • dealing with customer enquiries • offering an 'end to end' service 4.3 Demonstrate the use of customer service skills

	4.4 Develop a rapport with customers whilst respecting equality and diversity 4.5 Comply with current legal and organisational responsibilities
5. Understand professional practice	5.1 Explain how to present self in line with organisational standards 5.2 Explain policies and procedures relevant to own role within the gym facility 5.3 Outline the following in relation to own role: • national guidelines • legislation • industry codes of professional conduct 5.4 Explain how to keep own knowledge and skills up to date using Continuing Professional Development (CPD) 5.5 Explain how to work within the boundaries of own professional knowledge and competence
6. Understand the principles of business planning in a gym environment	6.1 Outline methods of financial planning 6.2 Describe: • the importance of digital media • how to produce a digital plan • how to set up a professional social media or digital profile • the impact of social media and digital profiles 6.3 Explain how to plan financially, to include a working knowledge of: • profit and loss • tax (income tax, VAT) • national insurance • public and personal liability insurance • music license fees

Additional information/Amplification
Customer service skills: • problem solving • discretion • influencing • being professional • working as part of a team • using suitable communication methods, language and terminology **Legal and Organisational responsibilities**: • Health and safety at work • Equality and diversity • Safeguarding • Data protection • Hazard identification • Safe working practices • Ethics and professional conduct

Unit aim (s)	This unit will help learners understand the importance of effective customer service as for themselves, the customer and the organisation. They will also have the opportunity to explore legal and organisational responsibilities and how these will influence their own professional conduct.
Assessment requirements specified by a sector or regulatory body (if appropriate)	N/A
Details of the relationship of the unit and relevant National Occupational Standards	N/A

Title:	**T/617/1180 Client Consultation and Lifestyle Management**
Level:	**2**
Credit Value:	**4**
GLH:	**26**
TQT:	**44**

Learning Outcomes The learner will:	Assessment Criteria The learner can:
1. Understand the client consultation process in the gym environment	1.1 Explain why the client consultation is an important part of the customer experience 1.2 Outline own role when conducting client consultations 1.3 Describe the importance of explaining consultations to clients 1.4 Explain the legal and ethical implications of collecting client information, including: • confidentiality • data protection 1.5 Describe the process of informed consent
2. Understand health screening, fitness testing and risk stratification	2.1 Describe different methods for health screening clients prior to undertaking exercise 2.2 Explain the importance of verbal screening at the start of sessions and how it is conducted 2.3 Explain how to risk stratify clients using recognised risk stratification tools 2.4 Explain when to defer a client's exercise: • temporarily based on the results of verbal screening

	• to other specialist exercise professionals and/or medical professionals 2.5 Identify absolute contradictions to exercise 2.6 Outline practical assessments that can be used to assess a client's baseline health and fitness 2.7 Explain the limitations of health and fitness testing 2.8 Identify the factors that indicate that a client is at low, medium or high risk of an adverse event occurring during exercise
3. Understand lifestyle and health promotion	3.1 Describe how different factors can affect health and wellbeing 3.2 Explain the benefits of physical activity on health and wellbeing 3.3 Outline the current UK physical activity guidelines for different ages 3.4 State the nationally recognised healthy eating recommendations 3.5 Explain how to communicate the benefits of exercise to meet the needs of different clients 3.6 Explain the dose-response relationship with respect to exercise and health benefits 3.7 Identify sources of evidence-based health and wellbeing advice 3.8 Describe how technology can be used to support the customer experience and increase client motivation and activity levels
4. Understand the prevention and management of common health conditions	4.1 Outline chronic health conditions 4.2 Explain how physical activity/exercise can help to prevent and manage chronic health conditions

	4.3 Explain the role and scope of the gym instructor when offering health and wellbeing advice and guidance 4.4 Identify exercise or health professionals that clients can be signposted/referred onto
5. Understand principles of behaviour change and exercise adherence	5.1 Explain the stages of the trans-theoretical model of behaviour change 5.2 Outline the role of intrinsic and extrinsic motivation in exercise adherence 5.3 Describe a range of techniques that can motivate clients and/or improve exercise adherence 5.4 Explain the importance of re-assessments and reviews to support client's progress and motivation
6. Be able to conduct consultations and assessments	6.1 Identify a client's health history and health status 6.2 Assess a client's readiness to exercise 6.3 Demonstrate professionalism and customer service 6.4 Create an environment that supports clients to participate in and adhere to exercise 6.5 Encourage clients to exercise by using both intrinsic and extrinsic motivators 6.6 Provide a positive client experience by conducting safe and effective: • consultations • assessments • gym inductions • reviews 6.7 Build rapport with clients with varying needs by: • respecting equality and diversity • showing empathy

	• using language and communication methods • giving positive, motivating, timely and relevant feedback 6.8 Take responsibility for dealing with client enquiries 6.9 Offer advice and guidance within own scope of practice to promote healthy lifestyle choices 6.10 Signpost clients to other services/areas of the facility as appropriate 6.11 Model behaviours which promote positive health messages

Additional information/Amplification

Risk stratification tools:

- Irwin and Morgan Traffic light system
- Evidence based tools
- Agreed protocols
- Referral
- Care pathways

Different clients:

- Young people (13 – 18 years)
- Adults (19 – 64 years)
- Older people (65+ years)

Technology:

- Wearable technology
- Pedometers
- Smartphone apps

Chronic health conditions:

- Coronary heart disease
- Type-2 diabetes
- Obesity
- Stroke
- Cancer
- Mental health problems

- Musculoskeletal conditions

Factors:

- Resting heart rate
- Blood pressure
- Sub-maximal cardio-respiratory fitness
- Muscular Strength
- BMI
- Waist circumference

Gym inductions: evidence should show how these have been adapted for individuals and groups (maximum of 5 individuals)

Unit aim (s)	This unit will support the management of clients' lifestyles; exploring the process of liaising with clients to establish needs and wants, ways of encouraging a healthier lifestyle and the importance of physical activity to prevent or manage a client's health.
Assessment requirements specified by a sector or regulatory body (if appropriate)	N/A
Details of the relationship of the unit and relevant National Occupational Standards	N/A

Title:	**A/617/1181 Planning and Delivering Gym-Based Exercise Programmes**
Level:	**2**
Credit Value:	**5**
GLH:	**30**
TQT:	**48**

Learning Outcomes The learner will:	Assessment Criteria The learner can:
1. Understand components of fitness and programming variables	1.1 Identify the components of fitness 1.2 Outline national and international guidelines for developing components of fitness 1.3 Explain the differences between programming exercise for physical fitness and for health benefits 1.4 Explain the importance of evidence-based practice 1.5 Explain the principles and variables of fitness training
2. Understand gym-based exercise training and techniques	2.1 Describe a range of gym-based cardiovascular training methods 2.2 Describe a range of gym-based resistance training methods 2.3 Describe lifting, passing and spotting techniques 2.4 Describe a range of gym-based functional training including: • equipment • exercises 2.5 Describe a range of gym-based flexibility and range of motion training methods 2.6 Explain a range of gym-based exercises, including: • purpose • technique and alignment • demonstration/coaching points

	• alternatives • safety points 2.7 Explain the importance of muscle balance when planning programmes
3. Be able to plan gym-based exercise programmes	3.1 Apply knowledge of anatomy and physiology in planning safe and effective gym-based exercise programmes 3.2 Ensure individual requirements are reflected in programme planning 3.3 Set SMART goals linked to a client's individual needs, wants and motivators 3.4 Select gym-based exercises, equipment and methods to develop clients': • muscular fitness (muscular strength and endurance) • cardiovascular fitness • flexibility • functional skills/abilities 3.5 Plan how to minimise any risks relevant to the programme 3.6 Plan timings and sequences for exercise 3.7 Record programme plans in an appropriate format
4. Understand how to deliver gym-based exercise programmes	4.1 Describe coaching, teaching and instructing methods used in gym-based exercises 4.2 Explain how to adopt appropriate positions to observe clients whilst responding to their needs 4.3 Explain how to monitor the safety and intensity of exercise 4.4 Describe the methods of monitoring exercise intensity, including: • benefits • limitations 4.5 Explain how to meet individual client needs and abilities by:

	• adapting • regressing • progressing 4.6 Explain the use of corrective strategies in gym-based exercise 4.7 Explain how to review a gym-based exercise programme in consultation with the client 4.8 Describe how to carry out a risk assessment in a gym environment 4.9 Explain how to minimise any risks relevant to the programme 4.10 Explain how to ensure equipment is safely: • assembled • dismantled • stored, including the use of storage plans 4.11 Identify where to locate manufacturer's guidelines for equipment
5. Be able to deliver gym-based exercise programmes	5.1 Provide client specific: • instruction points • feedback • encouragement • reinforcement 5.2 Demonstrate safe and effective techniques for: • warm up and cool down activities • a range of exercises • using appropriate gym-based equipment 5.3 Correct client's exercise technique to ensure safe: • alignment • execution • use of equipment 5.4 Adopt appropriate positions to observe and respond to client needs

	5.5 Monitor the safety and intensity of the exercise 5.6 Suggest adaptations, alternatives, progressions and/or regressions that meet client needs 5.7 Demonstrate coaching, teaching and/or instructing methods 5.8 Demonstrate efficient time management 5.9 Ensure clients understand how to continue their programme of gym-based exercise without direct supervision 5.10 Ensure client safety at all times by identifying and making safe potential hazards including: • activity areas • equipment • individuals • physical risks 5.11 Comply with relevant legal and organisational procedures
6. Be able to review gym-based exercise programmes	6.1 Carry out regular reviews to ascertain how well the programme is meeting the client's: • physiological needs • psychological needs 6.2 Review the programme at regular intervals to: • identify areas for development • suggest necessary changes/adaptations to the content and/or delivery of the session/s • monitor and review progress towards client goals • signpost to other areas of the facility as relevant to the client's needs and interests 6.3 Appraise participants' performance in relation to the session

	6.4 Walk the gym floor, supporting customers effectively 6.5 Appraise their own delivery of sessions with reference to best practice

Additional information/Amplification

Principles and variables:

- FITT (frequency, intensity, time and type)
- adaptation
- specificity
- progressive overload
- reversibility
- adaptability
- individuality
- recovery time

Cardiovascular training methods and equipment may include:

- Methods
- Continuous
- Interval
- Fartlek

Equipment

- Upright cycle
- Recumbent cycle
- Treadmill
- Stepper
- Rowing machine
- Elliptical trainer
- Cross trainer

Resistance training methods may include:

- Fixed weight machines (e.g. fixed pin, plate loaded, pulleys etc.)
- Free weights (e.g. dumbbells, barbells, benches, squat racks etc.)
- Small equipment e.g. resistance bands, medicine balls etc.)
- Body weight exercises

Flexibility and range of motion training methods:

- Static stretching (including developmental)
- Ballistic stretching
- Dynamic stretching

• Proprioceptive neuromuscular techniques **Gym-based equipment:** • Cardiovascular machines • Resistance machines • Free weights • Body weight exercises • Small equipment

Unit aim (s)	This unit will enable learners to explore how they will plan, monitor and review gym-based sessions for a range of clients.
Assessment requirements	N/A
Details of the relationship of the unit and relevant National Occupational Standards	N/A

Title:	**F/617/1182 Cleaning and Maintenance within a Gym Environment**
Level:	**2**
Credit Value:	**1**
GLH:	**4**
TQT:	**8**

Learning Outcomes The learner will:	Assessment Criteria The learner can:
1. Understand cleaning and waste management	1.1 Describe standard operating procedures with regards to routine maintenance and cleaning 1.2 Describe the uses of cleaning substances and equipment 1.3 Outline Personal Protective Equipment (PPE) that is necessary in the gym environment 1.4 Identify different types of waste relevant to a gym environment 1.5 Explain how to safely dispose of waste in line with: • organisational procedures • environmental policy/considerations • COSHH
2. Be able to clean and maintain the gym environment	2.1 Plan and prepare own cleaning activities with reference to a cleaning schedule 2.2 Use appropriate cleaning substances and equipment in line with: • safety procedures • cleaning schedules 2.3 Communicate with customers and colleagues whilst cleaning to ensure safety
Additional information/Amplification N/A	

Unit aim (s)	This unit will give learners the opportunity to show that they understand why it is important to keep the gym environment clean and are able to carry out regular and necessary cleaning activities.
Assessment requirements	Learning outcome 2: simulation and the use of a real work environment may be used
Details of the relationship of the unit and relevant National Occupational Standards	N/A

Additional Information:

Test Specification for A/617/1178 Level 2 Anatomy and Physiology for Exercise

The unit "A/617/1178 Anatomy and Physiology for Exercise" is externally assessed by a Multiple Choice Question (MCQ) examination. The test rules for this MCQ test are as follows:

- Total number of questions: 40
- Pass mark: 24/40 this equates to 60%
- Test duration: 60 minutes

Additional notes:

- Learners should attempt all questions within each section of the test.
- The MCQ test will be taken on Surpass.
- The questions are written against the assessment criteria which is set out within the qualification.
- The table below shows the split of the questions against the assessment criteria and their learning objectives.

Learning Outcome	Assessment Criteria	Number of Questions per learning outcome
1. Understand the structure and function of the cardiorespiratory system	1.1 Describe the structure and functions of the: • heart • blood vessels • lungs	**7**
	1.2 Describe how blood moves through the four chambers of the heart	
	1.3 Describe the difference between systemic and pulmonary circulation	
	1.4 Outline systolic and diastolic blood pressure	
	1.5 Identify blood pressure classifications	
	1.6 Identify the main muscles involved in breathing	
	1.7 Describe the passage of air through the respiratory tract	

	1.8 Explain the process of gaseous exchange including: • internal respiration • external respiration	
2. Understand the structure and function of the skeleton	2.1 Describe the functions of the skeleton	**6**
	2.2 Identify the bones of the: • axial skeleton • appendicular skeleton	
	2.3 Explain the classification of bones	
	2.4 Describe the structure of a long bone	
	2.5 Explain the stages of bone growth	
	2.6 Describe posture, including: • curves of the spine • neutral spine alignment • potential ranges of motion of the spine • postural deviations	
3. Understand the joints of the skeleton	3.1 Explain the classification of joints	**5**
	3.2 Describe the structure of synovial joints	
	3.3 Describe the types of synovial joints and their range of motion	
	3.4 Describe joint movement potential and joint actions	
	3.5 Describe the anatomical planes of movement	
	3.6 Explain the effect of exercise variables on biomechanics and kinesiology	
4. Understand the muscular system	4.1 Describe the characteristics and functions of the three types of muscle tissue	**8**
	4.2 Describe the structure of skeletal muscle	
	4.3 Describe the structure of the different types of connective tissue	
	4.4 Identify anterior and posterior skeletal muscles	
	4.5 Describe the structure and function of the pelvic floor muscles	
	4.6 Describe skeletal muscle fibre types and their characteristics	
	4.7 Describe the different types of muscle actions: • isometric (static) • isotonic (concentric and eccentric)	
	4.8 Identify the joint actions brought about by specific muscle group contractions	
	4.9 Define anatomical terms of location	
5. Understand the life-course of the musculoskeletal system	5.1 Describe the life-course of the musculoskeletal system and the implications for exercise when working with: • young people (13 – 18) • antenatal and postnatal period	**1**

	• older adults (50 plus)	
6. Understand the energy systems and their relation to exercise	6.1 Describe how carbohydrates, fats and proteins are used in the production of energy and adenosine triphosphate	**4**
	6.2 Describe the by-products of the three energy systems including their significance in muscle fatigue	
	6.3 Explain the use of the three energy systems during aerobic and anaerobic exercise including the effects of: • exercise type, duration and intensity • endurance training on the use of fuel for exercise	
	6.4 Describe: • anabolism • catabolism • excess post-exercise oxygen consumption (EPOC)	
7. Understand the nervous system and its relation to exercise	7.1 Describe the functions of the nervous system	**4**
	7.2 Describe the principles of muscle contraction	
	7.3 Describe the 'all or none law'/motor unit recruitment	
	7.4 Explain how exercise can enhance: • neuromuscular connections • improve motor fitness	
8. Understand the digestive system	8.1 Describe the functions of the alimentary canal	**5**
	8.2 Explain how fats, proteins and carbohydrates are digested and absorbed	
	8.3 Explain the role of dietary fibre in the maintenance of gut function	
	8.4 Explain the role of the liver and pancreas in assisting digestion	
	8.5 Identify typical timescales for the digestive process	
	8.6 Explain the importance of fluid for the digestive process	