



National Unit Specification

General information

Unit title: Resistance Training (SCQF level 6)

Unit code: J9GX 46

Superclass: MA

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Source: Scottish Qualifications Authority

Version: 01

Unit purpose

This unit gives an opportunity for learners to gain an understanding of the physiological and psychological responses to resistance training and plan, lead and evaluate a resistance training session.

Learners will experience participating in and leading others in a range of resistance training types in a realistic, supportive environment. It will allow learners to develop their personal leadership qualities, knowledge, and skills in the delivery of a range of fixed, free and bodyweight training exercises to develop muscular strength and local muscular endurance.

The unit is a part of the National Progression Award (NPA) in Exercise and Fitness Leadership SCQF level 6. Learners could progress from this NPA award to:

- National Certificate in Sport and Physical Activity at SCQF level 6

- Higher National Certificate (HNC) Fitness, Health and Exercise or HNC Physical Activity and Health at SCQF level 7
- Higher National Certificate Sports Coaching and Development at SCQF level 7
- Higher National Certificate Soft Tissue Therapy at SCQF level 7

Further knowledge, skills, experience or qualifications may be required prior to entry to Higher National (HN) qualifications.

Outcomes

On successful completion of the unit the learner will be able to:

1. Describe the short- and long-term physiological and psychological responses to resistance training.
2. Participate in a range of resistance training sessions and plan one resistance training session for a healthy client.
3. Lead a resistance training session for a healthy client.
4. Evaluate the planning and delivery of the resistance training session.

Credit points and level

1 National Unit credit at Scottish Credit and Qualifications Framework (SCQF) level 6: (6 SCQF credit points at SCQF level 6).

Recommended entry to the unit

Entry for this unit would be at the discretion of the centre however learners would benefit from having some experience participating in and leading physical education, physical activity, sport, and/or exercise and fitness training sessions and have communication skills equivalent to at least SCQF level 5.

Learners may also have experience in leading others during sports coaching.

This unit is suitable for those who have no previous qualifications or experience.

Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the support notes for this unit specification.

There is no automatic certification of Core Skills or Core Skill components in this unit.

Context for delivery

If this unit is delivered as part of a group award, it is recommended that it should be taught and assessed within the subject area of the group award to which it contributes.

The Assessment Support Pack (ASP) for this unit provides assessment and marking guidelines that exemplify the national standard for achievement. It is a valid, reliable and practicable assessment. Centres wishing to develop their own assessments should refer to the ASP to ensure a comparable standard. A list of existing ASPs is available to download from SQA's website: [Internal Assessment Support Materials](http://www.sqa.org.uk/internal-assessment-support-materials) (www.sqa.org.uk/internal assessment support materials).

Equality and inclusion

This unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website:

[SQA Assessment Arrangements](http://www.sqa.org.uk/assessmentarrangements) (www.sqa.org.uk/assessmentarrangements).

National Unit Specification: Statement of standards

Unit title: Resistance Training (SCQF level 6)

Acceptable performance in this unit will be the satisfactory achievement of the standards set out in this part of the unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

Outcome 1

Describe the short- and long-term physiological and psychological responses to resistance training.

Performance criteria

- (a) Describe short-term physiological effects of resistance training on the muscular system.
- (b) Describe long-term physiological effects of resistance training on the muscular system.
- (c) Describe short-term physiological effects of resistance training on the skeletal system.
- (d) Describe long-term physiological effects of resistance training on the skeletal system.
- (e) Describe the psychological benefits of resistance training.

Outcome 2

Participate in a range of resistance training sessions and plan one resistance training session for a healthy client.

Performance criteria

- (a) Participate in a range of resistance training sessions.
- (b) Carry out a health and safety risk assessment for the planned resistance training session.

- (c) Collate information of the client's one-repetition maximum % across the planned lifts.
- (d) Plan a warm-up for a resistance training session.
- (e) Plan a resistance training session.
- (f) Plan a cool-down for a resistance training session.

Outcome 3

Lead a resistance training session for a healthy client.

Performance criteria

- (a) Set up the planned resistance training session safely and apply appropriate health and safety protocols.
- (b) Explain the purpose of the session to a client.
- (c) Lead the planned warm-up for the resistance training session.
- (d) Lead the planned resistance training session.
- (e) Lead the planned cool-down for the resistance training session.

Outcome 4

Evaluate the planning and delivery of the resistance training session.

Performance criteria

- (a) Evaluate the planning and delivery of the resistance training session.
- (b) Evaluate participant's feedback on the resistance training session delivered.
- (c) Prioritise development needs for the effective delivery of future sessions for the specific type of training.

Evidence requirements for this unit

Evidence is required to demonstrate that learners have achieved all outcomes and performance criteria.

Outcome 1: Describe the short- and long-term physiological and psychological responses to resistance training.

Outcome 1 must be a closed book assessment completed within 1 hour, in one sitting under controlled, supervised conditions.

Learners must describe:

- a minimum of two short-term physiological effects of resistance training on the muscular system.
- a minimum of two long-term physiological effects of resistance training on the muscular system.
- a minimum of two short-term physiological effects of resistance training on the skeletal system.
- a minimum of two long-term physiological effects of resistance training on the skeletal system.
- a minimum of two psychological benefits of resistance training.

Outcome 2: Participate in a range of resistance training sessions and plan one resistance training session for a healthy client.

The evidence for performance criterion (a) should be gathered under supervised conditions and performance criteria (b), (c), (d) (e) and (f) under open book assessment conditions.

- (a) Learners must participate in a minimum of one fixed weight session, one free weight session and one bodyweight session to develop muscular strength and Local Muscular Endurance (LME). Each session must include at least five different exercises as well as a structured warm-up and cool-down. Learners must keep a record of the sessions they have completed. This record must

include what exercises they completed, sets/repetitions/ rest time taken, overall session time and equipment used.

For performance criteria (b), (c), (d), (e) and (f), learners must plan for one client.

- (b) Learners must complete a health and safety risk assessment for the planned warm-up, resistance training session and cool-down. The health and safety risk assessment must include pre-screening for a client of their previous injuries and/or illnesses and goals using a Physical Activity Readiness Questionnaire (PAR-Q). Learners must also ensure that their client has the appropriate attire for the session. Learners must also carry out a visual inspection of the area and equipment to be used.
- (c) Learners must gather information on their client's goals including their client's one-repetition maximum % across planned exercises. By collecting this information, this will allow the learner to select strength or LME.
- (d) Learners must plan an appropriate warm-up for their client. This must last for a minimum of 3 minutes. The warm-up must focus on areas of the body that link to the resistance training session and include a pulse raising activity and a minimum of two dynamic stretches. This must be recorded on a session plan.
- (e) Learners must plan one structured resistance training session for the component of fitness selected based on their client's goals. Learners must plan for one of the following:
 - a fixed weight training session made up of a minimum of four different exercises
 - a free weight training session made up of a minimum of four different exercises
 - a bodyweight training session made up of a minimum of four different exercises
 - a combined fixed/free/bodyweight training session which consists of a minimum of four different exercises

The session plan must include:

- what type of resistance training session they will deliver
- the specific component of fitness being developed

- one-repetition maximum % for the specific component of fitness (this will not be applicable for bodyweight training sessions)
 - a minimum of four different exercises
 - the timings, sets/reps required
 - the order of exercises within the resistance training session
 - what equipment will be required
 - appropriate exercises for the participating client
 - adaptations and progressions for each exercise
- (f) Learners must plan an appropriate cool-down activity for the client relating to the muscle groups that were used throughout the session for a minimum of 3 minutes. This must gradually decrease the pulse rate which must be followed with a minimum of two static stretches. This must be recorded on a session plan.

Outcome 3: Lead a resistance training session for a healthy client.

Outcome 3 must be assessed using an assessor checklist under supervised conditions.

- (a) Learners must set up equipment safely, including visual inspection of all equipment, for the warm-up, training session and cool-down and apply appropriate health and safety protocols when leading the resistance training session.
- (b) Learners must explain the purpose of the planned resistance training session to a client, including an accurate demonstration of the exercises to be used, as well as any planned adaptations and progressions.
- (c) Learners must lead the relevant full-body warm-up that lasts a minimum of 3 minutes that prepares the client for the training session. This must include a heart raising activity and a minimum of two dynamic stretches. Key areas of the body that will be used during the resistance training session must be warmed up specifically.
- (d) Learners must lead one structured resistance training session from one of the following:

- a fixed weight training session made up of a minimum of four different exercises
- a free weight training session made up of a minimum of four different exercises
- a bodyweight training session made up of a minimum of four different exercises
- a combined fixed/free/bodyweight training session which consists of a minimum of four different exercises

Throughout the session learners must continually monitor client performance and motivate, provide accurate feedback to correct poor form, along with adaptations and progressions when required.

- (e) Learners must lead the client through an appropriate cool-down that lasts for a minimum of 3 minutes. This cool-down must be a general pulse lowering activity which includes a minimum of two static stretches. Key areas of the body that were used during the training session must be cooled down specifically.

Outcome 4: Evaluate the planning and delivery of the resistance training session.

The evidence for this outcome should be gathered under open book assessment conditions.

- (a) Learners must evaluate the planning and delivery of the warmup, resistance training session and cool-down they led.

The evaluation must identify:

- a minimum of one strength and one development need in relation to the planning of the session and one explanation of how this affected the outcome of their session.
- a minimum of one strength and one development need in relation to the delivery of the session and one explanation of how this affected the outcome of their session.

- (b) Learners must gather feedback from their client to evaluate the effectiveness of the set-up and delivery of the session delivered.
- (c) Learners must record a minimum of two development needs to prioritise for the effective delivery of future sessions.

Holistic assessment

There may be opportunities to cross assess outcome 2 performance criterion (b) with the J9GW 46 Group Exercise Training unit outcome 2 performance criterion (b) and the J9GV 46 Cardiovascular (CV) unit outcome 2 performance criterion (c).



National Unit Support Notes

Unit title: Resistance Training (SCQF level 6)

Unit support notes are offered as guidance and are not mandatory.

While the exact time allocated to this unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this unit

The purpose of this unit is to enable learners to develop skills in being able to lead others in resistance training sessions in a realistic, supported environment. It will give learners some fundamental knowledge and practical skills required within careers in the fitness, health and exercise industry.

Unit delivery should be in a practical environment as much as possible. Centres will form their own judgement as to the delivery schedule. It is recommended that centres decide what best suits the needs of the learner and their own and local facilities.

Some aspects of the unit may require delivery to take place in a 'classroom' environment while others will require learners to be working out with that environment (that is, games hall, gym, fitness studio) while receiving teacher/lecturer support.

Centres are encouraged to create links with local gyms to allow learners the opportunity to experience a realistic health and fitness industry environment.

Outcome 1: Describe the short- and long-term physiological and psychological responses to resistance training.

(a) When describing the short-term physiological effects of resistance training on the muscular system learners could include:

- increase in temperature of muscles
- increased pliability
- muscle fatigue
- improved muscle elasticity

This list is not exhaustive.

(b) When describing the long-term physiological effects of resistance training on the muscular system learners could include:

- decreased risk of injury
- increased physical capacity
- increased intramuscular fuel stores
- improved balance

This list is not exhaustive.

(c) When describing the short-term physiological effects of resistance training on the skeletal system learners could include:

- increased synovial fluid produced
- increased mobility
- range of movement at the joint increases
- reduced likelihood of injury due to improved flexibility

This list is not exhaustive.

(d) When describing the long-term physiological effects of resistance training on the skeletal system learners could include:

- improved bone density
- improved joint stability
- reduced risk of osteoporosis

- increased ligament strength

This list is not exhaustive.

(e) When describing the psychological benefits of resistance training learners could include:

- increased personal confidence
- improved mental health
- improved sleep pattern
- improved mood and sense of wellbeing

This list is not exhaustive.

Outcome 2: Participate in a range of resistance training sessions and plan one resistance training session for a healthy client.

Through participation learners will develop an understanding of how to develop strength and LME using a variety of equipment and methods. Learners will experience the practical organisation and delivery of different types of resistance training sessions and how to perform a variety of exercises safely. This knowledge can then be applied to planning a resistance training session of their choice and support their ability to lead a resistance training session in outcome 3.

It may be appropriate to set up a variety of health and safety scenarios so that learners are aware of the required health and safety protocols for a safe working environment.

Outcome 3: Lead a resistance training session for a healthy client.

It is anticipated that learners will devise a session of an appropriate duration for the type of training and components of fitness which have been identified to be improved. The environment and equipment should be appropriate for the chosen type of training.

Outcome 4: Evaluate the planning and delivery of the resistance training session.

Learners could complete a written/oral self-reflection task about the planning and delivery of the resistance training session and how it affected the outcome of the session. Learners could judge the effectiveness of the session, through observing client effort/application, work rate and body language along with feedback from the client. Learners could use this information to evaluate their planning and delivery to prioritise areas for development.

The accuracy of the learner's self-reflection/evaluation should be confirmed by the teacher/assessor.

Gaining feedback from a range of sources (peers, participant, teacher, lecturer, assessor and coaches) would be beneficial to build a more rounded evaluation.

Guidance on approaches to delivery of this unit

Each outcome should build the knowledge, understanding and confidence of learners, therefore it will work well to deliver this unit in sequential order, however, it is at the centres discretion which order they deliver these outcomes. An element of flexibility and creativity with the planning and delivery may allow for a better learning experience. Some examples below:

Outcome 1: Describe the short- and long-term physiological and psychological responses to resistance training.

Experiential learning activities can consolidate the required knowledge related to the short- and long-term physiological and psychological responses to resistance training. Alternatively, this could be taught in a classroom environment with the use of PowerPoint presentations and additional resources. To support learning, learners may be directed to online resources. Group tasks could be set up to discuss the physiological effects of resistance training while training and immediately after participating in a training session. This could cover what the learner experiences in relation to muscle groups being used while the training is being carried out. This could also cover the changes to mood state, alertness or concentration on the

completion of training sessions and satisfy outcome 2 performance criterion (a) as well as the knowledge required for the performance criteria within outcome 1.

Outcome 2: Participate in a range of resistance training sessions and plan one resistance training session for a healthy client.

Learners should be exposed to a range of teacher/lecturer led warm-ups, resistance training sessions and cool-downs which will develop muscular strength and LME utilising fixed weight and free weight equipment and bodyweight exercises. This experience will enable learners to apply knowledge and skills, and plan a resistance training session for their client incorporating information from the PAR-Q (for example client goals, medical information).

When delivering resistance sessions teachers/lecturers should exemplify the importance of ongoing communication and motivation where appropriate to enable the learner to understand the benefits of supporting their client during session delivery.

Teachers/lecturers could set up practical groups to calculate one-repetition maximum % for a range of different exercises and to then discuss with the wider group which will equip the learner with an appreciation of the range of abilities a client could be working within. This would not be applicable for bodyweight exercises.

Outcome 3: Lead a planned resistance training session for a healthy client.

Teachers/lecturers could set up groups of learners to be the 'healthy client' for each other. This would help to develop their practical delivery, improving confidence and training specific knowledge by being a participant in the practical sessions. Sessions could be split into warm-up, main session and cool-down where a group of learners would plan together a coherent session and agree to deliver a part of the session and then to feedback and evaluate the delivery of the session together.

Outcome 4: Evaluate the planning and delivery of the resistance training session.

Teachers/lecturers should encourage learners to effectively evaluate their participation in the range of resistance training sessions completed in outcome 2. This would enable learners to embed good practice within their own delivery of their planned resistance training session. This could also involve encouraging feedback from learners on the teacher/lecturer led sessions.

Guidance on approaches to assessment of this unit

Evidence can be generated using different types of assessment. The following are suggestions only. There may be other methods that would be more suitable to learners.

Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

Assessors must follow SQA guidelines in relation to internal verification and external verification in order to ensure that all evidence is collected, moderated, and quality assured in a valid, accurate, and secure manner so that it maintains the integrity of SQA expectations.

Evidence for outcome 1 to outcome 4 may be obtained utilising formative and summative assessment methods or as part of a holistic assessment approach as determined by teachers/lecturers.

Outcome 1: Describe the short- and long-term physiological and psychological responses to resistance training.

The 1 hour closed book assessment could be short answer questions set by the teacher/lecturer which could be responded to in either a written or oral format. Oral recordings could be captured via video or voice recording apps which should be supported by an assessor checklist.

Outcome 2: Participate in a range of resistance training sessions and plan one resistance training session for a healthy client.

As stated in the evidence requirements a session plan template must be used for performance criteria (d), (e) and (f).

Learners could be assessed by the use of a logbook (performance criteria (a) and (b)) and risk assessment template (performance criterion (c)) which could be written or digital.

Outcome 3: Lead a resistance training session for a healthy client.

Through the use of an assessor observation checklist the teacher/lecturer should provide qualitative comments about the learner's delivery.

Outcome 4: Evaluate the planning and delivery of the resistance training session.

This outcome could be assessed via a variety of different approaches including:

- Professional discussion
- Portfolio

For remediation of assessment, please refer to the group award specification.

Authentication of evidence

All written work should contain a declaration of validity that the content is the learners own work unless cited otherwise. Submissions should be signed off and dated by the learner. Digital submissions should be encouraged through centres' learning management system (LMS) platforms using anti plagiarism software.

Opportunities for e-assessment

E-assessment may be appropriate for some assessments in this unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the evidence requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at [SQA e-Assessment](http://www.sqa.org.uk/Guide%20to%20best%20practice.pdf). (www.sqa.org.uk/Guide to best practice.pdf).

Opportunities for developing Core and other essential skills

Core Skills can be developed throughout this unit. Learners will have the opportunity to develop their oral and written communication skills throughout this unit for example through planning a resistance training session, explaining the purpose of a resistance training session and through demonstrating correct and safe use of equipment.

Numeracy skills will be required as the learner will calculate one-repetition maximum % and ensure the session is planned appropriately within the required timeframe.

Information and Communication Technology (ICT) can be utilised through the use of apps. Working with Others can be developed in this unit when participating in sessions and also through delivery of the planned training session. This unit requires critical thinking when planning and organising the warm-up, resistance training session and cool-down where problem solving may be required. The reviewing and evaluation of the delivery of the session also requires Problem Solving.

From a broader perspective a learner may develop a sense of enterprise, employability, sustainable development, and citizenship as they engage with the unit. For example, working towards becoming a fitness instructor and starting their own business, developing meta-skills useful for employability, learning how to ensure sustainability is linked with such careers, and becoming a good citizen who values and supports the health and wellbeing of clients.

History of changes to unit

Version	Description of change	Date

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Unit template: February 2025

General information for learners

Unit title: Resistance Training (SCQF level 6)

This information will help you decide whether this is the unit for you by explaining what the unit is about, what you should know or be able to do before you start, what you will need to do during the unit and opportunities for further learning and employment.

This unit is designed to be delivered as a standalone unit or in conjunction with the following units to make up the SCQF level 6 National Progression Award in Exercise and Fitness Leadership:

- J9GV 46 Cardiovascular Training
- J9GW 46 Group Exercise Training

You will benefit from undertaking this unit if you already have an interest in exercise and fitness and are keen to increase your understanding of resistance training. You do not need any previous qualifications or experience to study this unit.

You will learn about the short and long-term effects resistance training has on the muscular and skeletal system and the psychological benefits resistance training can have on an individual. This will be assessed by a written or oral closed book assessment.

You will participate in a range of teacher/lecturer led resistance training sessions (fixed, free and bodyweight), developing your knowledge, understanding on how to perform a range of different exercises with correct and safe technique. By keeping a record of the content and organisation of these sessions, you will develop an understanding of how to apply this knowledge when planning a session for you to deliver to a client.

Prior to delivering your session you will carry a health and safety risk assessment template, including a visual inspection of the area and equipment to be used. You will carry out a Physical Activity Readiness Questionnaire (PAR-Q) with your client.

Taking into consideration your client's responses to the questionnaire and their goals

you will then plan a resistance training session for your client. You will also gather information on your client's one-repetition maximum % across planned exercises to help you plan an appropriate and effective resistance training session.

You will then use this knowledge and understanding to plan and lead a resistance training session to a client which includes a planned and structured warm-up and cool-down in a supportive environment which is realistic to the fitness industry. You will be able to explain the purpose of the training session to a client including demonstrations of exercises to be used, then lead the session as planned and evaluate client performance during the session. You will motivate a client, with ongoing communication where appropriate and practicable so that your client can successfully complete the session at an appropriate level. These will be assessed using a session plan template and an assessor checklist.

This unit will provide opportunities for you to evaluate the planning and delivery of the resistance training session you delivered. You will identify areas of strength and areas of development using self-reflection and client feedback to prioritise your development needs.

There are opportunities to develop Core Skills throughout this unit. You will develop Communication skills when planning and delivering your session. You will develop Numeracy skills when calculating client's one-repetition maximum % and organising timings for sessions, and ICT skills when utilising technology through the use of apps. Working with Others will also be developed through participation in resistance training sessions. Problem Solving will be developed when considering adaptations to the session being delivered.

Completion of this unit may allow progression in further education.