



Higher National Unit specification

General information

Unit title: Strength and Conditioning: An Introduction (SCQF level 7)

Unit code: H71W 34

Superclass: MD

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Version: 02

Unit purpose

This Unit aims to introduce learners to the area of Strength and Conditioning for the Sport Therapist professional and enable them to describe its role in maximising athletic performance post-injury. The Unit also aims to provide learners with the knowledge that will allow them to design appropriate rehabilitative programmes and to demonstrate the key exercises effectively.

This Unit is specifically designed for those looking to specialise in the Strength and Conditioning field of Sports Therapy or simply increase knowledge of strength-based rehabilitation techniques.

Outcomes

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

- 1 Demonstrate an understanding of the role that Strength and Conditioning plays in Sports Therapy.
- 2 Design a periodised rehabilitative programme, incorporating Strength and Conditioning principles.
- 3 Demonstrate resistance-training exercises in a safe and effective manner.

Credit points and level

1 Higher National Unit credit at SCQF level 7: (8 SCQF credit points at SCQF level 7)

Higher National Unit specification: General information (cont)

Unit title: Strength and Conditioning: An Introduction (SCQF level 7)

Recommended entry to the Unit

This Unit will be best delivered once learners have a solid understanding of Applied *Anatomy and Applied Physiology*, as well as the other Units such as *Exercise Principles and Programming and Plan and deliver Exercise based Sport Rehabilitation*. This may then determine which point in the year this Unit is timetabled for students in order for them to have enough prior knowledge of the components of this Unit.

Core Skills

Achievement of this Unit gives automatic certification of the following:

Complete Core Skills	None
Core Skill component(s)	Critical Thinking at SCQF level 5

There are also opportunities to develop aspects of Core Skills which are highlighted in the Support Notes of this Unit Specification.

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.

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 www.sqa.org.uk/assessmentarrangements.

Higher National Unit specification: Statement of standards

Unit title: Strength and Conditioning: An Introduction (SCQF level 7)

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.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the Knowledge and/or Skills section must be taught and available for assessment. Learners should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Demonstrate an understanding of the role that Strength and Conditioning plays in Sports Therapy.

Knowledge and/or Skills

- ◆ Identification and description of a range of Strength and Conditioning techniques that could be used within Sports Therapy Rehabilitation
- ◆ Knowledge and understanding of common Strength and Conditioning terminology and how important these are when considering a rehabilitation programme
- ◆ Evaluation of the benefits of a rehabilitative Strength and Conditioning programme in Sports Therapy
- ◆ Analyse the common misconceptions about resistance training
- ◆ Descriptions of the physiological adaptations to resistance training

Outcome 2

Design a periodised rehabilitative programme, incorporating Strength and Conditioning principles.

Knowledge and/or Skills

- ◆ Assessing the needs of the individual
- ◆ Fundamental principles to consider when designing a Strength and Conditioning Rehabilitation programme

Outcome 3

Demonstrate resistance-training exercises in a safe and effective manner.

Knowledge and/or Skills

- ◆ Health and Safety considerations in a training environment
- ◆ Competent demonstration of strength exercises
- ◆ Competent demonstration of speed and agility exercises
- ◆ Competent demonstration of endurance exercises

Higher National Unit specification: Statement of standards (cont)

Unit title: Strength and Conditioning: An Introduction (SCQF level 7)

Evidence Requirements for this Unit

Learners will need to provide evidence to demonstrate their Knowledge and/or Skills across this Unit.

Evidence will be demonstrated for Outcome 1 by showing that the learner can successfully complete a restricted response, closed-book assessment based on the Knowledge and/or Skills of the Outcome.

This closed-book assessment will provide written evidence to prove that the learner can demonstrate an understanding of Strength and Conditioning and its importance in Sports Therapy.

Evidence for Outcome 2 through a set of rehabilitation case studies. Learners are to write a rehabilitation programme for two of the case studies provided as part of a case study list to demonstrate knowledge and understanding in this area.

Rehabilitation programme are to include a range of training methods whilst still being specific to the client within the case study. Programmes should take clients through a 6 week rehabilitative programme and consist of sections outlining the aim of the programme, how progress will be measured and the specific exercises used by the Sport Therapist.

Learners should be encouraged to utilise a wide range of training techniques. When designing the programmes, learners should be encouraged to consider the specific needs of the client in their rehabilitative state.

For Outcome 3 learners will need to demonstrate their technical for two exercises for each of the following:

- ◆ Strength
- ◆ Power
- ◆ Speed/agility
- ◆ Endurance
- ◆ Mobility/stretching

An observation checklist completed by the assessor and questions asked by the assessor in relation to the exercises and their practical application in Sports therapy will be the instruments of assessment.

Practical evidence that the learner can demonstrate strength, speed, power and endurance exercises in a safe and effective manner should be assessed in practical session throughout the duration of the Unit.

In addition supplementary oral evidence must be provided through a set list of questions asked by the assessor to form part of the assessment criteria and must be recorded.



Higher National Unit Support Notes

Unit title: Strength and Conditioning: An Introduction (SCQF level 7)

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

A key element in this Unit is the application of Strength and Conditioning principles based on scientific research. There should be theoretical reinforcement of this knowledge during practical sessions. This Unit provides an introduction to the topic of strength and conditioning and will allow Sports Therapist the necessary tools to provide rehabilitative information in this manner.

Outcome 1:

- ◆ Strength and Conditioning techniques:
 - Resistance training (free weight, body weight and resistance machines)
 - Agility
 - Mobility and Stretching

- ◆ Definitions:
 - Strength
 - Speed
 - Power
 - Endurance
 - Agility
 - Mobility

- ◆ Benefits of Strength and Conditioning:
 - Decreased risk of re-injuring individual
 - Improved strength around the joints
 - More effective use of surrounding muscle groups, rather than relying on major muscle groups
 - Improvement in body composition

- ◆ Misconceptions of Strength and Conditioning:
 - Resistance training is unsafe
 - Is unsuitable for children
 - Increases injury risk
 - Decreases flexibility
 - Decreases speed
 - Results in excessive muscle growth

Higher National Unit Support Notes (cont)

Unit title: Strength and Conditioning: An Introduction (SCQF level 7)

Note that these are examples and not an exhaustive list.

- ◆ Physiological Adaptions:
 - Musculoskeletal adaptations:
 - Muscle hypertrophy
 - Stretch reflex/stretch shortening cycle
 - Increased bone mineral density
 - Stronger tendons and connective tissues

Outcome 2:

- ◆ Training needs analysis:
 - Gathering the necessary information to design a rehabilitation programme:
 - Main muscle groups
 - Strength status
 - Joint angles and range of motion
 - Muscle balance considerations
 - Movement speed
 - Any other factors that need considered when designing a rehabilitation programme for individuals post-injury
- ◆ Programme Variables:
 - Choosing the actual content of a training programme:
 - Periodisation concerns, for example in season/off season
 - Time of workouts
 - Frequency of workouts
 - Choice of exercises
 - Exercise order
 - Number of sets
 - Number of repetitions
 - Rest time between sets
 - Consideration of athlete's individuality
 - Timeframe for rehabilitation

Outcome 3:

- ◆ General safety considerations:
 - Storage and maintenance of equipment
 - Access
 - Facility layout
 - Breathing
 - Spotting requirement
 - Importance of correct technique
 - Postural awareness
 - Communication between rehabilitative professionals

Higher National Unit Support Notes (cont)

Unit title: Strength and Conditioning: An Introduction (SCQF level 7)

- ◆ Competent demonstrations:
 - Accurate technique
 - Knowledge of coaching points
 - Posture
 - Breathing and timing control

- ◆ Strength training exercises:
 - Back squat
 - Front squat
 - Lunges
 - Bench press
 - Incline bench press
 - Deadlift
 - Stiff-legged deadlift
 - Bent over row
 - Lat pulldown
 - Shoulder press
 - Bodyweight exercises for example squats, lunges, calf raises, press-ups

This list is not exhaustive. Other exercises and equipment may be used.

- ◆ Power Training exercises:
 - Olympic lifts and derivatives:
 - Snatch
 - Clean and jerk
 - Power clean and snatch
 - Shrugs
 - Push jerk
 - Split jerk

Again, this is not an exhaustive list.

- ◆ Speed and agility:
 - Sprinting technique
 - Postural control
 - Centre of gravity
 - Base of support
 - Maximal straight line speed

- ◆ Endurance:
 - Assistive exercises
 - Appropriate intensity to promote endurance:
 - Circuit training
 - Functional strength exercises

Higher National Unit Support Notes (cont)

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Guidance on approaches to delivery of this Unit

Delivery will be classroom based for most theory principles, mainly Outcome 1 and 2, however for Outcome 3 there is a large practical element and so students will be required to spend time in a gym-based environment learning the different practical elements of this Unit.

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.

Each Outcome of this Unit will be assessed separately, though learners must pass each Outcome in order to pass the Unit as a whole.

Assessments for Outcomes 1 and 2 that are more theory-based will be carried out under exam conditions as a closed-book assessment whereas the practical nature of Outcome 3 requires assessing in a gym or hall.

Sufficient Practical Evidence may be collated throughout the weeks of teaching and once certain elements have been taught.

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 www.sqa.org.uk/e-assessment.

Higher National Unit Support Notes (cont)

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Opportunities for developing Core and other essential skills

This Unit has the Problem Solving component Critical Thinking embedded in it. This means that when the candidates achieve the Unit, their Core Skills profile will also be updated to show they have achieved Critical Thinking at SCQF level 5.

Learners completing this Unit will gain valuable skills in *Communication*, both written and verbal, through their learning and assessments. The use of *ICT* may not be as prominent but skills will be developed if centres choose to use YouTube videos for demonstrative purposes when teaching the practical elements.

Problem Solving and teamwork will be a large part of all Outcomes as learners will require to work in groups and individually to complete certain criteria to gain the full Unit award.

Enterprising and employability can also be introduced within this Unit if Learners spend any time in a leisure facility as part of the practical elements of Outcome 3.

History of changes to Unit

Version	Description of change	Date
02	Core Skills Components Critical Thinking at SCQF level 5 embedded.	03/06/14

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General information for learners

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This Unit is specifically designed for those looking to specialise in the Strength and Conditioning field of Sport's Therapy or simply increase knowledge of strength-based rehabilitation techniques.

There will be both class and practical-based elements to this Unit and you will soon become familiar with strength and conditioning terminology and the performance of such exercises.

Assessments will be both written and practical to ensure you have a full understanding of all Unit content.

Core Skills development will be relevant in the areas of *ICT*, *Communications*, *Numeracy*, *Team working*, *Problem Solving*, enterprising and employability.