



National Unit Specification: general information

UNIT Health Sector: Physiology of the Cardiovascular System
(SCQF level 5)

CODE F88J 11

SUMMARY

This Unit has been designed as a mandatory Unit of the SCQF level 5 Health Sector Course, but can also be taken as a freestanding Unit. It is suitable for candidates who have no previous experience of the Health Sector.

This Unit will provide candidates with an introduction to the structure and function of the cardiovascular system. Candidates will apply this knowledge to investigate the effect of a disorder on the structure and function of the cardiovascular system.

Candidates will participate in a practical activity which will help to develop knowledge and skills in taking physiological measurements at different activity levels. Candidates will also participate in a practical activity to demonstrate current first aid procedures to provide emergency life support.

The Health Sector includes the National Health Service (NHS) (primary and secondary care), Independent Healthcare, Complementary Therapies, the Life Sciences and Retail Pharmaceutical Industries and the Community and Voluntary Sector.

OUTCOMES

- 1 Investigate the effects of a specific disorder on the structure and function of the cardiovascular system.
- 2 Participate in a practical activity which involves taking a physiological measurement at different activity levels.
- 3 Demonstrate skills in providing emergency life support in a Health Sector environment.

Administrative Information

Superclass: PB

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National Unit Specification: general information (cont)

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RECOMMENDED ENTRY

Entry is at the discretion of the centre.

CREDIT VALUE

0.5 credit at SCQF level 5 (3 SCQF credit points at SCQF level 5*).

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates*

CORE SKILLS

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes of this Unit Specification.

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

National Unit Specification: statement of standards

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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

Investigate the effects of a specific disorder on the structure and function of the cardiovascular system.

Performance Criteria

- (a) Describe the structure of the cardiovascular system.
- (b) Describe the functions of the cardiovascular system.
- (c) Explain how a specific disorder affects the cardiovascular system.

OUTCOME 2

Participate in a practical activity which involves taking a physiological measurement at different activity levels.

Performance Criteria

- (a) Arrive on time and dressed appropriately.
- (b) Select the appropriate equipment for the activity.
- (c) Follow standard operating procedures for the equipment at different activity levels.
- (d) Comply with health and safety procedures throughout the activity.
- (e) Record measurements in the appropriate format.
- (f) Draw valid conclusions from recorded results.

OUTCOME 3

Demonstrate skills in providing emergency life support in a Health Sector environment.

Performance Criteria

- (a) Assess a casualty in need of emergency life support.
- (b) Open the casualty's airway.
- (c) Give effective rescue breaths.
- (d) Perform chest compressions.
- (e) Place the casualty in the recovery position.
- (f) Follow correct procedures throughout, in line with health and safety guidelines.

National Unit Specification: statement of standards (cont)

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EVIDENCE REQUIREMENTS FOR THIS UNIT

Written and/or oral evidence and performance evidence which covers all Performance Criteria is required for this Unit.

Outcome 1 — Written and/or oral evidence

Evidence for Outcome 1 will be gathered in open-book conditions at an appropriate point during the Unit. Candidates will investigate the effects of a specific disorder on the cardiovascular system. Evidence will be gathered in an individual folio of evidence. Candidates will be given a brief for the investigation.

Candidates are required to:

- ◆ describe the structure of the cardiovascular system
- ◆ describe **two** functions of the cardiovascular system
- ◆ explain how a specific disorder affects the cardiovascular system

Outcome 2 — Performance and written and/or oral evidence

Performance evidence is required for Performance Criteria (a) to (e). An assessor observation checklist must be used to support the performance evidence.

Candidates are required to demonstrate that they can:

- ◆ arrive on time and dressed appropriately
- ◆ select the appropriate equipment for the activity
- ◆ follow standard operating procedures at two activity levels
- ◆ comply with health and safety procedures throughout the activity
- ◆ record measurements in the appropriate format

For Performance Criterion (f) candidates are required to produce written and/or oral evidence to:

- ◆ draw valid conclusions from the recorded results

Further guidance on an appropriate practical activity can be found in the support notes.

National Unit Specification: statement of standards (cont)

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Outcome 3 — Performance and written and/or oral evidence

Written and/or oral evidence is required for this Outcome 3. Evidence will be gathered under supervision in a real or simulated Health Sector environment.

Candidates are required to demonstrate skills in providing emergency life support by:

- ◆ correctly assessing the casualty
- ◆ opening the airway
- ◆ giving effective rescue breaths
- ◆ performing chest compressions
- ◆ demonstrating the recovery position
- ◆ following correct procedures throughout

An assessor observation checklist must be used to support the performance evidence.

The National Assessment Bank (NAB) pack provided for this Unit illustrates the standard that should be applied. It contains an investigation pro forma, candidate brief and assessor observation checklists. If a centre wishes to design its own assessments for this Unit, they should be of a comparable standard.

National Unit Specification: support notes

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This part of the Unit Specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 20 hours.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

This Unit has been designed as a mandatory Unit of the SCQF level 5 Health Sector Course, but can also be taken as a freestanding Unit. It is suitable for candidates who have no previous experience of the Health Sector.

This Unit will provide candidates with an introduction to the structure and function of the cardiovascular system. Candidates will apply this knowledge to investigate the effect of a disorder on the structure and function of the cardiovascular system.

Candidates will participate in a practical activity which will help to develop knowledge and skills in taking physiological measurements at different activity levels. Candidates will also participate in a practical activity to demonstrate current first aid procedures to provide emergency life support.

The Health Sector includes the National Health Service (NHS) (primary and secondary care), Independent Healthcare, Complementary Therapies, the Life Sciences and Retail Pharmaceutical Industries and the Community and Voluntary Sector.

Outcome 1

This Outcome is intended to provide candidates with a broad understanding of the structure and functions of the cardiovascular system and the effects of a specific disorder. Candidates should be made aware that the cardiovascular system pumps and circulates blood, transports nutrients, gas and waste in and out of the lungs with heart and blood vessels.

Suggested common disorders relevant to the cardiovascular system include:

Angina, Heart Failure, Myocardial Infarction, Arthero-sclerosis, Coronary Artery Disease, Hypertension, Sudden Adult Death Syndrome

The investigation will be recorded in a candidate folio and include all Performance Criteria specified. The folio could be produced in a variety of formats, eg a presentation which could be electronic, display, poster or leaflet. The language used throughout should promote equality and diversity and avoid cultural stereotypes.

Outcome 2

This Outcome is intended to provide candidates with opportunities to demonstrate specified employability skills within a practical activity. The physiological measurements could relate to the cardiovascular system studied in Outcome 1. Teachers/lecturers must ensure that the dignity and privacy of all individuals are respected when candidates are carrying out practical activities.

National Unit Specification: support notes (cont)

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The practical activity will have to be risk assessed by a teacher/lecturer to ensure that all health and safety requirements are complied with. Teachers/lecturers must also ensure that candidates comply with infection control guidelines and protocols.

Examples of relevant practical activities could include:

- ◆ measurement of temperature, pulse, respiration and the effects of exercise
- ◆ measurement of blood pressure and the effects of changing position, eg lying, sitting, standing

Outcome 3

This Outcome provides candidates with knowledge and skills required to carry out emergency life support. It is important that candidates learn both the correct action to take and the reasons why these actions are important. Candidates should be taught and assessed by an appropriately trained teacher/lecturer on how to assess the casualty, how to place an unconscious person in the recovery position, how to open the airway, give effective rescue breaths and perform chest compressions. Candidates should be given the opportunity to practise their skills on a resuscitation manikin. A risk assessment should be carried out by a competent person prior to the practical activity taking place. This includes ensuring the safety of equipment.

Employability Skills

In this Unit candidates will generate evidence for the following employability skills:

- ◆ positive attitude to learning and the workplace
- ◆ self respect and respect and consideration for others
- ◆ willingness to listen to others and respond constructively to feedback
- ◆ understanding of roles and responsibilities in the workplace
- ◆ reflecting on own abilities
- ◆ understanding of health and safety
- ◆ understand and seek clarification of instructions
- ◆ implementation of infection control procedures
- ◆ demonstrate an awareness of organisational standards for appearance and behaviour

Although not directly assessed in this Unit, there are also opportunities to develop the following employability skills:

- ◆ awareness of equality and diversity
- ◆ contribute to team work
- ◆ awareness and understanding of the importance of maintaining confidentiality
- ◆ understanding of organisational principles and values in the Health Sector

National Unit Specification: support notes (cont)

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GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

Outcome 1

Candidates should be introduced to the function of the cardiovascular system using a variety of teaching materials including anatomical models, illustrations, computer simulations and multimedia presentations.

The investigation for Outcome 1 will require candidates to gather information from a variety of sources which could include:

- ◆ visiting speakers
- ◆ DVD presentations
- ◆ Internet
- ◆ library
- ◆ health boards
- ◆ GP surgery
- ◆ local clinics
- ◆ interviews with health practitioners
- ◆ workplace visits

It may be beneficial for candidates to work in groups and share information although the final investigation must be the candidate's own work. Candidates should discuss and agree with the teacher/lecturer a suitable disorder affecting the cardiovascular system to investigate. Where this Unit is being taken as part of the SCQF level 5 Health Sector Course there are opportunities for integration of this Outcome with Outcome 1 of the Unit *Health Sector: Life Sciences Industry and the Health Sector*.

Outcome 2

Experiential learning is the main approach recommended for this Outcome. This involves learning through practical experiences and activities. The activities should be undertaken in a real or simulated work environment. The teacher/lecturer should provide a demonstration on the safe and correct method of using equipment prior to candidates undertaking any practical activity. Candidates should use accepted methods of recording measurements in relation to physiology.

Outcome 3

Experiential learning is the main approach recommended for this Outcome. This involves learning through practical experiences and activities. The activities should be undertaken in a real or simulated work environment. The teacher/lecturer should provide a demonstration on the safe and correct method of carrying out emergency life support.

National Unit Specification: support notes (cont)

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Delivery of this Unit could incorporate a variety of teaching and learning methods including:

- ◆ teacher/lecturer presentations and demonstrations
- ◆ DVD presentations
- ◆ group work and discussions
- ◆ handouts
- ◆ visiting speakers
- ◆ workplace visits
- ◆ practical activities
- ◆ individual and group research
- ◆ internet searches
- ◆ interviews with health professionals/patients /relatives

OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

In this Unit candidates will be involved in an investigation and practical activities. There may be opportunities for candidates to work with others which would enable them to develop effective communication and interpersonal skills.

If the candidate uses a computer while undertaking any part of this Unit, they will have the opportunity to develop *Information and Communication Technology* skills.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Outcome 1

The evidence will be gathered in a candidate folio which will include identification of a specific disorder and an explanation of how this might affect the cardiovascular system.

The information will include:

- ◆ description of the structure of the cardiovascular system
- ◆ description of **two** functions of the cardiovascular system
- ◆ explanation of how specific disorder affects the cardiovascular system

Outcome 2

Performance evidence for Outcome 2 should be based on a practical activity, specified by the teacher/lecturer, which must be observed using an observation checklist.

Candidates should be given the opportunity to practise the skills before being assessed.

National Unit Specification: support notes (cont)

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Outcome 3

For Outcome 3, candidates should be given the opportunity to practise the skills before being assessed. An assessor observation checklist should be used when gathering evidence. Performance evidence for this assessment should be generated by participation in a practical activity under supervision in a real or Simulated Health Sector environment. Assessor observation checklists must be retained.

Candidates are required to:

- ◆ correctly assess the casualty
- ◆ open the airway
- ◆ give effective rescue breaths
- ◆ perform chest compressions
- ◆ demonstrate the recovery position
- ◆ follow correct procedures throughout

An assessor observation checklist must be used to support the performance evidence.

The National Assessment Bank (NAB) pack provided for this Unit illustrates the standard that should be applied. It contains an investigation pro forma, candidate brief and assessor observation checklists. If a centre wishes to design its own assessments for this Unit, they should be of a comparable standard.

Opportunities for the use of 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 e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

DISABLED CANDIDATES AND/OR THOSE WITH ADDITIONAL SUPPORT NEEDS

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.