



Higher National Unit Specification

General information

Unit title: The Human Body in Health and Illness (SCQF level 7)

Unit code: J4DV 34

Superclass: RH

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Version: 02

Unit purpose

This unit is intended to provide the learner with an introduction to the anatomy and physiology and categories of diseases of the human body. The learner will be able to use this knowledge in their everyday life and work. It is also designed to allow learner progression to Higher Education. This unit is mandatory in the HNC Healthcare Practice unit but can also be studied as a free-standing unit.

Outcomes

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

- 1 Explain the levels of organisation and body processes essential to maintain health and well-being.
- 2 Explain the structure and function of selected body systems and identify medical conditions associated with the different systems.
- 3 Investigate the categories of disease and explain predisposing causes of disease.

Credit points and level

2 Higher National Unit credits at SCQF level 7 (16 SCQF credit points at SCQF level 7)

Higher National Unit Specification: General information (cont)

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Recommended entry to the unit

Learners should have good communication skills, both written and oral. These can be evidenced either by the achievement of nationally recognised qualifications for example Higher English or a qualification equivalent to SCQF level 6 or by the completion of a pre-course interview part of which could take the form of a written assignment. The skills to undertake this unit could also be demonstrated through an employer's reference or the process of application and interview.

Core Skills

Achievement of this Unit gives automatic certification of the following Core Skills component:

Core Skill component	Critical Thinking at SCQF level 5
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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.

This unit is included in the framework for HNC Healthcare Practice.

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

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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.

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

Explain the levels of organisation and body processes essential to maintain health and wellbeing.

Knowledge and/or skills

- ◆ Overview of the levels of organisation from chemicals to the body as a whole
- ◆ The importance of fluid balance and its importance in health
- ◆ The movement of substances across the plasma membrane including diffusion, osmosis, filtration and active transport
- ◆ The importance of homeostasis

Outcome 2

Explain the structure and function of selected body systems and identify medical conditions associated with the different systems.

Knowledge and/or skills

- ◆ Structure and function of the cardiovascular system
- ◆ Structure and function of the respiratory system
- ◆ Structure and function of the digestive system
- ◆ Structure and function of the excretory system
- ◆ Structure and function of the endocrine system
- ◆ Structure and function of the nervous system
- ◆ Structure and function of the musculo-skeletal system
- ◆ Structure and function of the integumentary system
- ◆ Structure and function of the immune system
- ◆ Structure and function of the male and female reproductive systems
- ◆ Associated medical conditions

Higher National Unit Specification: Statement of standards (cont)

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Outcome 3

Investigate the categories of disease and explain predisposing causes of disease.

Knowledge and/or skills

- ◆ Categories of diseases, infection, degenerative diseases, nutritional disorders, metabolic disorders, immune disorders, neoplasms and psychiatric disorders
- ◆ Predisposing factors, age, sex, heredity, lifestyle, physical and chemical damage, mental health and pre-existing illness

Evidence requirements for this unit

Learners will need to provide evidence to demonstrate their knowledge and/or skills across all outcomes by showing that they can:

Outcome 1

Learners will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can:

- ◆ Understand the levels of organisation from simple levels ie, chemicals to living cells, tissues, organs and systems
- ◆ Explain the importance of fluid balance and understand the movement of substances across the cell membrane, passive and active movement
- ◆ Understand and explain the importance of homeostasis and the homeostatic monitoring feedback mechanisms to the process of wellbeing

Outcome 2

Learners will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ Identify the structure and explain the functions of four of the named systems and identify one medical condition associated with each.

Outcome 3

Learners will need to provide evidence to demonstrate their Knowledge and/or Skills all by showing that they can:

- ◆ Understand the different categories of disease using the appropriate disease terminology
- ◆ Identify and explain one disease and the possible predisposing factors associated with this disease

Higher National Unit Specification: Statement of standards (cont)

Unit title: The Human Body in Health and Illness (SCQF level 7)

Assessment guidelines

The assessment for this unit could be either by multiple-choice and/or by restricted response questions for Outcomes 1 and 2 and a report or case study for Outcome 3

There could be two instruments of assessment addressing Outcomes 1 and 2

Assessment for Outcome 2 should comprise of a maximum of four body systems and four medical conditions.

Assessment for Outcome 3 can assess the learner further on the same selected body systems or alternatively choose other disorders/diseases affecting other systems by a report, leaflet, poster or power point presentation.



Higher National Unit Support Notes

Unit title: The Human Body in Health and Illness (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 80 hours.

Guidance on the content and context for this unit

This unit is a mandatory clinical route unit in HNC Healthcare Practice. The unit is designed to be delivered in 80 hours. It is primarily intended to help learners working in a care setting to contribute to the care of people by providing the appropriate underpinning anatomical knowledge essential for care support and also to access HE degree level care related courses.

Outcome 1

Explain the levels of organisation and body processes essential to maintain health and wellbeing.

Learners should be able to explain how living matter begins with simple chemicals formed into substances that make up cells, the basic units of life.

Specialised groups of cells form tissues and tissue function together as organs. Organs functioning together for the same general purpose make up organ systems. The organ systems work together to maintain the body. This is essential particularly for learners who have not studied the human body prior to this unit.

The importance of the role of fluid balance and distribution of fluid in the human body. The amount and composition of fluids must be regulated at all times. The extracellular and intracellular fluids should be explained. This is essential in terms of understanding homeostasis and ultimately fluid movement through cellular membranes.

The movement of substances across the plasma membrane is essential for learner understanding of the human body. The description and understanding of a semi-permeable membrane is important, how water molecules are always able to penetrate with ease, however, some particles, eg proteins, are too large to pass through.

Higher National Unit Support Notes (cont)

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Outcome 2

Looks at ten body systems, many deliverers of health-related programmes would focus on the more high-profile systems such as the cardiovascular, respiratory and perhaps digestive systems. Some may allow the students to choose which systems they want to be assessed on or to focus on systems which are most relevant to their future plans. However, all systems must be taught regardless of progression or employment. The learner is expected to have a knowledge and understanding of the structures and functions of each system and will be assessed on a minimum of four systems and be able to identify four medical conditions such as:

- ◆ Angina, myocardial infarction and hypertension
- ◆ Asthma, chronic obstructive pulmonary disease and cystic fibrosis
- ◆ Peptic ulcer, inflammatory bowel disorders and liver disease
- ◆ Kidney failure, kidney stone and urinary tract infection
- ◆ Diabetes, thyroid disorders and Addison's disease
- ◆ Parkinson's disease, cerebrovascular accident and multiple sclerosis
- ◆ Arthritis, osteoporosis and muscular dystrophy
- ◆ Psoriasis, melanoma and vitiligo
- ◆ HIV/AIDS, lupus and rheumatoid arthritis
- ◆ Endometriosis, uterine fibroids and ovarian cancer
- ◆ Testicular cancer, erectile dysfunction and enlarged prostate

Outcome 3

The learner has studied the healthy human body throughout Outcomes 1 and 2.

This outcome requires the learner to further investigate and understand disease. Categories of disease could cover the following:

- ◆ Infection, disease producing organisms
- ◆ Degenerative diseases, disorders that involve degeneration, (breaking down), of tissues in any system eg, muscular dystrophy, Alzheimer's, osteoporosis, etc
- ◆ Nutritional disorders, dietary lack of essential vitamins, proteins and minerals and obesity. Lack of dietary essentials can lead to scurvy, anorexia, rickets
- ◆ Metabolic Disorders, diabetes, gout, digestive disorders and hereditary dysfunctions
- ◆ Immune disorders, HIV/AIDS, allergies
- ◆ Neoplasms, means 'new growth' and refers to cancers and other types of tumour

Predisposing causes, age, sex, heredity, lifestyle, mental and physical health, physical and chemical damage.

Higher National Unit Support Notes (cont)

Unit title: The Human Body in Health and Illness (SCQF level 7)

Predisposing causes:

- ◆ Age, tissue degeneration, general wear and tear. Incidence of disease eg, whooping cough and osteoporosis.
- ◆ Sex eg, some diseases are more likely to be gender-based eg, early heart disease in men and diabetes in women. Other diseases can be highlighted which are changing previously identified trends eg, lung cancers increasing in women.
- ◆ Heredity eg, inherited diseases, certain cancers and many allergies.
- ◆ Lifestyle, good diet, physical activity, smoking, alcohol and drug usage. Hygiene and poor living conditions.
- ◆ Physical and chemical damage eg, occupational diseases, associated with professions such as mining, possible damage to respiratory and cardiac diseases.
- ◆ Accidents causing burns, fractures and crushing injuries.
- ◆ Air pollution and environmental causes including pesticides etc.
- ◆ Pre-existing illnesses eg, diabetes and hypertension.
- ◆ Mental health eg, stress and anxiety.

Tutors should be aware that this is a single outcome and the design of the award allows for only 80 hours. This is challenging for both students and tutors. Every effort should be made to use a variety of teaching methods to stimulate and promote independent learning in addition to taught hours.

Guidance on approaches to delivery of this unit

This unit is a mandatory clinical route unit in the HNC in Healthcare Practice. The unit is designed to be delivered in 80 hours. It is primarily intended to help learners working in a care setting to contribute to the care of people by providing the appropriate underpinning anatomical knowledge essential for care support and also to access HE degree level care related courses.

It is essential that learners are aware that they need to achieve all evidence requirements for the award.

This unit requires many learners to learn new processes and unfamiliar language. Additional support and learner-centred quizzes/guidance should be built into the whole package regardless of whether it is a stand-alone unit or part of the group award.

Outcomes could be taught and assessed in an integrated manner to ensure that learners are given the opportunity to demonstrate a holistic approach to care and depth of understanding of the human body.

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.

Higher National Unit Support Notes (cont)

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The assessment for this unit could be either by **multiple-choice** and/or by **restricted** response questions for Outcomes 1 and 2 and a report or case study for Outcome 3.

There could be two instruments of assessment addressing Outcomes 1 and 2.

Assessment for Outcome 2 should comprise of a maximum of four body systems and four medical conditions.

Assessment for Outcome 3 can assess the learner further on the same selected body systems or alternatively choose other disorders/diseases affecting other systems by a report, leaflet, poster or power point presentation.

A bibliography page must be submitted and learners should be guided to research common conditions statistically relevant to the context of health within contemporary Scotland.

Pass mark 60% for each assessment — ensuring that the specified evidence requirements have been met.

Remediation 56–59% for each assessment.

55% and under learners must be given an alternative assessment.

It is suggested that learners achieving between 56 and 59% need only be assessed on those parts which were not achieved and learners achieving 55% and under should be reassessed using a different assessment instrument.

The following texts are useful as a resource:

Waugh, A., Grant, A. (2018) *Ross and Wilson: Anatomy and Physiology in Health and Illness*, 13th Ed, Spain: Churchill Livingstone Elsevier

Several websites may also be useful resources including:

<https://www.oercommons.org/courses/anatomy-and-physiology-4/view>

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

There are opportunities to develop:

Communication may be evidenced via the learner's work with individuals and groups and competencies achieved through the Placement achievement document.

Working with Others may be evidenced in the learner's workplace via their ability to interact, communicate and negotiate with those with whom they come into contact.

Information and Communication Technology (ICT) may be evidenced in researching current evidence-based practice and the 20 question assessment may be delivered online.

Numeracy may be evidenced through learner ability to carry out physiological measurements.

Results of measurements are recorded graphically and numerically. Learners will recognise normal values and deviations from the norm. Learners will also demonstrate the ability to carry out basic calculations relating to drug dosage.

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

The Critical Thinking component of Problem Solving at SCQF level 5 is embedded in this unit. When a learner achieves the unit, their Core Skills profile will also be updated to include this component.

History of changes to unit

Version	Description of change	Date
02	Core Skills Component Critical Thinking at SCQF level 5 embedded.	06/10/20

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General information for learners

Unit title: The Human Body in Health and Illness (SCQF level 7)

This section 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 will enable you to demonstrate a knowledge and understanding of the normal functioning of the human body and its systems. Physiology deals with the ways that various systems of the body work to produce the activities of living.

There are three outcomes, all of them requiring independent study in addition to the taught classes.

In Outcome 1 the emphasis is on how the body is organised and how water and other substances are distributed and controlled. You will be introduced to, for some, new concepts and language associated with the body. It is essential for you to grasp the knowledge and understanding at Outcome 1 to progress onto the other outcomes.

Outcome 2 will cover the structures and functions of all body systems. You will be assessed on four of these systems and four medical conditions for each of the body systems.

Outcome 3 gives you the opportunity to further study the body in terms of the disease process and to further explain a particular disease/disorder in detail. This is a challenging unit but one which will provide essential underpinning knowledge for learners hoping to progress onto degree level study or for use in their workplace.

The Critical Thinking component of Problem Solving at SCQF level 5 is embedded in this unit. When a learner achieves the unit, their Core Skills profile will also be updated to include this component.