

## **Next Gen: HN unit specification**

### **Human Anatomy and Physiology for Beauty and Complementary Therapy (SCQF level 7)**

**Unit code:** JVOV 47

**SCQF level:** 7 (16 SCQF credit points)

**Valid from:** August 2026

This unit specification provides detailed information about the unit to ensure consistent and transparent assessment year on year. It is for lecturers and assessors, and contains all the mandatory information you need to deliver and assess the unit.

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# Unit purpose

This unit provides essential knowledge of anatomy and physiology. They learn the major structures and functions of the following body systems while also exploring the anatomical terms associated with each system.

- endocrine
- respiratory
- digestive
- reproductive
- urinary

Learners are assessed on the major structures and functions of the following systems:

- integumentary
- skeletal
- muscular
- cardiovascular
- lymphatic
- nervous

This unit is a mandatory unit in HNC Beauty Therapy and HNC Complementary Health. It contributes to the whole qualification grading for HNC Beauty Therapy and HNC Complementary Health. Learners can also study the unit on a stand-alone basis.

It is suitable for learners studying at SCQF level 7 and is appropriate for those who want to develop their anatomy and physiology knowledge.

Entry is at the discretion of your centre. However, before they start this unit, learners would benefit from having prior knowledge of anatomy and physiology.

For health and safety reasons, it is the centre's responsibility to ensure that candidates are 16 years old at the time of registration. See the [Hair and Beauty Industry Authority \(HABIA\) fact sheet](#) for more information on pre-16 age restrictions.

On completion of this unit, learners can progress to further study, including additional Higher National units at SCQF Level 7 and 8.

This unit contributes to overall progression in the subject area.

# Unit outcomes

Learners who complete this unit can:

1. identify and describe the major structures and functions of the integumentary system
2. identify and describe the major structures and functions of the skeletal system
3. identify and describe the major structures and functions of the muscular system
4. identify and describe the major structures and functions of the cardiovascular system
5. identify and describe the major structures and functions of the lymphatic system
6. identify and describe the major structures and functions of the nervous system

## Evidence requirements

Assess learners on the following six major body systems:

- integumentary
- skeletal
- muscular
- cardiovascular
- lymphatic
- nervous

Learners also cover knowledge of the major structures and functions of the following body systems:

- endocrine
- reproductive
- digestive
- urinary
- respiratory

Assess outcomes 1 to 6 as individual closed-book papers, carried out under controlled and supervised conditions. Each assessment must include a combination of diagram-based and extended or short response questions.

Learners must achieve a minimum pass mark of 70%.

Remediation is not permitted for closed-book papers. Learners must achieve a minimum pass mark of 70% on their first attempt to successfully meet the requirements of the knowledge component.

Where a learner does not achieve the required 70% pass mark, you must re-assess the same body system using a substantially different paper.

## **Outcome 1: identify and describe the major structures and functions of the integumentary system**

Learners must:

- identify and describe the structures of the epidermis:
  - stratum corneum
  - stratum lucidum
  - stratum granulosum
  - stratum spinosum
  - stratum germinativum
  - basement membrane
  
- identify and describe the following structures of the dermis:
  - papillary and reticular layer
  - arrector pili muscle
  - sweat gland (eccrine and apocrine)
  - sebaceous gland
  - sensory nerve ending
  - lymph vessel
  - blood supply

- hair follicle
- hair
- identify and describe the structure and function of the subcutaneous layer
- describe the functions of the skin, including:
  - sensation
  - heat regulation
  - absorption
  - protection
  - excretion
  - secretion
- describe the cells found in the skin and their function, including:
  - melanocyte
  - keratinocyte
  - Langerhans cell
  - Merkel disc
  - fibroblast
- describe the structure and function of the acid mantle, including:
  - protection and barrier function
  - PH balance
- describe collagen and elastin function and composition

## **Outcome 2: identify and describe the major structures and functions of the skeletal system**

Learners must:

- identify skeletal bones of the face and body in a diagram that illustrates both the axial and appendicular skeleton:

**skull:**

- frontal
- occipital
- parietal
- sphenoid
- ethmoid
- temporal
- nasal
- zygomatic
- maxilla
- mandible
- lacrimal
- turbinate
- palatine
- vomer
- hyoid

**thoracic:**

- ribs
- sternum

**vertebral column:**

- cervical vertebrae
  - thoracic
  - lumbar
  - sacrum
  - coccyx
- 
- identify skeletal bones of the face and body in a diagram that illustrates the appendicular skeleton:

**shoulder girdle:**

- clavicle
- scapula
- sternum

**arm and hand:**

- humerus
- radius
- ulna
- carpals (scaphoid, lunate, triquetral, pisiform, trapezium, trapezoid, capitate, hamate)
- metacarpals
- phalanges

**pelvic girdle:**

- ilium
- ischium
- pubis (innominate bones)

**leg and foot:**

- femur
  - patella
  - tibia
  - fibula
  - tarsals (talus, calcaneus, navicular, medial, intermediate and lateral cuneiform, cuboid)
  - metatarsals
  - phalanges
- identify the structure of the bone:
    - periosteum

- compact
- cancellous
- bone marrow
- cartilage
- epiphysis
- diaphysis
- epiphyseal line
  
- describe the structure of the bone:
  - periosteum
  - compact
  - cancellous
  - bone marrow
  - cartilage
  
- identify and describe the different classifications of bones:
  - long
  - short
  - flat
  - irregular
  - sesamoid
  
- describe the function of the skeletal system:
  - support
  - protection
  - attachment
  - movement
  - mineral store
  - blood cell production
  
- describe bone cells:
  - osteoblasts
  - osteoclasts

- osteocytes
- describe joint categories and give examples of each:
  - fibrous
  - cartilaginous
  - synovial
- identify the structures within a synovial joint:
  - joint capsule
  - ligament
  - articular cartilage
  - synovial membrane
  - synovial fluid
- describe the difference between ligaments and tendons, including function and structure

### **Outcome 3: identify and describe the major structures and functions of the muscular system**

Learners must:

- identify a range of muscles in the face, neck and shoulders from a diagram, including:
  - frontalis
  - corrugator
  - orbicularis oculi
  - zygomaticus
  - procerus
  - buccinator
  - levator labii
  - depressor labii
  - masseter

- nasalis
  - risorius
  - orbicularis oris
  - platysma
  - deltoid
  - trapezius
  - sternocleidomastoid
- identify a minimum of 20 major anterior and posterior skeletal muscles that are evenly distributed across the body and limbs
  - identify the structure of a muscle:
    - epimysium
    - perimysium
    - fascicle
    - endomysium
    - blood vessels
    - muscle fibres
  - describe the three types of muscle tissue and how each type of muscle tissue is controlled, and give examples of where each muscle tissue is found, including:
    - smooth
    - cardiac (involuntary)
    - skeletal (voluntary)
  - describe the principles of muscle contraction:
    - ATP production
    - lactic acid build-up
    - muscle fatigue
  - name the three types of muscle contraction:
    - isotonic
    - isometric
    - isokinetic

- explain the meaning of the origin and insertion of skeletal muscles
- describe the main functions of the muscular system:
  - movement
  - maintaining posture
  - producing heat

## **Outcome 4: identify and describe the major structures and functions of the cardiovascular system**

Learners must:

- identify structures of the heart from a diagram:
  - right and left atria and ventricles
  - pulmonary vein
  - pulmonary valve and artery
  - ascending aorta and descending aorta
  - superior and inferior vena cava
  - tricuspid and bicuspid valves
  - semilunar valve
  - pericardium
  - endocardium
  - myocardium
- describe the process of blood flow through the body:
  - the cardiac cycle
  - oxygenated blood and deoxygenated blood flow
  - systemic
  - pulmonary circulation
- describe the composition of blood:
  - erythrocytes
  - leukocytes

- thrombocytes
- plasma
- describe the function of blood:
  - transporting
  - protecting
  - regulating heat
- describe the structure and function of the blood vessels:
  - arteries
  - arterioles
  - veins
  - venules
  - capillary network
- describe vasodilation and vasoconstriction

### **Outcome 5: identify and describe the major structures and functions of the lymphatic system**

Learners must:

- identify lymph nodes from a diagram of the face and body:
  - infraorbital
  - buccal
  - pre- and post-auricular
  - parotid
  - submental
  - submandibular
  - supraclavicular
  - cervical and deep cervical
  - mastoid
  - popliteal

- inguinal
- axillary
- iliac (common, internal, external)
- occipital
- thoracic
- describe the composition of lymph:
  - interstitial fluid
  - lymphocytes
  - bacteria
  - cellular debris
  - plasma proteins
  - lipids
- describe the function of the lymphatic system:
  - waste removal
  - immune defence
  - fat absorption
  - fluid balance
- identify the pathway of lymph:
  - blood capillaries
  - interstitial fluid
  - lymph capillaries
  - lymph vessels
  - lymph nodes
  - lymph ducts
  - right and left subclavian veins
  - circulatory system
- describe the structure and function of lymphatic capillaries and lymphatic nodes
- describe innate and adaptive immunity

## **Outcome 6: identify and describe the major structures and functions of the nervous system**

Learners must:

- identify structures of the nervous system from a diagram:

### **central nervous system (CNS):**

- brain
- spinal cord
- meninges
- cerebrum
- cerebellum
- thalamus
- hypothalamus

### **brain stem:**

- midbrain
- pons varolii
- medulla oblongata

### **peripheral nervous system (PNS):**

- spinal nerves
- spinal nerve plexus
- cranial nerves
- describe the somatic nervous system and the sympathetic and parasympathetic divisions of the autonomic nervous system
- describe the functions of the nervous system:
  - interpret internal and external stimuli and responses
  - maintain homeostasis
  - instinctual behaviour

- describe the structure and function of the three main types of neurons in the nervous system:
  - sensory (afferent)
  - relay
  - motor (efferent)
  
- describe a minimum of three types of sensory neurons and what they detect:
  - mechanoreceptors
  - thermoreceptors
  - nociceptors
  - photoreceptors
  - chemoreceptors
  - proprioceptors

# Knowledge and skills

Knowledge	Skills
<p><b>Outcome 1</b> Learners should understand:</p> <ul style="list-style-type: none"> <li>• the location and function of the structures of the skin: epidermis: stratum corneum, stratum lucidum, stratum granulosum, stratum spinosum, stratum germinativum, basement membrane dermis: papillary layer, reticular layer, arrector pili muscle, sweat glands (eccrine and apocrine), sebaceous gland, sensory nerve ending, lymph vessel, blood supply, hair follicle, hair subcutaneous layer: adipose tissue</li> <li>• the cells found in the skin and their functions: melanocyte, keratinocyte, Langerhans cell, Merkel disc, fibroblast</li> <li>• the functions of the skin: sensation, heat regulation, absorption, protection, excretion, secretion</li> <li>• the structure and functions of the acid mantle: protection and barrier function, PH balance</li> <li>• the functions and composition of collagen and elastin</li> </ul>	<p><b>Outcome 1</b> Learners can:</p> <ul style="list-style-type: none"> <li>• identify and describe the structures of the skin</li> <li>• describe the cells found in the skin and their functions</li> <li>• describe the functions of the skin</li> <li>• describe the structure and functions of the acid mantle</li> <li>• describe collagen and elastin functions and composition</li> </ul>

Knowledge	Skills
<p><b>Outcome 2</b> Learners should understand:</p> <ul style="list-style-type: none"> <li>• the appendicular skeleton: shoulder girdle: clavicle, scapula, sternum upper limb: humerus, radius, ulna, carpals (scaphoid, lunate, triquetral, pisiform, trapezium, trapezoid, capitate, hamate), metacarpals, phalanges pelvic girdle: ilium, ischium, pubis lower limb: femur, patella, tibia, fibula, tarsals (talus, calcaneus, navicular, medial, intermediate and lateral cuneiforms, cuboid), metatarsals, phalanges</li> <li>• axial skeleton: skull: frontal, occipital, parietal, sphenoid, ethmoid, temporal, nasal, zygomatic, maxilla, mandible, lacrimal, turbinate, palatine, vomer thoracic: ribs, sternum vertebral column: cervical vertebrae, thoracic vertebrae, lumbar, sacrum, coccyx, intervertebral discs, hyoid</li> <li>• the structure and functions of bones: periosteum, compact bone, cancellous bone, bone marrow, cartilage, epiphysis, diaphysis, epiphyseal line</li> <li>• the classification of bones: long, short, flat, irregular, sesamoid</li> <li>• the functions of the skeletal system: support, protection, attachment, movement, mineral storage, blood cell production</li> <li>• different types of bone cells: osteoblasts, osteoclasts, osteocytes</li> <li>• bone development and repair, including ossification</li> </ul>	<p><b>Outcome 2</b> Learners can:</p> <ul style="list-style-type: none"> <li>• identify skeletal bones of the face and body from a diagram that illustrates both the axial and appendicular skeletons</li> <li>• identify and describe the structure of bones</li> <li>• identify and describe classification of bones</li> <li>• describe the function of the skeletal system</li> <li>• describe bone cells</li> <li>• describe joint categories and give examples of each</li> <li>• identify the structures in a synovial joint</li> <li>• describe the difference between ligaments and tendons, including function and structure</li> </ul>

Knowledge	Skills
<p><b>Outcome 2 (continued)</b></p> <p>Learners should understand:</p> <ul style="list-style-type: none"> <li>• the process of calcium homeostasis</li> <li>• the different joint categories: <ul style="list-style-type: none"> <li>fibrous joints: immovable joints connected with dense fibrous tissue found in the skull, teeth, between maxilla and mandible</li> <li>cartilaginous joints: slightly movable joints that have pads of cartilage between the ends of bones that make up the bone, such as the vertebrae in the spine, pubic bones and symphysis pubis</li> <li>synovial joints: freely movable joints with a structure made up of various parts, including the joint capsule and ligaments, articular cartilage, synovial membrane, and synovial fluid. Types of synovial joints: ball and socket (hip, shoulder); hinge (knee and elbow and between phalanges); condyloid (wrist, between metacarpals); gliding (vertebrae and sacroiliac); pivot (atlas and axis, ends of radius and ulna); saddle (thumb)</li> </ul> </li> <li>• the structures in a synovial joint: joint capsule and ligaments, articular cartilage, synovial membrane, synovial fluid</li> <li>• the difference between ligaments and tendons, including: <ul style="list-style-type: none"> <li>○ function and structure</li> <li>○ explaining that tendons connect muscle to bone and help with movement</li> <li>○ explaining that ligaments are more elastic, and connect bone to bone and provide stability to joints</li> </ul> </li> </ul>	

Knowledge	Skills
<p><b>Outcome 3</b></p> <p>Learners should understand:</p> <ul style="list-style-type: none"> <li>• the muscles of the face and body from a diagram illustrating both anterior and posterior views, including frontalis, corrugator, orbicularis oculi, zygomaticus, procerus, buccinator, levator labii, depressor labii, masseter, nasalis, risorius, orbicularis oris, platysma, deltoid, trapezius, sternocleidomastoid</li> <li>• the muscles of the anterior trunk: iliopsoas (iliacus and psoas), internal and external intercostals, internal and external obliques, pectoralis major and minor, rectus abdominis, serratus anterior</li> <li>• the muscles of the posterior trunk: deltoid, erector spinae, gluteal group (maximus, medius, minimus), infraspinatus, latissimus dorsi, rhomboids, subscapularis, supraspinatus, teres major, teres minor, trapezius</li> <li>• the muscles of the arm and hand: biceps, brachialis, brachioradialis, deltoid, extensor carpi digitorum, extensor carpi radialis, extensor carpi ulnaris, flexor carpi digitorum, flexor carpi radialis, flexor carpi ulnaris, triceps</li> </ul>	<p><b>Outcome 3</b></p> <p>Learners can:</p> <ul style="list-style-type: none"> <li>• identify a range of face and body muscles</li> <li>• identify the structure of muscle</li> <li>• describe the three types of muscle tissue and give examples of where each is found</li> <li>• describe the principles of muscle contraction</li> <li>• name the three types of muscle contraction</li> <li>• name muscle attachment sites, and the origin and insertion of skeletal muscles</li> <li>• describe the main functions of the muscular system: movement, maintaining posture and producing heat</li> </ul>

Knowledge	Skills
<p><b>Outcome 3 (continued)</b></p> <p>Learners should understand the muscles of the leg and foot: adductors (longus, magnus, brevis), extensor digitorum longus, flexor digitorum longus, flexor hallicus longus, gastrocnemius, gracilis, hamstrings (biceps femoris, semitendinosus, semimembranosus), piriformis, quadriceps (rectus femoris, vastus lateralis, vastus medialis, vastus intermedius), sartorius, soleus, tensor fascia latae, tibialis anterior, tibialis posterior, extensor and flexor digitorum brevis, extensor and flexor hallucis brevis</p> <ul style="list-style-type: none"> <li>• how to identify and describe the structure of muscle: epimysium, perimysium, fascicle, endomysium, blood vessel, muscle fibre</li> <li>• the three types of muscle tissue and examples of where each is found – smooth, cardiac (involuntary) and skeletal (voluntary): <ul style="list-style-type: none"> <li>○ <b>smooth</b> — non striated, controlled by ANS, influenced by emotions, found in walls of stomach, intestines, bladder uterus and walls of blood vessels. Moves substances through digestives tracts</li> </ul> </li> </ul>	

Knowledge	Skills
<p><b>Outcome 3 (continued)</b></p> <p>Learners should understand</p> <ul style="list-style-type: none"> <li>○ <b>cardiac</b> — found in walls of heart, controlled by ANS, influenced by emotions, striped appearance, provides flow of blood through body</li> <li>○ <b>skeletal</b> — voluntary controlled by SNS controlled at will, attached to bone, striped appearance. Held together by connective tissue. Movement of bones, moves blood and lymph, heat production and maintains posture</li> <li>• the process of skeletal muscle contraction — lactic acid production, muscle fatigue, myosin and ATP, actin and calcium, motor unit and relation to motor nerve and neurons</li> <li>• the three types of muscle contraction — isotonic, isometric and isokinetic</li> <li>• explain the meaning of the origin and insertion of skeletal muscle, including: <ul style="list-style-type: none"> <li>○ muscle attachment sites</li> <li>○ origin and insertion of skeletal muscles</li> </ul> </li> <li>• how skeletal muscles attach to bones at these two points: <ul style="list-style-type: none"> <li>○ <b>origin</b> — the fixed attachment, usually closer to the centre of the body (proximal)</li> <li>○ <b>insertion</b> — the more movable attachment, typically further from the body's core (distal)</li> </ul> </li> <li>• the main functions of the muscular system: movement, maintain posture, production of heat</li> </ul>	

Knowledge	Skills
<p><b>Outcome 4</b> Learners should understand:</p> <ul style="list-style-type: none"> <li>• the structures of the cardiovascular system from a diagram, including: <ul style="list-style-type: none"> <li>○ right and left atria and ventricles</li> <li>○ pulmonary vein</li> <li>○ pulmonary valve and artery</li> <li>○ ascending and descending aorta</li> <li>○ superior and inferior vena cava</li> <li>○ tricuspid and bicuspid valves</li> <li>○ semilunar valve</li> <li>○ pericardium endocardium and myocardium</li> </ul> </li> </ul>	<p><b>Outcome 4</b> Learners can:</p> <ul style="list-style-type: none"> <li>• identify the structures of the cardiovascular system</li> <li>• describe the process of blood flow through the body</li> <li>• describe the composition of blood</li> <li>• describe the function of blood</li> <li>• describe the structure and functions of the blood vessels in the cardiovascular system</li> <li>• describe vasodilation and vasoconstriction</li> </ul>

Knowledge	Skills
<p><b>Outcome 4 (continued)</b></p> <p>Learners should understand:</p> <ul style="list-style-type: none"> <li>• the functions of the structures of the cardiovascular system, including right and left atria and ventricles, tricuspid and bicuspid valves, semilunar valve, pulmonary valve, pericardium endocardium and myocardium</li> <li>• the process of blood flow through the body, including the cardiac cycle, homeostasis, peristalsis, venous return, oxygenated blood and deoxygenated blood flow, systemic and pulmonary circulation</li> <li>• the composition of blood, including erythrocytes, leukocytes, thrombocytes, plasma</li> <li>• the function of blood, including transportation, protection, heat regulation</li> <li>• the functions of the blood vessels in the cardiovascular system, including pulmonary vein and artery, ascending and descending aorta, superior and inferior vena cava</li> <li>• the process of vasodilation and vasoconstriction</li> <li>• blood pressure and pulse</li> </ul>	

Knowledge	Skills
<p><b>Outcome 5</b> Learners should understand:</p> <ul style="list-style-type: none"> <li>• the location of the following lymph nodes of the face and body: infraorbital, buccal, pre- and post-auricular, parotid, submental, submandibular, supraclavicular, cervical and deep cervical, mastoid, popliteal, inguinal, axillary, iliac (common, internal, external), occipital, thoracic</li> <li>• the composition of lymph: plasma, lymphocytes, proteins, waste products</li> <li>• the function of the lymphatic system: waste removal, immune defence, fat absorption, fluid balance</li> <li>• the process of lymph flow through vessels: valves, direction, endothelial cells, travelling through the body and from cells</li> <li>• the structure and function of the lymphatic capillaries, ducts, lymph nodes, thymus, spleen, and tonsils</li> <li>• the function of lymph nodes to filter harmful materials and produce lymphocytes</li> <li>• innate and adaptive immunity</li> <li>• the body's natural first line of defence, including non-specific defences such as the skin, stomach acid, macrophages</li> <li>• the body's adaptive, or second line of defence, that: <ul style="list-style-type: none"> <li>○ develops after exposure to pathogens</li> <li>○ has highly specific T and B cells that recognise specific pathogens</li> </ul> </li> </ul>	<p><b>Outcome 5</b> Learners can:</p> <ul style="list-style-type: none"> <li>• identify lymph nodes of the face and body</li> <li>• describe the composition of lymph</li> <li>• describe the functions of the lymphatic system</li> <li>• describe lymph flow through vessels</li> <li>• describe the structure and functions of lymphatic capillaries and lymph nodes</li> <li>• describe lymph node functions</li> <li>• describe innate and adaptive immunity</li> </ul>

Knowledge	Skills
<p><b>Outcome 6</b> Learners should understand:</p> <p><b>nervous system</b></p> <ul style="list-style-type: none"> <li>• structures of the nervous system from a diagram <p>CNS: brain, spinal cord, white matter, grey matter, meninges (dura mater, arachnoid mater, pia mater), subarachnoid space, cerebrospinal fluid, blood-brain barrier, cerebrum, cerebellum, thalamus, hypothalamus</p> <p>brain stem: midbrain, pons varolii, medulla oblongata</p> <p>PNS: spinal nerves (31 pairs), spinal nerve plexus (cervical, brachial, lumbar, sacral, coccygeal), cranial nerves (12 pairs)</p> </li> <li>• the somatic and autonomic nervous system: sympathetic and parasympathetic divisions</li> <li>• functions of the nervous system, including: <ul style="list-style-type: none"> <li>○ sensing internal and external stimuli</li> <li>○ interpreting and responding to stimuli</li> <li>○ maintaining homeostasis</li> <li>○ programming</li> <li>○ instinctual behaviour</li> <li>○ assimilation</li> <li>○ memory</li> <li>○ learning</li> <li>○ intelligence</li> </ul> </li> </ul>	<p><b>Outcome 6</b> Learners can:</p> <p><b>nervous system</b></p> <ul style="list-style-type: none"> <li>• identify structures of the nervous system</li> <li>• describe the somatic and autonomic nervous system: sympathetic and parasympathetic divisions</li> <li>• describe the functions of the nervous system</li> <li>• describe the structure of the three main types of neurons in the nervous system</li> <li>• describe a minimum of three types of sensory receptors and what they detect</li> </ul>

Knowledge	Skills
<p><b>Outcome 6 (continued)</b> Learners should understand:</p> <ul style="list-style-type: none"> <li>• the different neuron types, including: <ul style="list-style-type: none"> <li>○ structure and function — sensory, relay and motor</li> <li>○ cells — neuroglia (Schwann cells, oligodendrocytes, astrocytes, microglia)</li> <li>○ neurones (sensory, motor, and interneurons; dendrites, cell body, axon, axon end terminals, neurotransmitters, myelin sheath, nodes of Ranvier, neurilemma)</li> <li>○ reflex arc</li> <li>○ synapse</li> </ul> </li> </ul> <p>motor point</p> <ul style="list-style-type: none"> <li>• different sensory receptors, including: <ul style="list-style-type: none"> <li>○ proprioceptors</li> <li>○ chemoreceptors</li> <li>○ mechanoreceptors</li> <li>○ thermoreceptors</li> <li>○ nociceptors</li> <li>○ photoreceptor</li> </ul> </li> <li>• the transmission of nerve impulses: <ul style="list-style-type: none"> <li>○ action potentials</li> <li>○ axon terminals</li> <li>○ neurotransmitters</li> </ul> </li> </ul> <p><b>urinary system</b></p> <ul style="list-style-type: none"> <li>• the structures of the urinary system</li> <li>• the functions of each structure of the urinary system</li> <li>• the composition of waste and the elimination process</li> <li>• factors that affect urine production and the hormones involved</li> </ul>	



Knowledge	Skills
<p><b>Outcome 6 (continued)</b> Learners should understand:</p> <p><b>reproductive system</b></p> <ul style="list-style-type: none"> <li>• the structure of the male and female reproductive systems</li> <li>• hormones related to the female reproductive system</li> <li>• factors influencing the female system</li> <li>• the process of production of sex cells, spermatozoa and ovum</li> <li>• the development of sex cells to a zygote and development of the foetus</li> </ul> <p><b>digestive system</b></p> <ul style="list-style-type: none"> <li>• structures of the digestive system</li> <li>• the process of digestion and absorption</li> <li>• enzyme characteristics</li> <li>• the process of elimination and waste removal</li> <li>• the function of each structure of the digestive system</li> </ul> <p><b>respiratory system</b></p> <ul style="list-style-type: none"> <li>• the structures of the respiratory system</li> <li>• the functions of the respiratory system</li> <li>• the muscles involved in breathing</li> <li>• the process of air passage</li> <li>• the process of gaseous exchange</li> </ul>	

Knowledge	Skills
<p><b>Outcome 6 (continued)</b> Learners should understand:</p> <p><b>endocrine system</b></p> <ul style="list-style-type: none"> <li>• the structures of the endocrine system</li> <li>• the functions of hormones, endocrine glands, and cell receptors</li> <li>• the hormone feedback loop</li> <li>• the functions of hormones related to body systems</li> </ul>	

## Meta-skills

You must give learners opportunities to develop their meta-skills throughout this unit. We have suggested how to incorporate the most relevant ones into the unit content, but you may find other opportunities.

## Self-management

This includes focusing, integrity, adapting and initiative. The most relevant are:

- focusing:
  - focusing on specific knowledge areas
- adapting:
  - adjusting to different ways of researching and learning
  - taking part in revision sessions
- initiative:
  - analysing questions carefully
  - breaking down what's being asked
  - identifying key terms
  - using initiative to check for errors, spot mistakes or improve clarity

## Social intelligence

This includes communicating, feeling, collaborating and leading. The most relevant are:

- communicating:
  - ensuring understanding of content
- leading:

- leading own learning

## **Innovation**

This includes curiosity, creativity, sense-making and critical thinking. The most relevant are:

- curiosity:
  - researching various aspects of anatomy
  - enhancing study techniques
- sense-making:
  - learning more about the complex body systems
  - interpreting and understanding complex information
- critical thinking:
  - preparing for closed-book assessments
  - picking up on complex areas of study

## **Literacies**

This unit provides opportunities to develop the following literacies.

### **Numeracy**

Learners develop numeracy skills by:

- considering the numerical elements of certain body systems, and volume of blood

## **Communication**

Learners develop communication skills by:

- asking questions on knowledge areas in the learning weeks prior to assessment
- communicating with assessor and peers

## **Digital**

- presenting knowledge
- accessing resources

# Learning for Sustainability

Throughout this unit, you should encourage learners to develop their skills, knowledge and understanding of sustainability.

This includes:

- a general understanding of social, economic and environmental sustainability
- a general understanding of the United Nations Sustainable Development Goals (SDGs)
- a deeper understanding of subject-specific sustainability
- the confidence to apply the skills, knowledge, understanding and values they develop in the next stage of their life

During delivery, you can reduce paper use by using digital resources. Learners can access resources digitally in place of previous paper versions. By aligning teaching practices with the SDGs, the industry can contribute to a more sustainable and equitable world.

# Delivery of unit

This is a mandatory unit in both HNC Beauty Therapy and HNC Complementary Health.

The notional time for delivery and assessment is 80 hours. The amount of time you allocate to each outcome is at your discretion. We suggest the following distribution of time, including assessment:

**Outcome 1:** Identify and describe the major structures and functions of the integumentary system (12 hours)

**Outcome 2:** Identify and describe the major structures and functions of the skeletal system (12 hours)

**Outcome 3:** Identify and describe the major structures and functions of the muscular system (12 hours)

**Outcome 4:** Identify and describe the major structures and functions of the cardiovascular system (12 hours)

**Outcome 5:** Identify and describe the major structures and functions of the lymphatic system (12 hours)

**Outcome 6:** Identify and describe the major structures and functions of the nervous system (10 hours)

You should divide the remaining 10 hours between the systems not being assessed. We suggest you allocate a notional 2 hours to each system.

# Additional guidance

The guidance in this section is not mandatory.

## Content and context for this unit

This unit provides learners with knowledge of human anatomy and physiology to apply to various therapies for their clients.

You will teach all 11 body systems. However, only the six identified body systems (integumentary, skeletal, muscular, cardiovascular, lymph and nervous) are subject to a closed-book assessment. You'll teach the remaining five body systems (endocrine, digestive, respiratory, reproductive and urinary) only to enhance learners' understanding of their interconnected roles.

### Outcome 1: integumentary system

Teach learners:

- how to identify and describe the location and functions of the structures of skin
- the cells found in the skin and their functions
- the functions of skin
- the structure and functions of the acid mantle
- the function and composition of collagen and elastin

### Outcome 2: skeletal system

Teach learners:

- how to identify skeletal bones of the face and body in a diagram that illustrates the axial skeleton
- how to identify skeletal bones of the face and body in a diagram that illustrates the appendicular skeleton
- how to identify the structure of bone
- how to identify and describe different classifications of bones

- how to describe the functions of the skeletal system
- about different bone cells
- about bone development and repair
- about the different joint categories
- about the action at the joints and structure of the joints
- the difference between ligaments and tendons, including functions and structure

### **Outcome 3: muscular system**

Teach learners:

- how to identify a range of anterior and posterior muscles from the face and body
- how to identify anterior trunk muscles
- how to identify posterior trunk muscles
- how to identify arm and hand muscles
- how to identify leg and foot muscles
- how to identify muscle structures
- about the three types of muscle tissue and examples of where each is found
- about the process of skeletal muscle contraction
- about the three types of muscle contraction
- about muscle attachment sites, including the origin and insertion of skeletal muscles
- about the main functions of the muscular system

### **Outcome 4: cardiovascular system**

Teach learners:

- how to identify the structures of the heart
- about the functions of the structures of the cardiovascular system
- about the process of blood flow through the body
- about the composition of blood
- about the function of blood
- about the functions of the blood vessels in the cardiovascular system
- about the process of vasodilation and vasoconstriction

## **Outcome 5: lymphatic system**

Teach learners:

- about the location of lymph nodes in the face and body
- about the composition of lymph
- the pathway of lymph
- about the structure and functions of:
  - the lymphatic capillaries
  - ducts
  - lymph nodes
  - thymus
  - spleen
  - tonsils
- how to describe innate and adaptive immunity

## **Outcome 6: nervous system**

Teach learners:

- how to identify structures of the nervous system from a diagram
- about the somatic and autonomic nervous system: sympathetic and parasympathetic divisions
- about the function of the nervous system
- about the different neuron receptor types

**The following systems should be taught, but NOT assessed:**

### **Endocrine system**

Teach learners about:

- structures of the endocrine system from a diagram, including:
  - pituitary gland

- pineal gland
- hypothalamus
- thyroid gland
- parathyroid glands
- adrenal glands
- pancreas
- ovaries (in females)
- testes (in males)
  
- the function of hormones, endocrine glands, cell receptors
- the hormone feedback loop
- the function of hormones related to body systems, including:
  - insulin
  - glucagon
  - testosterone
  - progesterone
  - catecholamines
  - corticosteroids
  - adrenaline
  - cortisol
  - adrenocorticotrophic hormone (ACTH)
  - growth hormone
  - thyroid hormone
  - melatonin
  - thyroxin
  - calcitonin
  - follicle stimulating hormone (FSH)
  - luteinizing hormone (LH)
  
- structures of the respiratory system from a diagram, including:
  - lungs
  - trachea
  - bronchus

- bronchi
- bronchiole
- alveoli
- diaphragm
- pulmonary blood vessels (pulmonary veins, pulmonary artery, pulmonary capillaries)
  
- the functions of the respiratory system
- the muscles involved in breathing, including:
  - intercostal
  - diaphragmatic
  
- the process of air passage, including:
  - nose and mouth
  - pharynx
  - larynx
  - trachea
  - primary bronchi
  - bronchioles
  - alveoli
  
- the process of gaseous exchange, including:
  - inhalation
  - alveolar gas exchange
  - diffusion
  - oxygen transport
  - carbon dioxide removal
  - exhalation

## **Urinary system**

Teach learners about:

- the structures of the urinary system from a diagram, including:
  - kidneys (outer cortex, inner medulla, nephron)
  - ureters
  - urinary bladder
  - urethra
- the functions of each structure of the urinary system, including:
  - kidneys (outer cortex, inner medulla, nephron)
  - ureters
  - urinary bladder
  - urethra
- the composition of waste and the elimination process, including:
  - urine production
  - regulation of urine concentration and volume
  - filtration — glomerulus, glomeruli, bowman's capsule, loop of Henle
  - re-absorption, micturition reflex
- factors that affect urine production and the hormones involved, including:
  - anti-diuretic hormone (ADH)
  - aldosterone
  - calcitonin

## **Digestive system**

Teach learners about:

- the structures of the digestive system, including:
  - mouth
  - pharynx

- oesophagus
  - stomach
  - small intestine
  - duodenum
  - jejunum
  - ileum
  - large intestine
  - rectum
  - anus
- organs and structures that assist in digestion, including:
    - teeth
    - tongue
    - salivary glands (parotid, submandibular and sublingual)
    - liver
    - pancreas
    - gall bladder
    - bile ducts
- the process of digestion and absorption, including:
    - macronutrients
    - end products
    - enzymes, and where they are released
    - nutrients, and how each is affected by enzymes
    - mechanical and chemical digestion
- enzyme characteristics, including:
    - amylase (found in saliva and pancreas) — breaks down complex carbohydrates into simple sugars
    - maltase (small intestine) — converts maltose into glucose
    - lactase (small intestine) — breaks down lactose (milk sugar)
    - sucrase (small intestine) — converts sucrose (table sugar) into glucose and fructose

- protein-digesting enzymes: pepsin (stomach) — initiates protein breakdown into peptides
  - trypsin and chymotrypsin (pancreas) — further break down proteins into smaller peptides
  - peptidases (small intestine) — converts peptides into individual amino acids
  - lipase (pancreas) — breaks down triglycerides into fatty acids and glycerol
  - nucleic acid-digesting enzymes: nucleases (pancreas) — breaks down DNA and RNA into nucleotides
- the process of elimination and waste removal
  - the function of each structure of the digestive system, including:
    - mouth
    - pharynx
    - oesophagus
    - stomach
    - small intestine
    - duodenum
    - jejunum
    - ileum
    - large intestine
    - rectum
    - anus

## **Reproductive system**

Teach learners about:

- the structure of the male and female reproductive system, including:

### **female**

- ovaries
- fallopian tubes
- uterus
- vagina

- mons pubis
- labia majora and minora
- clitoris
- crura
- hymen
- greater vestibular glands
- vulvar vestibule
- urinary meatus

### **male**

- testes
  - epididymis
  - vas deferens
  - urethra
  - penis
  - seminal vesicles
  - ejaculatory ducts
  - urinary meatus
  - Cowper's glands
  - prostate gland
- the hormones related to the female reproductive system:
    - oestrogen
    - progesterone
    - prolactin and oxytocin in childbirth and lactation
  - the hormones related to the male reproductive system:
    - androgens
    - testosterone
  - factors influencing the female system, including:
    - pregnancy

- childbirth
- menopause
- the process of production of sex cells, spermatozoa and ovum
- the development of sex cells to zygote and development in the foetus

## Resources

The occupational expertise of those involved in the assessment and quality assurance processes is key to ensuring valid, fair and reliable assessment. The assessor and internal verifier must be occupationally competent.

They must:

- hold an appropriate professional and/or technical qualification, for example HND Beauty Therapy or equivalent, that demonstrates an in-depth technical knowledge of the unit and the standard of competencies required
- hold an appropriate teaching qualification, or be working towards one
- be able to interpret current working practices, technologies and products in the beauty industry and be committed to upholding the integrity of the unit
- demonstrate competence in assessment and/or internal verification of the subject
- have access to and engage with continuous professional development activities, to keep up to date with developments and any issues relevant to the unit

Learners must have access to:

- digital tools: laptops, tablet, and computers
- e-learning platforms for virtual classes or supplementary learning (for example, Microsoft Teams, Moodle, Blackboard)
- presentation tools like PowerPoint and TikTok for visual learning aids
- course materials: learner handouts, textbooks, articles, and other reading and/or reference materials
- multimedia content: videos, podcasts, or online tutorials
- formative and summative assignments and quizzes to track progress and understanding

- appropriate resources
- facilities: access to a realistic working environment that reflects current industry practice, including toilet and water facilities
- library access for research and study
- suitable digital resources for research, preparation and revision for closed-book assessments

Resources should be accessible for translation if required where English is not the learner's first language, especially relating to anatomical wording and terminology.

## **Approaches to delivery**

This unit is one of several mandatory units that prepares learners to work as a professional beauty or complementary therapist. You provide learners with a broad knowledge and understanding of the basic anatomy and physiology of the major systems of the body. This enhances learners' awareness of how their profession can improve and maintain the quality of life of their clients.

Your learning and teaching should involve a holistic approach, where possible. The unit's terminology is scientific in nature, and learners must become comfortable and competent with medical terminology. Therefore, using the correct terminology should be an integral part of the learning, teaching and assessment process.

As the unit is knowledge-based only, we recommend that you use various ways of delivering and recapping key knowledge. Where possible, include knowledge quizzes or research tasks to underpin and review knowledge. This can be set as a homework task or self-directed study.

You should use of diagrams that closely replicate the diagram structure used for assessment. For example, teach and assess the same cross-section of knowledge in an accessible way for learners. Ensure digital copies of diagrams are accessible for revision purposes. Diagrams should be comprehensive and cover the full range of assessed structures.

## **Approaches to assessment**

Learners identify and describe the major structures and functions of the body system. They identify a range of structures covering the face and body from a diagram. Learners should describe, through questioning, the structures and functions of the body systems.

Assess outcomes 1 to 6 in an unseen, closed-book, supervised environment.

Assess each outcome individually. Carry out each closed-book assessment with the same assessment conditions.

Learners must achieve 70% to pass the assessment. Where learners achieve less than 70%, you should arrange re-assessment using a different closed-book paper for the same body system.

# Equality and inclusion

This unit is designed to be as fair and as accessible as possible with no unnecessary barriers to learning or assessment.

You must consider the needs of individual learners when planning learning experiences, selecting assessment methods or considering alternative evidence.

Guidance on assessment arrangements for disabled learners and those with additional support needs is available on the [assessment arrangements web page](#).

# Information for learners

## Human Anatomy and Physiology for Beauty and Complementary Therapy (SCQF level 7)

This information explains:

- what the unit is about
- what you should know or be able to do before you start
- what you need to do during the unit
- opportunities for further learning and employment

### Unit information

This unit helps you gain in-depth knowledge of the structures and functions of the major body systems. You:

- identify and describe the structures of the major systems of the body
- understand how the body systems work and how they link to other body systems
- understand the anatomical terms related to each body system

The unit underpins and supports other mandatory units in Higher National Certificate (HNC) Beauty and HNC Complementary Health, and helps prepare you for your role as a fully-qualified beauty or complementary therapist.

Over 6 outcomes, you carry out 6 closed-book written assessments.

Before starting the unit, you should have passed the units Human Biology, Biology, or Anatomy and Physiology at SCQF level 6.

For health and safety reasons, it is the centre's responsibility to ensure that candidates are 16 years old at the time of registration. See the [Hair and Beauty Industry Authority \(HABIA\) fact sheet](#) for more information on pre-16 age restrictions.

After completing the unit, you can carry out further study in Higher National Diploma (HND) Beauty Therapy or HND Complementary Health, or pursue a career in beauty and/or complementary therapy.

## **Meta-skills**

Throughout this unit you develop meta-skills that are useful for the beauty therapy sector.

Meta-skills are transferable behaviours and abilities that help you adapt and succeed in life, study and work. There are three categories of meta-skills: self-management, social intelligence and innovation.

### **Self-management**

This includes focusing, integrity, adapting and initiative. The most relevant are:

- focusing:
  - focusing on specific knowledge areas
- adapting:
  - adjusting to different ways of researching and learning
  - taking part in revision sessions
- initiative:
  - analysing questions carefully
  - breaking down what's being asked
  - identifying key terms
  - using initiative to check for errors, spot mistakes or improve clarity

### **Social intelligence**

This includes communicating, feeling, collaborating and leading. The most relevant are:

- communicating:
  - ensuring understanding of content
- leading:
  - leading own learning

## **Innovation**

This includes curiosity, creativity, sense-making and critical thinking. The most relevant are:

- curiosity:
  - researching various aspects of anatomy
  - enhancing study techniques
- sense-making:
  - learning more about the complex body systems
  - interpreting and understanding complex information
- critical thinking:
  - preparing for closed-book assessments
  - picking up on complex areas of study

## **Learning for Sustainability**

Throughout this unit, you develop skills, knowledge and understanding of sustainability.

You learn about social, economic and environmental sustainability principles and how they relate to the beauty therapy sector. You also develop an understanding of the [United Nations Sustainable Development Goals](#).

# Administrative information

**Published:** June 2026 (version 1.0)

**Superclass:** HL

## History of changes

Version	Description of change	Date

Please check [our website](#) to ensure you are using the most up-to-date version of this unit.

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