# Unit Specification

## UBT287 – Anatomy, Physiology and Pathology

Unit reference number: A/650/6631

**Level: 3**
**Guided Learning (GL) hours: 90**

### Overview

The aim of this unit is to provide all of the necessary underpinning knowledge of anatomy and physiology to enable learners to understand the structure and function of the human body, in order that they might safely and confidently apply a range of health, beauty and aesthetic treatments.

This unit will also provide an introduction to common pathologies for each body system to assist the learners in identifying when and how a client may be contra-indicated to treatment.

### Learning outcomes

On completion of this unit, learners will:

LO1 Understand and relate to the organisation of the human body

LO2 Understand the anatomy and physiology of the human body

LO3 Understand the relevant pathologies associated with each system of the human body

Version 2

# Unit content

## LO1 Understand and relate to the organisation of the human body

| **Organisation of the human body** |
| --- |
| Taught content |
| • Cell, tissues, organs, systems, organisms, chemicals |

| **Directional terms** |
| --- |
| Taught content |
| • Anterior, ventral, caudal, cranial, inferior, deep, distal, dorsal, external, internal, lateral, longitudinal, medial, palmar, peripheral, plantar, posterior, proximal, superficial, superior, visceral, ipsilateral, contralateral |

| **Anatomical terms in relation to positions, regions and movement** |
| --- |
| Taught content |
| • Median or sagittal, coronal or frontal, transverse<br>• Abdominal, axillary, brachial, buccal, calcaneal, carpal, coeliac, cephalic, cervical, costal, crural, cubital, cutaneous, femoral, forearm, frontal, gluteal, groin, inguinal, lumbar, mammary, occipital, ophthalmic, oral, orbital, palmar, patellar, pectoral, pelvic, perineal, plantar, popliteal, sacral, sphincter tarsal, thoracic, umbilical<br>• Abduction, action, adduction, elevation, supination, pronation, rotation, inversion, eversion, circumduction, flexion, extension, agonist, prime mover or protagonist, antagonist, synergist, fixator, protraction. retraction, dorsiflexion, plantar flexion, lateral flexion, isometric, isotonic, origin, insertion belly, fascia, attachment fatigue, levator, ligament, tendon , tension, depression tensor, tonus, atony, atrophy, dystrophy, rupture, hernia |

## LO2 Understand the anatomy and physiology of the human body

| **Cells** |
| --- |
| Taught content |
| • Cytology<br>• The structure of a cell<br>  - Cell membrane, cytoplasm, Golgi apparatus, rough and smooth endoplasmic reticulum, mitochondria, lysosome, vacuole, nucleus, nucleolus, nuclear pore, chromosome, deoxyribonucleic acid, centrioles (centrosome), centromere, chromatids<br>• Characteristics of a cell<br>  - Movement, respiration, sensitivity, growth, reproduction, excretion, nutrition, metabolism, anabolism, catabolism<br>  - Osmosis, diffusion, active transport, phagocytosis, pinocytosis, filtration<br>• Cell division<br>  - Mitosis, meiosis – interphase, prophase, metaphase, anaphase, telophase, daughter cells |

| **Tissues** |
| --- |
| Taught content |
| • Histology<br>• Main types of tissue<br>  - Epithelial – simple, squamous, cuboidal, columnar, ciliated, compound, stratified, keratinised, non-keratinised, transitional<br>  - Connective – areolar, adipose, white fibrous or dense connective tissue, yellow elastic, lymphoid or reticular tissue, cartilage – hyaline, white fibrocartilage or yellow elastic fibrocartilage, bone, blood<br>  - Nervous tissue<br>  - Muscular tissue – striated, non-striated, cardiac<br>  - Membranes – serous, mucous, synovial |

**Integumentary system**

Taught content

- Structure of the skin
- Epidermis
    - Stratum corneum (horny layer), stratum lucidum (transparent layer), stratum granulosum (granular layer), stratum spinosum (prickle cell layer), stratum germinativum (basal layer), keratinisation, melanocytes, Malpighian layer, columnar cells, keratinocytes, desquamation, acid mantle
- Dermis
    - Papillary, reticular, Langers lines, sebaceous gland, arrector pili muscle, dermal papillae, hair follicle, hair follicle walls (outer root sheath), hair bulb, bulge, stem cells, sweat gland (eccrine and apocrine), sweat pore, sweat duct, Langerhans cells, fibroblasts, mast cells, leucocytes, phagocytes, sensory nerves, motor nerves, Pacinian corpuscles, Ruffini corpuscles, Meissner's corpuscles, arteriole, venule, lymphatic vessel, collagen, elastin
- Subcutaneous (hypodermis), areolar, adipose, fat cells
- Functions of the skin
    - Secretion, heat regulation, absorption, protection, excretion, sensation, vitamin D formation, melanin formation
- Growth and repair stages of the skin
    - Keratinisation, desquamation, wound healing
- Skin types
    - Balanced, dry (asteatosis), oily (seborrheic), combination
- Skin conditions
    - Lax elasticity, hyper and hypo pigmentation, congested, pustular, fragile, vascular, sensitised, sensitive, dehydrated, photo-sensitive, photo-aged, lack lustre
- Structure of the hair
    - Hair shaft, medulla, cortex, cuticle, inner root sheath (cuticle, Huxley and Henle layer), germinal matrix, connective sheath, vitreous membrane
    - Structure and growth of hair – anagen, catagen, telogen
    - Hair types of the body – lanugo, vellus, terminal
- Skin classification
    - Fitzpatrick scale
    - Phenotype and genotype
    - Lancer scale
- Factors which may affect hair growth
    - Congenital, hormonal, topical, systemic, non-systemic, medication
- Structure of the nail
    - Nail plate, nail bed, nail grooves, germinal matrix, eponychium, perionychium, hyponychium, nail mantle or proximal nail fold, lunula, nail wall, free edge, cuticle, nail growth
- The process by which the nail grows
    - Formed in the matrix, three layers, keratin, rate of growth
- The factors which affect nail growth
    - Health, lifestyle, diet, age, climate, illness, medication, nail damage, skin texture, chemotherapy, radiotherapy, smoking, alcohol, stress, lack of sleep, current hand and nail care routine

**Skeletal system**

Taught content

- Osteology
- Axial and appendicular
- Position of bones
    - Clavicle, humerus, radius, ulna, carpals, metacarpals, phalanges, vertebrae, (cervical, atlas, axis, thoracic, lumbar, sacral), coccyx, foramen, innominate bones, ilium, pubic symphysis, pubis, ischium, acetabulum, sacro-iliac joint, femur, patella, tibia, fibula, tarsals, metatarsals, phalanges, sternum, manubrium, gladiolus, xiphoid process, ribs, scapula, glenoid cavity
- Bones of the head and face
    - Cranium, temporal, occipital, parietal, frontal, sphenoid, ethmoid, lacrimal, zygomatic, nasal, mandible, maxillae, vomer, turbinate, hyoid, palatine, sutures
- Bones of the hand
    - Scaphoid, lunate, triquetrum, pisiform, trapezium, trapezoid, capitate, hamate, metacarpals, phalanges
- Bones of the foot
    - Calcaneus, talus, navicular, cuboid, cuneiform, metatarsals, phalanges
- Structure and growth of bones
    - Compact, cancellous, ossification, osteoblasts, osteoclasts, osteocytes, lamellae, mineral calcium, epiphysis, diaphysis, medullary canal, periosteum, epiphyseal cartilage, chondrocytes
- Types of bones
    - Long, short, irregular, flat, sesamoid
- Types of joints
    - Fixed or fibrous or immoveable, slightly moveable or cartilaginous, freely moveable or synovial
- Types of synovial joints
    - Pivot, hinge, condyloid, ball and socket, saddle, gliding
- Functions of the skeletal system
    - Gives shape and support forming a framework for the body, protection, provides attachment for tendons and muscles, forms joints to give movement, red blood cells are made in the red bone marrow located in the cancellous bone

## Muscular system

Taught content

- Myology
- The types of muscle tissue
    - Voluntary or skeletal or striated, involuntary or smooth or non-striated, cardiac, myofibril, sarcolemma, nuclei, endomysium, perimysium, epimysium, tendon, actin, myosin
- Characteristics of muscle tissue
    - Power of contraction, elasticity, fatigue, muscle tone
- Functions of muscle tissue
    - Heat production, maintaining posture, movement
- How a muscle contracts
    - Myofibril, actin, myosin, glycogen, glucose, lactic acid, aerobic, anaerobic, oxygen debt, isotonic, isometric, motor nerve, factors affecting muscle tone, muscle tension, muscle fatigue
- How a muscle provides movement
    - Tendon, joint, agonist, antagonist, cerebrum, motor nerves, contraction, fascia
- The position, origin and action of the muscles
- Head and face
    - Corrugator, orbicularis oculi, orbicularis oris, quadratus labii superior or levator labii superioris and levator anguli oris, triangularis or depressor anguli oris, depressor labii inferioris, mentalis, procerus, nasalis, buccinator, risorius, zygomaticus, masseter, temporalis, frontalis, occipitalis, platysma, sternocleidomastoid, trapezius, muscles of mastication – pterygoids (medial and lateral), masseter and temporalis
- Arm and hand
    - Biceps, triceps, brachialis, deltoid, brachioradialis, coracobrachialis, pronator teres, supinator radii brevis, flexor carpi radialis, flexor carpi ulnaris, palmaris longus, palmar aponeurosis, flexor digitorum profundus, flexor carpi digitorum, flexor digitorum superficialis, thenar, hypothenar, flexor pollicis brevis, abductor pollicis brevis, triceps, extensor carpi radialis, extensor carpi ulnaris, extensor pollicis longus, extensor carpi digitorum, tendons of extensor digitorum
- Trunk – anterior and posterior
    - Pectoralis minor and major, rectus abdominis, transversus abdominis, external and internal obliques, linea alba, subscapularis, serratus anterior, intercostals, rhomboid major and minor, supraspinatus, infraspinatus, trapezius, teres major and minor, erector spinae, latissimus dorsi, quadratus lumborum, splenius capitis
- Leg and foot
    - Rectus femoris, vastus medialis, vastus lateralis, vastus intermedius, gracilis, sartorius, iliopsoas, tensor fascia latae, adductor brevis, adductor longus, adductor magnus, piriformis, extensor digitorum longus, extensor hallucis longus, extensor digitorum brevis, peroneus longus, peroneus brevis, peroneus tertius, abductor hallucis, pronator teres, tibialis anterior, gastrocnemius, soleus, Achilles tendon, biceps femoris, semitendinosus, semimembranosus, gluteus maximus, gluteus medius, gluteus minimus, tibialis posterior, flexor digitorum longus, flexor hallucis longus

**Circulatory system**

Taught content

- Hematology
- Types of circulation
  - Pulmonary, portal, systemic, coronary
- Composition and function of blood
  - Erythrocytes, leucocytes – granulocytes, monocytes and 'T' and 'B' lymphocytes (effector and memory cells), thrombocytes (platelets), plasma, transportation, protection, immunity, regulation of temperature, homeostasis, clotting, blood groups
- Structure of blood vessels and how blood is transported
  - Lumen, arteries, arterioles, capillaries, venules, veins, valves, tunica intima (endothelium), tunica media, tunica adventitia, cell nutrition - semi-permeable membrane, osmosis, diffusion and active transport
- The process of blood clotting
  - 12 clotting factors
  - Platelets, thromboplastin, prothrombin, thrombin, fibrinogen, fibrin, calcium
- Blood pressure, pulse rate and how they are measured
  - Diastolic, systolic, sphygmomanometer, pulse points
- Structure and function of the heart
  - Cardiac muscle, pericardium, myocardium, endocardium, serous membrane, atrium, ventricle, bicuspid valve, tricuspid valve, septum, pulmonary artery, pulmonary vein, aorta, superior vena cava, inferior vena cava, sinoatrial node, atrioventricular node, medulla oblongata, autonomic nervous system
  - Function – pump that is used to move blood around the body through vessels
- Coronary circulation
  - Coronary arteries and coronary veins
- Structures and process of pulmonary circulation
  - The heart, pulmonary artery – deoxygenated blood, pulmonary vein – oxygenated blood, lungs, alveoli, process of gaseous exchange
- Systemic circulation
  - Circulation of blood around the body
- Portal circulation
  - Hepatic portal vein to the liver
- Main arteries of the face and head
  - Common carotid, external carotid, occipital, facial, maxillary, lingual, superficial temporal, thyroid
- Main veins of the face and head
  - External jugular, internal jugular, common facial, anterior facial, maxillary, superficial temporal
- Main arteries of the body
  - Aorta, common carotid, subclavian, splenic, right and left iliac, renal artery, hepatic artery
- Main veins of the body
  - Superior vena cava, inferior vena cava, splenic vein, right and left iliac vein, renal vein, hepatic vein, hepatic portal vein, subclavian
- Main arteries of the arm
  - Subclavian, common carotid, brachial, ulnar, radial, deep palmar arch, superficial palmar arch, digital
- Main veins of the arm
  - Axillary, brachial, basilic, cephalic, subclavian, palmar digital
- Main arteries of the leg
  - External iliac, femoral, popliteal, anterior tibial, posterior tibial, plantar arch
- Main veins of the leg
  - Long saphenous, short saphenous, dorsal venous arch, femoral, popliteal, anterior tibial, posterior tibial

**Lymphatic system**

Taught content

- Structure and function of the lymphatic system
  - Lymphatic fluid (interstitial fluid), lymphatic capillary, lymphatic vessel, semi-lunar valves, lymphatic node, lymphocytes
- The position of the main lymph nodes – body
  - Thoracic duct, right lymphatic duct, axillary, supra-trochlear, inguinal, cisterna chyli, popliteal, thymus gland, lacteals, spleen, thymus gland, superficial and deep cervical
  - Face – buccal, mandibular, mastoid, occipital, submental, submandibular, parotid (anterior auricular), mastoid (posterior auricular)
- The movement of lymph
  - No central pump, skeletal/muscular contractions, pressure changes in the thorax
- The functions of the lymphatic system
  - Defence against harmful pathogens, maintains correct balance of body fluids, absorption of fats (lacteals)

**Respiratory system**

Taught content

- The structure and function of the organs of the respiratory system
  - Nose, nasal cavity, sinus, mouth, pharynx, larynx, trachea, bronchi, bronchioles, alveoli, right and left lung, ribs, pleural cavity, diaphragm, intercostal muscles
- External and internal respiration
  - External respiration, alveoli diffusion, internal respiration – cellular inter-change of gases
- Nervous control of respiration
  - Chemo-receptors, medulla oblongata
- Modified respiratory movements
  - Crying, coughing, hiccoughs, laughing, sighing, sneezing, talking, yawning

| **Endocrine system** |
| --- |
| Taught content |
| • Structure of endocrine glands<br>- Endocrine (ductless) glands, exocrine glands, hormones, feedback mechanism, hypersecretion, hyposecretion, autonomic nervous system<br>• The position of the endocrine glands<br>- Hypothalamus, pituitary – anterior and posterior, thyroid, parathyroid, islets of Langerhans, adrenals, ovaries, testes, pineal gland<br>• The endocrine glands and the hormone(s) secreted and functions<br>- Pituitary – adrenocorticotropic hormone (ACTH), growth hormone, thyroid stimulating hormone, follicle stimulating hormone, luteinising hormone, prolactin, melanin stimulating hormone, interstitial cell stimulating hormone, oxytocin, anti-diuretic (vasopressin) hormone<br>- Adrenal gland (cortex) – mineralocorticoids – aldosterone, glucocorticoids – cortisol and corticosterone, androgens<br>- Adrenal gland (medulla) – adrenaline (epinephrine), noradrenaline<br>- Thyroid gland – thyroxine (T4), triiodothyronine (T3), calcitonin<br>- Parathyroid gland – parathormone<br>- Islets of Langerhans – insulin – beta cells, glucagon – alpha cells, somatostatin – gamma cells<br>- Pineal gland – melatonin<br>- Thymus gland – thymosin<br>• Role and effects that hormones have on the following<br>- Puberty, pregnancy, menopause, menstrual cycle, stress |

## Nervous system

Taught content

- Neurology
- The structure and function of the nerve cell
    - Neurone, neuroglia, nerve cell body, axon, Schwann cells, dendrite, myelin sheath, nodes of Ranvier, axon terminals, synapse, ganglia, reflex arc, grey matter, white matter, sensory nerve (afferent), motor nerve (efferent), mixed nerve, neurilemma, neuro-transmitters – acetylcholine and noradrenaline, synaptic cleft, plexus
- Characteristics of nervous tissue
    - Irritability, conductivity
- The five senses
    - Smell, sight, hearing, taste and touch
- The structure and function of the central nervous system (CNS)
    - Brain and spinal cord, cerebrospinal fluid, cerebrum, basal ganglia, thalamus, hypothalamus, cerebellum, midbrain, medulla oblongata, pons Varolii, meninges – pia mater, arachnoid mater and dura mater
- The structure of the peripheral system, face and neck
    - 12 pairs of cranial nerves, 31 pairs of spinal nerves
    - 5th cranial nerve (trigeminal), 7th cranial nerve (facial) and 11th cranial nerve (accessory)
- The autonomic nervous system
    - Sympathetic, parasympathetic

## Digestive system

Taught content

- The digestive system
    - Ingestion, digestion, absorption, elimination, peristalsis
- Dietary components
    - Carbohydrates, proteins, fats, water, minerals, vitamins, roughage
- The structure and function of the digestive system
    - Mouth, tongue, papillae, teeth, mastication, bolus, pharynx, epiglottis, salivary glands, oesophagus, peristalsis, cardiac sphincter, stomach, peritoneum, rugae, hydrochloric acid, pepsinogen, pepsin, pyloric sphincter, chyme, small intestine - duodenum, jejunum and ileum, sphincter of Oddi, villi, enterocytes, lacteals, ileocaecal valve, large intestine - caecum, ascending colon, transverse colon, descending colon, sigmoid colon, rectum, anal canal; appendix, spleen
- The structure and function of the accessory organs
    - Liver, gall bladder, pancreas (islets of Langerhans)
- The process of chemical absorption in the alimentary canal for
    - Carbohydrates, proteins, fats
    - Enzymes, salivary amylase or ptyalin, hydrochloric acid, pepsinogen, pepsin, CCK, secretin, chymotrypsinogen, trypsinogen, pancreatic amylase, pancreatic lipase, pancreatic peptidases, intestinal juice - enteropeptidase, bile salts, bile pigment (bilirubin), polysaccharides, disaccharides, monosaccharides, sucrase, maltase, lactase, polypeptides, tripeptides, dipeptides, amino acids, fatty acids and glycerol, vitamin K, folic acid

## Excretory system

Taught content

- Urology
- Structure and function of the urinary system
    - Kidney (cortex and medulla), ureter, urethra, bladder, cortex, medulla, renal pelvis, nephron – proximal and distal convoluted tubule, loop of Henle, glomerulus, glomerular capsule (Bowman's capsule), afferent arteriole, efferent arteriole, micturition
- Formation of urine
    - Homeostasis, nephron, simple filtration, selective re-absorption and secretion, antidiuretic hormone (ADH) or vasopressin, calcitonin, aldosterone
- Composition of urine
    - Water, urea, salts, chlorides, potassium and sodium, creatine, organic and inorganic compounds and hormones
- Factors that affect urine production
    - Cold and hot weather, activity and inactivity, stress, water consumption, medication

## Reproductive system

Taught content

- The structure and function of the male reproductive system
    - Testes, vas deferens, epididymis, prostate gland, scrotum, penis, sperm, fertilisation
- The structure and function of the female reproductive system
    - Vulva – mons pubis, labia majora, labia minora, clitoris (the external portion of the clitoris consisting of the clitoral glans and the clitoral hood), the hymen, vagina, uterus, cervix, fallopian tubes, ovaries, ova, urinary meatus, fertilisation/gestation/birth
- Cycles and the hormones involved
    - Puberty, menstrual cycle, ovulation, pregnancy
    - Menopause
- The influence of hormone replacement therapy during menopause

## The breast

Taught content

- Structure and function of the breast
    - Glandular, ligaments of Cooper, adipose and areolar, nipple, areola, Montgomery's tubules, arterial and venous blood supply, lymph drainage, nerve supply, colostrum, prolactin, oxytocin, lactation

| **The eye** |
| --- |
| Taught content |
| • Structure and function of the eye<br>- Outer fibrous layer – sclera, cornea, conjunctiva<br>- Middle vascular layer – choroid, ciliary body and iris, pupil<br>- Inner nervous layer – retina, lens, aqueous humour, vitreous humour |

| **The ear** |
| --- |
| Taught content |
| • Structure and function of the ear<br>- External – lobule, fibro-elastic cartilage, auricle (pinna), external acoustic meatus, cerumen, temporal bone, tympanic membrane<br>- Middle – oval and round window, auditory tube, ossicles – malleus, incus, stapes<br>- Internal ear – bony labyrinth – vestibule, cochlea, semi-circular canals<br>- Membranous labyrinth – organ of Corti, auditory nerve, perilymph, endolymph,<br>• Physiology of hearing<br>- Cerebrum<br>• Sense of balance<br>- Cerebellum |

## LO3 Understand the associated pathologies of each system

| **Pathologies of the integumentary system** |
|---|
| Taught content |
| • Allergic reaction, benign, bruise, bulla, crust, erythema, excoriation, fissures, haemangioma, hyperaemia, inflammation, keloid, macule, malignant, papule, pustule, nodule or cyst, oedema, scales, scar, tumour, ulcer, vesicle, weal, weeping, chilblains, couperose, telangiectasia, comedones, crow's feet, hyper-keratosis, milia, pseudo folliculitis, urticaria, hyperpigmentation, hypopigmentation, atopic eczema, atopic dermatitis, psoriasis, acne vulgaris, acne rosacea, boils, carbuncles, folliculitis, impetigo, herpes simplex, herpes zoster, warts, verrucae, candida, tinea corporis, tinea pedis, albinism, chloasma, dermatosis papulosa nigra, ephelides, lentigo, leucoderma, naevae, papilloma, port wine stain (capillary naevus), vitiligo, sebaceous cysts (steatoma), skin tags (fibroma, verrucae filiformis), spider naevi, styes, xanthomas, hyperhidrosis (excessive sweating), prickly heat (miliaria rubra), skin cancers (melanoma and non-melanoma), Pseudofolliculitis Barbae, Acne keloidalis, Keratosis pilaris, Post inflammatory hyper pigmentation, Melasma<br>• Specific pathologies of the nails<br>- Oncholysis, onychophagy, hang nails, onychocryptosis, fragilitas unguium, pterygium unguium, leukonychia, onychorrhexis, onychoschizia, beau's line, longitudinal ridges, eggshell nails, blue nails, black or brown patches, black streaks, paronychia, onychia, pitting of the nail, hypertrophy (onychauxis), atrophy (onychotrophia), tinea unguium (onychomycosis), tinea manuum, koilonychia, onychogryphosis, onychoptosis |

| **Pathologies of the skeletal system** |
|---|
| Taught content |
| • Arthritis – osteo and rheumatoid, ankylosing spondylitis, bone cancer, carpal tunnel syndrome, cervical spondylitis, fractures – simple, compound, comminuted, greenstick, impacted, complicated, ganglion cyst, gout, osteoporosis, prolapsed intervertebral, synovitis, tooth disorders, whiplash, prostheses, osteomalacia, osteogenesis imperfecta, psoriatic arthritis, Paget's disease, spinal stenosis, hammer toes, hallux valgus |

| **Pathologies of the muscular system** |
|---|
| Taught content |
| • Adhesions, adhesive capsulitis (frozen shoulder), atony, atrophy, Achilles tendonitis, lumbago, rheumatism, bursitis, cramp, deltoid bursitis, fibromyalgia, housemaid's knee, lateral epicondylitis (tennis elbow), medial epicondylitis (golfer's elbow), microtrauma, myositis, repetitive strain injury, rupture, shin splints, spasm, spasticity, sprain, strain, stress, tendonitis, Achilles bursitis, muscular dystrophy, tetanus |

| **Pathologies of the circulatory system** |
|---|
| Taught content |
| • Anaemia, aneurism, arteriosclerosis, AIDS/HIV, coronary thrombosis, haemorrhoids, haemophilia, high and low blood pressure, high cholesterol, hepatitis A, B and C, leukaemia, phlebitis, septicaemia, stress, thrombosis, varicose veins, cardiac arrhythmia, cardiac failure, epistaxis (nosebleeds), gangrene, heart disease, hole in the heart, intermittent claudication, myocardial infarction, palpitations, pulmonary embolism, Raynaud's disease, sickle cell anaemia, thalassaemia, varicose ulcers |

| **Pathologies of the lymphatic system** |
|---|
| Taught content |
| • Hodgkin's disease, non-Hodgkin's lymphoma, Hashimoto's thyroiditis, lymphoma |

| **Pathologies of the respiratory system** |
|---|
| Taught content |
| • Asthma, bronchitis, common cold, cough, emphysema, hay fever, influenza, laryngitis, pleurisy, pharyngitis, pneumonia, pulmonary embolism, rhinitis, sinusitis, tonsillitis, tuberculosis, bronchiolitis, chronic obstructive pulmonary disorder, cor pulmonale, cystic fibrosis, hyperventilation, lung cancer, pertussis (whooping cough), pneumothorax, pulmonary fibrosis, sarcoidosis, SARS, snoring, tracheitis |

| **Pathologies of the endocrine system** |
|---|
| Taught content |
| • Gigantism, acromegaly, Simmonds disease, Lorain-Levi syndrome, Frohlich's syndrome, diabetes insipidus, Graves' disease (thyrotoxicosis), cretinism, myxoedema, Cushing's syndrome, Addison's disease, adrenal hyperplasia, Islets of Langerhans – diabetes mellitus, polycystic ovarian syndrome (Stein-Leventhal syndrome) |

| **Pathologies of the nervous system** |
|---|
| Taught content |
| • Bell's palsy, cancer, cerebral palsy, depression (clinical, bipolar seasonal affective disorder (SAD), post-natal), epilepsy, headache, migraine, motor neurone disease, multiple sclerosis, myalgic encephalomyelitis (ME), neuralgia, neuritis, Parkinson's disease, sciatica, stress, stroke, transient ischaemic attack (TIA), Alzheimer's disease, concussion, dementia, meningitis, myasthenia gravis, paralysis, peripheral neuropathy, poliomyelitis, spinal cord injury, spinal bifida, tinnitus and Meniere's disease |

| **Pathologies of the digestive system** |
|---|
| Taught content |
| • Anorexia nervosa, appendicitis, bulimia nervosa, cancer-stomach, cancer-bowel, cirrhosis of the liver, constipation, coeliac disease, diarrhoea, diverticulitis, flatulence, gall stones, gingivitis, reflux oesophagitis (heartburn; commonly known as GORD – gastro-oesophageal reflux disease), hernia (abdominal), hiccoughs, dyspepsia (indigestion), irritable bowel syndrome, jaundice, nausea, obesity, ulcer (aphthous (mouth), duodenal, gastric, peptic), candida, colitis, ulcerative colitis, Crohn's disease, diverticulosis, diverticulitis, enteritis, gastritis, inflamed gall bladder, pernicious anaemia, ulcer-oesophageal |

| **Pathologies of the excretory system** |
|---|
| Taught content |
| • Cystitis, glomerulonephritis, kidney stones, nephritis (Bright's disease), pyelonephritis or glomerulonephritis, urinary tract infections, urethritis, dysuria, enuresis, incontinence, nephroblastoma, renal failure, renal colic, uraemia |

| **Pathologies of the reproductive system** |
|---|
| Taught content |
| • Amenorrhoea, breast pain, cancer, chlamydia, breast cysts, dysmenorrhoea, ectopic pregnancy, endometriosis, fibroids, fibroadenomas, galactorrhoea, hysterectomy, menorrhagia, mastitis, pre-menstrual tension, polycystic ovarian syndrome, prostatitis, vulvovaginal candidiasis (thrush), vasectomy, low sperm count, Pelvic inflammatory Disease (PID), Herpes simplex virus (HSV), Human papillomavirus infection (HPV), Benign Prostatic hypertrophy, Epididymitis, Orchitis |

## Skin cancer awareness

**Please note this information will not be assessed for the achievement of this unit.**

Public awareness of skin cancer has never been higher, and yet skin cancer remains the fastest growing cancer in the UK, especially amongst young people. The chances of a positive outcome can be dramatically increased with early identification and diagnosis.

Professionals in hair, beauty, sports massage and health and wellbeing industries work closely with clients and in many cases have sight of areas of skin which may not be easily visible to the client. An informed awareness of the signs, symptoms and changes of appearance to be aware of when checking for early signs of cancer is a crucial tool for the conscientious practitioner in order to provide the most thorough service and in some cases, possibly lifesaving information signposting.

Signs to look for when checking moles include utilising the ABCDE guide:

**A** – Asymmetry – the two halves of the area/mole may differ in their shape and not match.

**B** – Border – the edges of the mole area may be irregular or blurred and sometimes show notches or look 'ragged'.

**C** – Colour – this may be uneven and patchy. Different shades of black, brown and pink may be seen.

**D** – Diameter – most but not all melanomas are at least 6mm in diameter. If any mole gets bigger or changes see your doctor.

**E** – Elevation/evolving – elevation means the mole is raised above the surface and has an uneven surface. Looks different from the rest or changing in size, shape or colour. Anyone can get a suspicious mole or patch of skin checked out for free by the NHS by visiting their doctor, who may then refer to a dermatologist (an expert in diagnosing skin cancer).

If you require any additional NHS information please refer to https://www.nhs.uk/be-clear-on-cancer/symptoms/skin-cancer

If your learners are interested in learning more about skin cancer awareness alongside this qualification, VTCT offers the following qualification: VTCT Level 2 Award in Skin Cancer Awareness for Non-Healthcare Professionals.

This qualification has been specifically designed for those working in the sports massage, health and wellbeing, beauty, hairdressing and barbering sectors. It will enable learners to identify any changes to their client's skin and to highlight those changes to the client using appropriate language and communication skills. It will enable the learner to raise awareness of skin cancer and signpost their clients to public information about skin cancer.

This qualification will enable hair, beauty and wellbeing professionals to gain the appropriate knowledge and communication skills required to provide non-diagnostic, professional advice and information to clients in a discrete, empathetic and confidential manner.

For more information please refer to the Record of Assessment book: https://qualifications.vtct.org.uk/finder/qualfinder/1Record%20of%20Assessment%20Book/AG20529.pdf

# Assessment requirements

Learners must complete all assessment requirements related to this unit:

1. Theory examination

## 1. Theory examination

Learners must complete a theory examination for this unit. This will consist of a multiple choice question paper which is mapped to the relevant assessment criteria stated below.

The theory examination will test knowledge and understanding from across learning outcomes 1, 2 and 3. Learners should use the unit content sections of this unit to aid revision since exam questions will test the full breadth of this content over time.

| **Learning Outcome** | **Assessment Criteria** |
|---|---|
| LO1 Understand and relate to the organisation of the human body | 1.1 Organisation of the human body |
| | 1.2 Directional terms |
| | 1.3 Anatomical terms in relation to positions, regions and movement |

| **Learning Outcome** | **Assessment Criteria** |
|---|---|
| LO2 Understand the anatomy and physiology of the human body | 2.1 Cells |
| | 2.2 Tissues |
| | 2.3 Integumentary system |
| | 2.4 Skeletal system |
| | 2.5 Muscular system |
| | 2.6 Circulatory system |
| | 2.7 Lymphatic system |
| | 2.8 Respiratory system |
| | 2.9 Endocrine system |
| | 2.10 Nervous system |
| | 2.11 Digestive system |
| | 2.12 Excretory system |
| | 2.13 Reproductive system |
| | 2.14 The breast |
| | 2.15 The eye |
| | 2.16 The ear |

| Learning Outcome | Assessment Criteria |
|---|---|
| LO3 Understand the relevant pathologies associated with each system of the human body | 3.1 Pathologies of the integumentary system |
| | 3.2 Pathologies of the skeletal system |
| | 3.3 Pathologies of the muscular system |
| | 3.4 Pathologies of the circulatory system |
| | 3.5 Pathologies of the lymphatic system |
| | 3.6 Pathologies of the respiratory system |
| | 3.7 Pathologies of the endocrine system |
| | 3.8 Pathologies of the nervous system |
| | 3.9 Pathologies of the digestive system |
| | 3.10 Pathologies of the excretory system |
| | 3.11 Pathologies of the reproductive system |

**Document History**

| Version | Issue Date | Changes | Role |
|---|---|---|---|
| v1.0 | 01/04/2023 | First published | Product and Regulation Coordinator |
| v2.0 | 11/04/2023 | Removed the word four from page 17 | Qualification Administrator |