Overview
The aim of this unit is to provide learners with the necessary underpinning knowledge of human anatomy and physiology in the areas under treatment. Learners will develop an understanding of the role of the relevant body systems and associated pathology, enabling the learners to have a sound platform to safely and confidently carry out make-up techniques.

Learning outcomes
On completion of this unit, learners will:

LO1 Understand the role and organisation of the human body
LO2 Understand the structure and function of the systems of the body in the areas under treatment
LO3 Understand pathology associated with the systems of the body in the areas under treatment
Assessment requirements

Learners must complete both assessment requirements related to this unit:

1. External examination
2. Graded synoptic assessment

1. External examination

The theory content of LO1 and LO2 will be tested by an external examination towards the end of the period of learning.

External examinations will test knowledge and understanding from across the whole vocational area (mandatory units). Learners should use the unit content section of this unit to aid revision since exam questions will test the full breadth of this section.

External examinations will be set and marked by VTCT and will contribute to the overall qualification grade.

2. Graded synoptic assessment

In the last term or final third of their qualification, learners will be required to undertake a graded synoptic assessment. This will require learners to carry out a range of services from across the whole vocational area (mandatory units). Assessment coverage will vary year on year, although all services will be covered over time.

VTCT will set a brief for centres which will detail the services to be covered in the graded synoptic assessment. Grading descriptors for the synoptic assessment will also be provided by VTCT.

The graded synoptic assessment will be marked and graded by centre staff and externally verified by VTCT.

The graded synoptic assessment will contribute to the overall qualification grade.
Unit content

LO1 Understand the role and organisation of the human body

Learners must know the organisation of the human body:
- The human body is a single structure but it is organised at different levels starting with the cell. Cells are organised into tissues, and tissues form organs. Organs are combined into organ systems

Learners must know the basic structure of a cell:
- Cells are made up of many structural components and organelles
  - Cell membrane, cytoplasm, nucleus, mitochondria, ribosomes, chromosomes

Learners must know the main tissue types:
- Epithelial tissue – is a sheet of cells that covers the body surface or lines a body cavity
- Connective tissue – connects, supports, binds or separates other tissues or organs
- Muscular tissue – is composed of cells that have the special ability to shorten or contract. It can be categorised into skeletal muscle tissue, smooth muscle tissue and cardiac tissue
- Nervous tissue – is found in the brain, spinal cord, and nerves. It is responsible for coordinating and controlling many body activities

Learners must know anatomical terms of motion:
- Anatomy uses its own collection of terms and each has a very specific meaning to describe an anatomical movement
  - Flexion, extension, abduction, adduction, pronation, supination, dorsi-flexion, plantar flexion, inversion, eversion

Learners must know the anatomical terms of direction:
- Directional terms describe the positions of structures relative to other structures or locations in the body
  - Anterior, posterior, medial, lateral, origin, insertion
LO2 Understand the structure and function of the systems of the body in the areas under treatment

Learners must know the structure and function of the skin:

- The structure of the skin has three main layers
  - The epidermis (horny layer (stratum corneum), transparent layer (stratum lucidum), granular layer (stratum granulosum), prickle cell layer (stratum spinosum), basal layer (stratum germinativum))
  - The dermis (papillary layer, reticular layer, sebaceous gland, arrector pili muscle, dermal papillae, hair follicle, sweat gland (eccrine, apocrine), sweat pore, sweat duct, sensory nerves, motor nerves, arteriole, venule, lymphatic vessel, collagen, elastin)
  - The subcutaneous layer (areolar, adipose tissue, fat cells)

- The functions of the skin
  - Secretion
  - Heat regulation
  - Absorption
  - Protection
  - Excretion
  - Sensation
  - Vitamin D formation
  - Melanin formation

- Growth and repair stages of the skin
  - Cell formation, keratinisation, desquamation

- Factors which may affect the skin ageing process
  - Health, lifestyle, medication, age, diet, smoking, UV rays, stress, medical conditions, climate

- How do environmental and lifestyle factors affect the skin condition
  - Skin becomes rougher
  - Skin becomes slack. The loss of the elastic tissue (elastin) in the skin with age causes the skin to hang loosely
  - Skin becomes more transparent. This is caused by thinning of the epidermis
  - Skin becomes more fragile. This is caused by a flattening of the area where the epidermis and dermis come together
  - Loss of fat below the skin in the cheeks, temples, chin, nose, and eye area may result in loosening skin, sunken eyes, and a "skeletal" appearance

- Structure of the hair
  - Hair follicle, hair shaft, medulla, cortex, cuticle, inner root sheath (henle’s layer, Huxley’s layer), outer root sheath, vitreous membrane, connective tissue sheath, root (bulb, matrix, dermal papilla)

- The hair growth cycle
  - Anagen, catagen, telogen

- The hair types
  - Lanugo, vellus, terminal

- The hair functions
  - Hair acts as insulation for the body. Hair found in the ears and around the eyes prevents foreign matter from entering the body. Eyebrows reduce the amount of light that enters the eyes
Learners must know the structure and function of the skeletal system:

- The functions of the skeleton
  - Gives shape and support forming a framework for the body
  - Protection of delicate underlying structures
  - Provides attachment for tendons and muscles
  - Red blood cells formation in red bone marrow
  - Provides movement and leverage
  - Provides calcium and mineral storage

- Structure of the skeleton
  - Bones of the cranium (temporal, occipital, parietal, frontal, sphenoid, ethmoid, zygomatic, nasal, mandible, maxillae, nasal, vomer, turbinate, lacrimal, palatine)
  - Bones of the chest and shoulders (cervical vertebrae, clavicle, scapula, humerus, sternum)

Learners must know the structure and function of the muscular system:

- The function of the muscular system
  - Heat production
  - Movement

- Structure of the muscular system
  - Muscle tissue is categorised into three distinct types: skeletal, cardiac, and smooth. Each type of muscle tissue in the human body has a unique structure and a specific role. Skeletal muscle moves bones and other structures. Cardiac muscle contracts the heart to pump blood. Smooth muscle tissue forms organs like the stomach and bladder

- The location of the main muscles and actions
  - Muscles of the head, face, neck and shoulders (frontalis, occipitalis, temporalis, corrugator, orbicularis oculi, orbicularis oris, mentalis, buccinator, risorius, masseter, temporalis, platysma, nasalis, sternocleidomastoid, trapezius)

Learners must know the structure and function of the cardiovascular system:

- The functions of the cardiovascular system
  - Transport
  - Regulation of body temperature
  - Protection
  - Provide a clotting mechanism

- Structure of the cardiovascular system
  - The cardiovascular system is a complex network containing the heart, blood vessels and blood. Arteries are blood vessels which carry blood from the heart to the body. Veins are blood vessels which carry blood from the body to the heart. There are also microscopic blood vessels which connect arteries and veins together called capillaries

- Location and role of primary vessels
  - Common carotid artery, external carotid artery, occipital artery, facial artery, temporal artery
  - External jugular vein, internal jugular vein, common facial vein, temporal vein, occipital vein, subclavian vein
• The role of the heart and the circulatory paths
  - Systemic circulation (this carries oxygenated blood away from the heart to the body, and returns deoxygenated blood back to the heart)
  - Pulmonary circulation (this carries deoxygenated blood away from the heart, to the lungs, and returns oxygenated blood back to the heart)

**Learners must know the structure and function of the lymphatic system:**

• The function of the lymphatic system
  - Fights infection by producing specialised cells
  - Transports digested fats
  - Removes waste, toxins and excess tissue fluid from tissues and cells

• The structure of the lymphatic system
  - Composition of lymphatic fluid (lymphocytes), lymphatic capillaries, lymphatic vessels, lymphatic nodes, lymphatic tissue

• Functions of the lymph nodes
  - Filter lymph and assist the immune system in building an immune response by producing lymphocytes

• The location of the main lymphatic nodes of the face
  - Buccal, submandibular, submental, parotid, occipital, post and pre auricular, deep cervical, superficial cervical
LO3 Understand pathology associated with the systems of the body in the areas under treatment

**Learners must know the common pathology associated with the skin:**
- Common diseases and disorders of the skin
  - Infestations (scabies, pediculosis capitis)
  - Bacterial infections (impetigo, conjunctivitis, sty, blepharitis, cellulitis)
  - Viral infections (warts, chickenpox, herpes, influenza, viral meningitis, mumps)
  - Fungal infection (ringworm)
  - Skin conditions (psoriasis, eczema, dermatitis, sebaceous cysts, ichthyosis, acne, rosacea)
  - Pigmentation disorders (vitiligo, chloasma, lentigo, naevi, spider naevus, ephelides)
  - Skin cancers (basal cell carcinoma, squamous cell carcinoma, malignant melanoma)

**Learners must know the common pathology associated with the hair and scalp:**
- Infestations (pediculosis capitis)
- Bacterial infections (folliculitis, furuncle, carbuncle)
- Fungal infection (tinea capitis)
- Hair and scalp conditions (cicatrical alopecia, alopecia totalis, traction alopecia, alopecia areata, alopecia universalis, androgenetic alopecia, anagen effluvium, telogen effluvium, dandruff, dry scalp, fragilitas crinium, monilethrix, trichorrhexis nodosa, hirsutism, hypertrichosis)

**Learners must know the common pathology associated with the skeletal system:**
- Common diseases and disorders of the skeletal system
  - Osteoporosis, osteoarthritis, rheumatoid arthritis

**Learners must know the common pathology associated with the muscular system:**
- Common diseases and disorders of the muscular system
  - Muscular dystrophy, fibromyalgia

**Learners must know the common pathology associated with the cardiovascular system:**
- Common diseases and disorders of the cardiovascular system
  - Thrombosis, high and low blood pressure

**Learners must know the common pathology associated with the lymphatic system:**
- Common diseases and disorders of the lymphatic system
  - Oedema, glandular fever, tonsillitis
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 runs 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
Resources

The special resources required for this unit are access to good quality anatomy and physiology text books, E books, DVD’s, CD’s.

Delivery guidance

Teachers are encouraged to use innovative, practical and engaging delivery methods to enhance the learning experience. Learners may benefit from:

- Using interactive information and technology, systems and hardware so they can learn about concepts and theories; produce visual aids to expand knowledge on anatomy and physiology

Links with other units

This unit is closely linked with the following units:

UCO34M Health, safety and hygiene
The health and safety unit will provide knowledge and understanding of the responsibilities for health and safety as defined by any specific legislation covering the role of a professional therapist. This unit greatly underpins all practical unit delivery. Learners will be required to apply their knowledge and understanding of health and safety when preparing for services/treatments in a real or realistic working environment.

UBT201M Make-up applications
The make-up applications unit is a key tool for the beauty counter consultant. Learners will develop the skills and knowledge to be able to understand and apply basic make-up services for a client/model and to be able to adapt them for a variety of occasions. Learners will develop their knowledge and skills to prepare and provide a professional make-up service.

UBT217M Hair preparation services
This unit is closely linked with the anatomy and physiology for make-up artist unit as it closely underpins the knowledge required to prepare hair effectively for further services.

UBT219M Dress and finish hair services
The ability to dress and finish hair and hair substitutes is an integral part of working in the make-up industry, this unit will allow learners to develop the knowledge and skills to provide a style, dress and finished look for clients/performers or models. Learners will use a range of products, tools, electrical equipment and techniques to provide the finished styles. Learners will also develop their understanding and knowledge of possible contra-indications, how to work safely and hygienically, consider client lifestyle, equality and diversity and other factors which can influence the styling, dressing and finish of hair services.

UBT218M Continuity hair services
Maintaining continuity is imperative in the world of television and film and hair maintenance and cutting skills are an integral part of working in the make-up industry to ensure visual continuity of the actor's appearance. This unit is about developing the knowledge and skills to maintain existing styles by mastering the core cutting skills. In addition, these skills will then be applied to cutting hair additions and facial postiche; also an integral part of working within the make-up industry.
Graded synoptic assessment
At the end of the qualification of which this unit forms part, there will be a graded synoptic assessment which will assess the learner’s ability to identify and use effectively in an integrated way an appropriate selection of skills, techniques, concepts, theories, and knowledge from a number of units from within the qualification. It is therefore necessary and important that units are delivered and assessed together and synoptically to prepare learners suitably for their final graded assessment.
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