Unit 403 The structure, organisation and function of the human body

UAN:	**T/504/8615**
Level:	Level 4
Credit value:	12
GLH:	80
Relationship to NOS:	This unit is linked to NHS KSF HWB2; NHS KSF HWB3; NHS KSF HWB4.
Endorsement by a sector or regulatory body:	This unit is endorsed by Skills for Health.
Aim:	In this unit, each of the human body systems are looked at and then considered as an organised group that requires stability and balance. Each system is examined in terms of its cellular structure, function and its interaction with the other systems of the body. This will enable learners to understand the functions of the human body as a whole when assessing the impact of environmental demands and lifestyle choices on health, well-being and healthy ageing.

Learning outcome
The learner will: 1. Understand the organisation of the human living cell, from its simplest level to the most complex level found in the human body
Assessment criteria
The learner can: 1.1 Explain the structure and function of single and **complex cells** 1.2 Outline the term 'system' in relation to the human body 1.3 Explain the **relationship** between cells and **systems** 1.4 Analyse the effects of **inheritance** in relation to the human body function

Range
Complex cells: Basic tissues **Relationship:** • Tissue stimulus • Electrical function

- Balance

Systems:

- Cardiovascular/Circulatory
- Respiratory
- Digestive/Metabolic/ Excretory
- Urinary
- Nervous/Endocrine
- Musculoskeletal
- Reproductive
- Lymphatic

Inheritance:

- Cell division
- Mitosis
- Meiosis
- Genetic

Learning outcome
The learner will: 2. Understand the principles of the human body systems
Assessment criteria
The learner can: 2.1 Explain the **structure** of different human body **systems** 2.2 Explain the **function** of different human body **systems** 2.3 Analyse the **relationship** between the structure and function of different human body **systems** 2.4 Explain how the body **maintains balance** between its systems 2.5 Investigate **factors** affecting individuals health and wellbeing

Range
Structure of human body systems • **Cardiovascular/Circulatory:** blood; blood vessels; heart • **Respiratory**: nose; larynx; pharynx; trachea; bronchi; lungs • **Digestive/Metabolic/ Excretory**: mouth; teeth; glands; oesophagus; stomach; intestines; pancreas; liver; biliary tract • **Urinary/Renal:** kidneys; ureters; bladder • **Nervous:** brain; spinal chord; peripheral; automatic nervous system; special senses • **Endocrine:** pituitary; thyroid; pancreatic; kidney • **Musculoskeletal:** bones (long bones; irregular; flat; sesamoid); joints; muscles • **Reproductive:** uterus; uterine tubes; ovaries; breasts; urethra; verticals and prostate glands • **Lymphatic:** lymph vessels; lymph nodes; spleen; thymus; skin

Function of human body systems:

- **Cardiovascular/circulatory**: circulation; transportation; blood pressure; pulse
- **Respiratory:** inspiration; expiration; respiratory rates
- **Digestive/ Metabolic/Excretory:** digestion; absorption; utilisation; production of energy; eliminate waste;
- **Urinary/Renal**: fluid balance; regulation and excretion; micturition; formation of urine
- **Nervous:** special senses (hearing, sight, touch, smell, taste)
- **Endocrine:** production of hormones and enzymes; hypothalamus
- **Reproductive**: fertilisation to implantation and embryonic development.
- **Lymphatic**: thermoregulation; wound healing; immune system response to attack

Relationship between human body systems eg:

- Control and interaction between cardiovascular and respiratory
- Communication and control between interaction of nervous and endocrine system (chemical and electrical)
- Dietary requirements (interaction between digestive; metabolic; excretory) – balance diet; nutrients; nutritional substances
- Nature and interrelationship between energy exercise and muscle tissue
- Interaction between lymphatic and immune system

Maintains balance:

- Homeostasis

Factors:

- Internal
- External
- Dysfunction