

## **DISTANCE LEARNING ANATOMY AND PHYSIOLOGY DIPLOMA**

The Student will be expected to gain an understanding of some anatomical terms.

### **Introduction to cells and Tissue**

#### **Module Objectives:**

To define what cells are, their structure and reproduction. To explain the different tissues including epithelial, connective, muscular, nervous and membranes. To understand how their organisation within each system of the body.

### **Integumentary System**

#### **Module Objectives:**

To have a knowledge and understanding of the structure, functions of the skin. To draw a diagram of the skin and name all its main parts. To discuss some disorders and diseases of the skin.

### **Respiratory System**

#### **Module Objectives:**

To have a knowledge and understanding the respiratory system including expiration and inspiration. To draw and label the structure of the respiratory organs and air passages. To understand the location, structure and functions of the lungs and associated organs. To explain how the respiratory system works in union with the pulmonary vascular system. To discuss disorders and diseases of the respiratory system. To be able to make a model of the lungs and diaphragm which demonstrates the process of inspiration and expiration. Interactive quiz. To observe a dissection of the respiratory system on smart board.

### **Skeletal System**

#### **Module Objectives:**

To describe the composition of bones, with explanations of their growth and development in relation to ossification of the cartilage model. To draw and label a cross section of a long bone. To name the functions of the skeleton and name all the types of bones and their location. To name all the principal bones. To be familiar with the spinal column and its sections and to understand the names and location of each section. To describe the anatomical positions. To understand how joints (articulations), work and what their classifications and functions are. To draw different types of joints. To discuss some malfunctions or diseases of bones. Interactive quiz.

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### **Muscular System**

#### **Module Objectives:**

To understand the different types of muscles, their structure, shapes and actions. To draw different types of muscle tissue. To describe the functions of muscles. To identify by name the principal muscles and their origins, insertions and actions. To discuss the terminology relating to muscle movement. To understand the structure, functions and differences between tendons and ligaments. To look at the pathology of muscles. Interactive quiz relating to previous session. To observe a dissection of the muscles on smart board.

### **Cardiovascular System**

#### **Module Objectives:**

To discuss the composition of blood, the different blood cells and their functions. To explain the structure, functions and differences between arteries and veins. To describe circulation. To draw and label a diagram of the major blood vessels. To draw and label a diagram of the heart indicating the flow of oxygenated and deoxygenated blood. To be conversant with some of the disorders and diseases of the circulatory system and blood.

### **Lymphatic and Immune System**

#### **Module Objectives:**

To define lymph and its composition. To understand the lymphatic system and its functions, together with the locations of lymph vessels, nodes, main ducts and associated organs. To understand how the lymphatic system works together with the blood circulatory flow. To explain the role leucocytes play. To understand the immune system and how it works. To discuss the implications of a breakdown of the auto-immune system. To understand, draw and label a diagram of the spleen, its location and function. To discuss some disorders and diseases of the lymphatic system.

### **Nervous System**

#### **Module Objectives:**

To have a knowledge and understanding of the structure, functions and diseases of the neurological system. To understand the organisation of the nervous system as a whole. To understand the central nervous system, the Autonomic Nervous System and the different parts of the brain, spinal column and location of the plexus and ganglia. To understand how a neuron passes impulses along and to draw and label a simple diagram of a neuron. To explain a reflex action. To discuss disorders of the nervous system. To

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observe a dissection of the nervous system on smart board.

### **Digestive System**

#### **Module Objectives:**

To understand the process of digestion, including excretory and nutritional factors. To draw organs and structures which constitute the digestive system and name these structures. To explain fully the functions of the main organs of digestion and accessory organs. To discuss the principles of food absorption and elimination by the body. To discuss the disorders and diseases of the Digestive System and related organs. To observe a dissection of the digestive system on smart board.

### **Reproductive System**

#### **Module Objectives:**

To understand male and female anatomy, including the testes, spermatogenesis and the ovaries. To examine the menstrual cycle, fertilisation, the development of the foetus, childbirth and lactation. To draw diagrams of the testes and the ovaries. To understand the part that hormones in the reproductive system. To observe a dissection of the reproductive system on smart board.

### **Endocrine System**

#### **Module Objectives**

To draw a diagram of all the glands in the body (male and female). To identify and name the endocrine glands on a diagram. To understand the functions of the endocrine system as a whole. To understand what the functions of each gland are. To explain the glandular secretions of hormones and the relevant effects on the body. To discuss the link between the Nervous System, Emotions and the Endocrine System (psychoneuroimmunology) . To discuss the disorders and diseases of the endocrine system.

### **Urinary System**

#### **Module Objectives:**

To understand the structure and functions of the urinary system. To draw and label a kidney. To draw and label a simple diagram of the urinary system. To explain the methods of disposal of waste and toxins by the urinary system. To discuss disorders and diseases of the urinary system.