Changing lives through learning

Access to Higher Education Unit

This unit forms part of an Access to HE Diploma. If delivering the graded version of this unit, please refer to the Provider Handbook for details on grading descriptors and the application of these across units within your programme.

Unit Title: The Role of the Endocrine and Nervous Systems in Human Homeostasis

Graded Unit Reference Number: GA36BIO38

Ungraded Unit Reference Number: UA36BIO38

Module: Biology; Health Studies; Human Biology

Level: Three [3]

Credit Value: Six [6]

Minimum Guided Learning Hours: 60

Units barred for selection against this unit:

- **Homeostasis (GA33BIO03 / UA33BIO03)**
- **Coordination and Control (GA33BIO09 / UA33BIO09)**

Learning Outcome (The Learner will):	Assessment Criterion (The Learner can):
1. Understand the principles of homeostasis	1.1 Explain the terms 'homeostasis', 'negative feedback' and 'dynamic equilibrium' and give examples from the human body
	1.2 Interpret diagrams representing homeostatic systems to identify set points and example of negative feedback
2. Understand the structure and function of the nervous system	2.1 Identify the major structural and functional divisions of the nervous system
	2.2 Describe and outline the function of sensory neurones, motor neurones, multipolar neurons, and glial cells
	2.3 Identify the main regions of the human brain and describe the main functions of each part
	2.4 Describe and explain the important of reflex pathways, including spinal reflexes

Learning Outcome (The Learner will):	Assessment Criterion (The Learner can):
3. Understand the role of the nervous system in regulating and maintaining human body temperature	3.1 Identify environmental and physiological factors that might cause the temperature of the body to change
	3.2 Describe the function of the nervous system in monitoring and regulating body temperature
4. Understand the structure and function of the endocrine system	4.1 Locate the main endocrine organs and identify the hormones they produce
	4.2 Explain the effects of three hormones on metabolism
	4.3 Explain how hormones bind to receptors both inside the cell and on the cell surface
5. Understand the role of the endocrine system in regulating and maintaining osmotic conditions within the human body	5.1 Identify environmental and physiological factors that can cause osmotic conditions of the blood to change
	5.2 Explain the terms hypotonic and hypertonic in relation to blood plasma and outline the possible consequences of these conditions in the human body
	5.3 Describe the function of the endocrine system in monitoring and regulating osmotic conditions of the blood
6. Understand consequences of medical conditions known to disrupt homeostasis in the human body	6.1 Identify and explain a medical condition that is known to disrupt homeostasis in the human body e.g., diabetes, thyroid disorders, infections, or autoimmune diseases
	6.2 Identify one example of a treatment method for the condition identified in AC6.1 and explain its mechanism(s) of action