Unit 65: Scientific Basis of Neurosensory Sciences: Applied Anatomy, Physiology and Pathophysiology: The Ear

Level:	**4**
Unit type:	**Optional (Audiology)**
Credit value:	**5**
Guided learning hours:	**40**

Unit summary

In this unit, you will build on and extend your knowledge of the anatomy, physiology and pathophysiology of the ear and hearing. This unit extends the learning covered by the Level 2 *Unit 23: Anatomy and Physiology: The Nervous System*. You will be expected to apply and contextualise your knowledge of and skills in performing routine technical procedures, and you will develop and build your professional practice in accordance with Good Scientific Practice.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the assessment strategy in *Annexe B*.

Additional information

AC1.1 includes:

- anatomy of the ear, including:
    - outer
    - middle
    - inner ear.

AC1.2 includes:

- afferent and efferent auditory pathways
- cranial nerves with specific emphasis on the vestibular-cochlear nerve
- neural coding, including the generation of action potentials and synaptic transmission
- hair-cell and cochlear nerve physiology and sound transduction
- semi-circular canal physiology, otolith function and balance pathways.

AC2.1 includes:

- overview of pathophysiology, clinical and practical aspects of central, peripheral and vestibular disorders, for example:
  - cochlear disease
  - conductive hearing loss
  - Ménière's disease
  - neuritis
  - sensorineural hearing loss
  - tumours
  - tinnitus
  - vertigo.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet **in own area of work and in accordance with Standard Operating Procedures (SOPs)** to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Understand the anatomy and physiology of the auditory and vestibular system	1.1	Explain the anatomy of the auditory and vestibular systems, at both the peripheral and central levels			
		1.2	Explain the physiology of the auditory and vestibular systems, at both the peripheral and central levels			
		1.3	Explain the function of the pinna			
		1.4	Explain the function of ear wax and how it is produced			
2	Understand the pathophysiology of the auditory and vestibular system	2.1	Discuss how basic pathologies of the auditory system interfere with the efficient working of the peripheral and central mechanisms			
		2.2	Discuss how basic pathologies of the peripheral vestibular system interfere with the efficient working of the balance system			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)