

Unit 9: Introduction to Human Cell and Tissue Structures

Level:	2
Unit type:	Optional (Life Sciences)
Credit value:	3
Guided learning hours:	14

Unit summary

This unit aims to give learners the knowledge needed to understand the structure and function of cells and tissue, common abnormalities of cells and tissues and the range of cellular science services used in the diagnosis, treatment, and monitoring of disease.

Unit assessment requirements

Assessment tasks and activities must enable learners to produce valid, sufficient, authentic and appropriate evidence that relates directly to the learning outcomes and assessment criteria of the unit. Suitable forms of evidence for this unit include:

- written tasks such as reports, articles for journals, newsletters, leaflets, posters
- workbooks, work logbooks or learner diaries
- written or oral presentations
- projects
- oral question and answer

Observation records should not be used as the primary evidence of achievement for this unit, but can be used to supplement the more appropriate forms of evidence listed above or to provide sector contextualisation or evidence of how the learner has applied knowledge within their job role.

When devising the assessment activities, centres need to look closely at the verb used in each assessment criterion to ensure that learners can provide evidence with sufficient breadth and depth to meet the requirements. Centres need to produce assessment briefs for learners with clear instructions of what they are required to do.

Additional information

For AC2.2, four basic types of tissue are:

- epithelial tissue
- connective tissue
- muscle tissue
- nervous tissue.

For AC6.1, common abnormalities of cells and tissues include:

- atrophy
- hypertrophy
- anaplasia
- genetics
- dysplasia
- hyperplasia
- inflammation
- infarction
- ischemia
- fibrosis
- oedema.

For AC7.1, the range of cellular science services includes:

- Cytopathology
- Histopathology
- Reproductive Science (Embryology)
- Reproductive Science (Andrology).

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 to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Understand the generalised structure and function of the cell	1.1	Describe the structure of a typical human cell			
		1.2	Describe the function of typical components within a human cell			
		1.3	Define the terms DNA, genes, chromosomes, alleles, mitosis and meiosis			
		1.4	Describe the cellular respiration			
2	Understand the structure and function of tissues in the human body	2.1	Describe the structure of the four main types of tissues common to the human body			
		2.2	Describe the function of the four main types of tissues common to the human body			
		2.3	Describe a disease that affects each of the four main types of tissues common to the human body			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Understand formation, structure and function of blood cells	3.1	Define the term haematopoiesis			
		3.2	Describe the composition of human blood			
		3.3	Describe the function of the components of human blood			
		3.4	Identify the normal adult ranges for red blood cells, white blood cells and platelets in the blood			
		3.5	Describe one blood disorder that results in abnormalities in blood cells outside of the normal range			
4	Understand the structure and function of the cell membrane and potentials	4.1	Describe the function of a cell membrane			
		4.2	Describe the structure of a cell membrane			
		4.3	Describe membrane potential and its function			
		4.4	Describe different types of transport across a cell membrane			
5	Know common abnormalities of cells and tissues	5.1	Describe a range of common abnormalities of cells and tissues and the conditions they cause			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
6	Understand the range of cellular science services and their role in the diagnosis, treatment, and monitoring of disease	6.1	Describe a range of cellular science services			
		6.2	Describe common diseases that would result in samples being tested by cellular science departments			

Learner name: _____

Date: _____

Learner signature: _____

Date: _____

Assessor signature: _____

Date: _____

Internal verifier signature: _____

Date: _____

(if sampled)