

<b>Title:</b>	Science and Anatomy
<b>Level:</b>	3
<b>Credit value:</b>	2
<b>GLH:</b>	14
<b>Unique Reference Number:</b>	D/618/0486
<b>Sector Subject Area:</b>	1.3 Health and Social Care
<b>Aim:</b>	The aim of this unit is to provide learners with the skills and knowledge to be able to understand the composition, function, and diagnostic value of blood, as well as the structure and function of the circulatory system. The unit also explores the roles of blood vessels, the process of blood clotting, and the biological factors that influence circulatory health, forming a solid foundation for further study or practice in health and medical sciences.
<b>Assessment Type:</b>	Assessment of this unit will be through an internally set and internally assessed portfolio of evidence.
<b>Assessment Guidance:</b>	Assessment decisions for skills-based learning outcomes must be made during the learner's normal work activity.  Skills-based assessment must include direct observation as the main source of evidence and must be carried out over an appropriate period of time.

### Learning outcomes

*The learner will:*

1. Be able to understand the reasons for obtaining blood samples.

#### **Delivery content:**

The aim of this learning outcome is to provide learners with the knowledge and skills to understand the role of blood as an organ in the human body and its significance in health assessment, including the purposes and limitations of blood sampling for diagnostic use, and awareness of alternative diagnostic methods.

The learner must:

- 1.1 Describe the function of blood as an organ.
- 1.2 Explain reasons for taking blood samples to test for health parameters.
- 1.3 Describe the limitations of the diagnostic value of blood samples.

<p>1.4 List alternatives to taking blood samples for diagnostic purposes.</p>
<p>2. Be able to know the components of blood</p>
<p><b>Delivery content:</b></p> <p>The aim of this learning outcome is to provide learners with the knowledge and skills to develop a foundational understanding of the composition of blood by identifying its key cellular and abiotic components and their relevance to physiological function and diagnostic processes. This learning aim supports a clear grasp of blood’s structure and composition, essential for understanding its role in health and disease.</p> <p>The learner must:</p> <ul style="list-style-type: none"> <li>2.1 Describe the key cellular components of blood.</li> <li>2.2 List the main abiotic components of blood.</li> </ul>
<p>3. Be able to understand the basic components of the circulatory system.</p>
<p><b>Delivery content:</b></p> <p>The aim of this learning outcome is to provide learners with the knowledge and skills to gain a fundamental understanding of the human circulatory system, including its main components, the structure and function of the heart, the pathways of blood flow, and the factors that can influence circulation.</p> <p>The learner must:</p> <ul style="list-style-type: none"> <li>3.1 Name the basic components of the circulatory system in humans.</li> <li>3.2 Describe the general flow of blood in the human circulatory system.</li> <li>3.3 Explain the basic structure of the heart.</li> <li>3.4 Describe the flow of blood in the peripheral circulatory system.</li> <li>3.5 Describe factors that can affect the flow of blood through the circulatory system.</li> </ul>
<p>4. Be able to know the structures and functions of arteries, veins and capillaries.</p>
<p><b>Delivery content:</b></p> <p>The aim of this learning outcome is to provide learners with the knowledge and skills to understand the structure and function of the three main types of blood vessels—arteries,</p>

veins, and capillaries—and to be able to compare their key differences in relation to their roles within the circulatory system.

The learner must:

- 4.1 Describe the structure and purpose of arteries.
- 4.2 Describe the structure and purpose of veins.
- 4.3 Describe the structure and purpose of capillary blood vessels.
- 4.4 List the main differences between arteries, veins and capillaries.

5. Be able to know the blood clotting processes and factors influencing blood clotting.

**Delivery content:**

The aim of this learning outcome is to provide learners with the knowledge and skills to understand the blood clotting process, including the biological factors that influence clot formation and the components involved in preventing unnecessary clotting, supporting knowledge of both normal function and potential complications.

The learner must:

- 5.1 Explain the blood clotting processes.
- 5.2 Identify biotic factors influencing blood clotting.
- 5.3 Name and describe the function of two components that prevent blood clotting.