

## 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:** Biological Molecules

**Graded Unit Reference Number:** GA33BIO01

**Ungraded Unit Reference Number:** UA33BIO01

**Module:** Human Biology, Biology

**Level:** Three (3)

**Credit Value:** Three (3)

**Minimum Guided Learning Hours:** 30

Learning Outcome (The Learner will):	Assessment Criterion (The Learner can):
1. Recognise the building blocks for carbohydrates, lipids, proteins and nucleic acids and understand how these are combined to form larger organic molecules	1.1 Illustrate or construct molecular models of simple organic compounds 1.2 Distinguish between the structural and molecular formulae of $\alpha$ -glucose, an amino acid, glycerol, a fatty acid and a nucleotide 1.3 Show how small biological molecules combine to form larger molecules yielding water
2. Understand how the function of proteins is related to their structure	2.1 Describe the levels of structure in proteins 2.2 Explain the roles of hydrogen and ionic and covalent bonding in maintaining protein structure 2.3 Relate the uses of globular and fibrous proteins to their structures
3. Understand how the function of DNA is related to its structure	3.1 Describe the levels of structure in DNA and explain why DNA molecules are so stable 3.2 Explain how the self-replicating ability of the DNA molecule is related to its structure

3.3 Explain data showing that the replication of DNA is semi-conservative

3.4 Interpret data to find the sequence of amino acids resulting from the transcription and translation of a short length of DNA (minimum 15 bases)