

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: Computer Logic

Graded Unit Reference Number: GA33MTH10

Ungraded Unit Reference Number: UA33MTH10

Module: Mathematics; Maths for Computing

Level: Three (3)

Credit Value: Three (3)

Minimum Guided Learning Hours: 30

Learning Outcome (The Learner will):	Assessment Criterion (The Learner can):
1. Understand the use and representation of gates in logic circuits	1.1 Describe the operation of a transistor and show how the “flip-flop” arrangement of transistors can be used to store the binary digits: 1 and 0
	1.2 Identify a range of logic gates from their distinctive shape representation, including OR, AND, NOT, NOR, NAND, XOR and XNOR
	1.3 Suggest possible uses of OR, AND and NOT logic gates for combining sensor input
	1.4 Use truth tables to represent the output for combinations of at least three logic gates
2. Understand how set theory and the use of Venn diagrams is important in computing	2.1 Define the term “set” and give everyday examples of sets
	2.2 Draw and interpret Venn diagrams to identify relationships
	2.3 Use Venn diagrams to represent the output of logic gates
3. Understand the importance of Boolean logic in the formation of computing algorithms	3.1 Using appropriate symbols perform the basic Boolean operations of conjunction, disjunction and negation

3.2 Use truth tables to verify De Morgan's laws

3.3 Using appropriate symbols solve equations involving the basic Boolean operations and the derived operations of material implication, exclusive disjunction and equivalence