

# Access to H.E. National Programme Unit



Unit Title:	Computer Logic		
Graded Unit Code:	GA33MTH10	Ungraded Unit Code:	UA33MTH10
Pathway(s):	Computing		
Module(s):	Maths for Computing Mathematics		
Level:	3	Credit Value:	3
Valid from:	1 <sup>st</sup> August 2014	Valid to:	31 <sup>st</sup> July 2024

The following QAA grade descriptors must be applied if you are delivering the graded version of this unit:

1	Understanding of the subject
2	Application of knowledge
3	Application of skill
7	Quality

LEARNING OUTCOMES	ASSESSMENT CRITERIA
<b>The learner will:</b>	<b>The learner can:</b>
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

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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