

UNIT TITLE: Introductory Mathematics for HE
LEVEL: Three
CREDIT VALUE: 6
UNIT CODE: WJB573
NATIONAL CODE: HD2/3/LB/003
UNIT TYPE: Ungraded

This unit has 4 learning outcomes.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	The learner can:
1. Manipulate and solve algebraic equations.	1.1. Manipulate algebraic expressions and equations by: numeric factorisation, algebraic factorisation, algebraic expansion, applying the rule of indices, applying the rules of logarithms, Transposition, Expressing the quotient of polynomials in partial fractions. 1.2. Solve algebraic equations i.e. linear, quadratic, simultaneous equations
2. Perform calculations in using various number systems to specify levels of accuracy	2.1. Manipulate numbers using different bases: i.e. Denary additions, subtractions, multiplications, division; Binary addition, subtraction; conversion between Denary, Binary and Hexadecimal. 2.2 Express Denary numbers to specified accuracy: i.e. number to decimal places, number to significant figures, Standard Form. 2.3 Apply indices in calculations: i.e. Conversion of pico, nano, micro, milli, Kilo, Mega, Giga to indice form; handing of calculations involving numbers and indices, use of electronic aids in handling indices, Theory of Logarithms

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LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	The learner can:
3. Perform calculations involving Complex Numbers	3.1. Manipulate numerical expressions involving complex numbers i.e. express a complex number as a line on an Argand Diagram, add, subtract, multiply and divide, convert between rectilinear and polar form using inverse tangent/Pythagoras and R for all P, P for all R on a calculator. Find the nth root. 3.2. Manipulate algebraic expressions and equations involving complex numbers i.e. simplify, factorise, expand, use conjugate pairs.
4. Use graphical methods to evaluate data	4.1. Construct graphs from data and analyse data from graphs using a range of types of graph: Cartesian, Polar, Linear, Polynomial, Logarithmic, Exponential. 4.2. Use graphs to represent experimental results and obtain equations: i.e. linear, logarithmic, natural logarithmic. 4.3. Draw graphs from algebraic expressions: i.e. Linear, Polynomial, Trigonometric