

Unit Title: Application of Higher Mathematical Skills – Algebra, Trigonometry and Statistics
Level: Three
Credit Value: 6
GLH:
NOCN Unit Code: RB1/3/NO/003
QCA Unit Reference
Grading Descriptors: 1, 3, 7

This unit has 4 learning outcomes.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	The learner can:
1. Understand algebraic manipulation and modelling	1.1. Form, manipulate and solve linear equations 1.2. Form, manipulate and solve simultaneous linear equations 1.3. Transpose formulae including brackets, powers and roots 1.4. Factorise algebraic expressions including quadratic expressions 1.5. Solve quadratic equations by factorisation and by using the quadratic formula
2. Apply the techniques of trigonometry in right angled triangles	2.1. Use Pythagoras theorem to solve a range of problems in right angled triangles 2.2. Use sine, cosine and tangent ratios to solve a range of problems in right angled triangles 2.3. Solve problems in two and three dimensions including angles of depression, elevation and bearings

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LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	The learner can:
3. Apply statistical techniques	3.1. Produce frequency distributions for discrete and continuous data and represent/display using appropriate diagrams including at least one histogram 3.2. Produce and interpret cumulative frequency diagrams 3.3. Calculate mean, median and mode for discrete data and for frequency distributions 3.4. Identify normal and skewed distributions and the relationship between the mean, mode and median for these distributions 3.5. Calculate range, interquartile range and standard deviation 3.6. Interpret and analyse statistical data using the calculations above to compare at least two sets of data
4. Understand the principles of correlation	4.1. Draw scatter diagrams from at least two sets of given data and draw a line of best fit through the mean 4.2. Use the lines of best fit to estimate at least 4 unknown values using extrapolation where appropriate 4.3. Identify examples of positive and negative correlation 4.4. Demonstrate an awareness of the meaning of numerical values assigned to a given correlation coefficient

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ASSESSMENT INFORMATION

Guidance:

This grid gives details of the assessment activities to be used with the unit attached. Please refer to the NOCN Handbook for definitions of each activity and the expectations for assessment practice and evidence for moderation.

The assessment activities for this unit are indicated in the table below:

Key: **P = Prescribed** – this assessment method *must* be used to assess the unit.
O = Optional – this assessment method *could* be used to assess the unit.

Case study		Project	
Written question & answer/test/exam		Role play/simulation	
Essay		Practical demonstration	
Report		Group discussion	
Oral question and answer		Performance/exhibition	
Written description		Production of artefact	
Reflective log / diary		Practice file	

Signposting Key Skills

This unit offers clear opportunities for learners to provide evidence of achievement in Key Skills achievement in the following skill area/s:

Key Skill		Wider Key Skill	
Communication		Working with others	
Information Technology		Problem solving	
Application of Number		Improving Own Learning and Performance	

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Accredited End date:
Unit Sector/Subject area:
Grading descriptors:
Availability for Use:

Purpose and Aim of the Unit	Free Text
Restrictions on the Availability	Free Text or N/A
Additional Assessment Requirements	Free Text or N/A
Details of relationship between the Unit and the NOS	Free Text or N/A
Details of relationship between the Unit and Standards (not NOS)	Free Text or N/A
Endorsement of the Unit by	Free Text or N/A