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: Integration

Graded Unit Reference Number: GA33MTH06

Ungraded Unit Reference Number: UA33MTH06

Module: Mathematics; Maths for Computing

Level: Three (3)

Credit Value: Three (3)

Minimum Guided Learning Hours: 30

Units barred for selection against this unit:

- Additional Calculus (GA36MTH22 / UA36MTH22)

Learning Outcome (The Learner will):		Assessment Criterion (The Learner can):
1. Understand how the area under a straightforward curve may be approximated	1.1	Use the trapezium rule to find an approximation for the area under a curve
2. Understand the principles and uses of integration	2.1	Express the relationship between differentiation and integration
	2.2	Integrate expressions of the form ax^n for any values of a and n
	2.3	Use definite integrals to calculate areas under a curve for straightforward polynomial expressions (for regions wholly above or wholly below the a-axis)
	2.4	Use integration to find volumes of rotation for straightforward polynomial curves rotated about the x-axis or the y-axis as appropriate (angles of rotation measured in degrees or radians)
3. Understand techniques used to integrate more complex functions	3.1	Give the indefinite integrals for e^x, $\dfrac{1}{x}$, $\sin x$ and $\cos x$

		3.2	Find the indefinite integrals for straightforward expressions using substitution, integration by inspection and combinations of these
		3.3	Find the indefinite integrals for expressions using integration by parts