

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: Coordinate Geometry

Graded Unit Reference Number: GA33MTH13

Ungraded Unit Reference Number: UA33MTH13

Module: Mathematics; Maths for Computing

Level: Three (3)

Credit Value: Three (3)

Minimum Guided Learning Hours: 30

Units barred for selection against this unit:

- Coordinate Geometry and Vectors (GA33MTH24 / UA33MTH24)

Learning Outcome (The Learner will):	Assessment Criterion (The Learner can):
1. Solve problems involving points represented by their Cartesian coordinates in two dimensions	1.1 Find the distance between two points from their Cartesian coordinates
	1.2 Determine the Cartesian coordinates of the mid-point on a straight line connecting two points
	1.3 Find the gradient of a straight line connecting two points
2. Solve problems for straight lines represented using Cartesian coordinates	2.1 Convert Cartesian equations to polar form and vice versa
	2.2 Represent straight lines using the forms $y - y_1 = m(x - x_1)$, $ax + by + c = 0$ and $y = mx + c$
	2.3 Find the distance from a point to a straight line, given the coordinates of the point and the equation of the line
	2.4 Deduce from their equations whether two straight lines are parallel to each other and state the conditions for this

	2.5	Deduce from their equations whether two straight lines are perpendicular to each other and state the conditions for this
	2.6	Sketch lines from their Cartesian equations
3. Understand the representation of circles using Cartesian coordinates	3.1	Derive the equation of a circle from the Cartesian coordinates of its centre and its radius
	3.2	Given the equation of a circle, find its centre and radius by completing the square
	3.3	Find the equation of a tangent at a given point on a circle