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: Introduction to Machine Learning

Graded Unit Reference Number: GA33COM22

Ungraded Unit Reference Number: UA33COM22

Module: Computing

Level: Three (3)

Credit Value: Three (3)

Minimum Guided Learning Hours: 30

Learning Outcome (The Learner will):		Assessment Criterion (The Learner can):
1. Understand the biological principal behind the basics of machine learning	1.1	Describe an action potential including the following terms: stimulus, threshold, "All or Nothing" response, depolarisation, hyperpolarisation and repolarisation
	1.2	Describe the transmission of a signal at the synaptic junction
	1.3	Explain the Hebbian Rule
2. Understand a basic Perception model of an artificial neural network	2.1	Illustrate a single layer perception. Indicate on the diagram the layers including input and output layers, weighted sum and step function
	2.2	State the Delta Rule and state what each of the terms represent
	2.3	Explain the basic principle behind the perceptron in terms of inputs, the hidden layer, and the output
	2.4	Describe how the perception mimics the nervous system

3.	Understand other aspects of machine learning	3.1 Describe the main idea behind the two algorithms used in machine learning below: a) Fuzzy logic b) Baye's theorem
		3.2 Give two examples of applications of AI in your daily experience and evaluate your interactions with them
		3.3 Evaluate the efficacy of AI as it currently exists in replicating human responses and tasks in a field of your choice