Access to H.E.
National Programme Unit

Unit Title:	Analytical Chemistry

Graded Unit Code:	GA33CHE16	Ungraded Unit Code:	UA33CHE16

Pathway(s):	Science and Engineering

Module(s):	Chemistry

Level:	3	Credit Value:	3
Valid from:	1st September 2022	Valid to:	31st July 2027

The following QAA grade descriptors must be applied if you are delivering the graded version of this unit:

1	Understanding of the subject
3	Application of skills
7	Quality

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
1. Understand the pH scale and the use of indicators in acid-base titrations	1.1 Determine the strengths of acids and alkalis by use of Universal Indicator paper and using a standardised pH meter
	1.2 Relate the colour changes of common indicators to the pH at the equivalence points
	1.3 Explain the shapes of various pH titration curves
2. Understand the use of volumetric analysis for calculation of molarities	2.1 Perform a redox titration to obtain a set of valid results
	2.2 Explain the principle of titration and use results to calculate the molarities of solutions
3. Understand the principles of the qualitative tests for a range of positive and negative ions in simple compounds	3.1 Explain the principles of the tests used to identify a range of positive and negative ions

LEARNING OUTCOMES	ASSESSMENT CRITERIA	
The learner will:	**The learner can:**	
	3.2	Use qualitative tests to identify the ions in a mixture containing four different unknown ionic species.
4. Understand the principles of the qualitative tests for a range of aliphatic functional groups	4.1	Explain the principle of the qualitive tests for a range of aliphatic functional groups
	4.2	Use qualitative tests to identify the aliphatic function groups present in a range of colourless organic liquids.
5. Use Infra-red and NMR spectra to identify a range of named organic compounds	5.1	Explain the absorption of infra-red radiation in terms of covalent bond vibrations
	5.2	Explain how data from the spectra is used for identification.
	5.3	Identify a range of named organic compounds