

## 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:** Further Organic Chemistry

**Graded Unit Reference Number:** GA33CHE06

**Ungraded Unit Reference Number:** UA33CHE06

**Module:** Chemistry

**Level:** Three (3)

**Credit Value:** Three (3)

**Minimum Guided Learning Hours:** 30

Learning Outcome (The Learner will):	Assessment Criterion (The Learner can):
1. Be able to apply the IUPAC system of nomenclature to simple carbonyl and aromatic compounds	1.1 Name simple carbonyl and aromatic compounds
	1.2 Describe an asymmetric carbon atom as chiral and explain how it gives rise to optical isomerism, including the meaning of enantiomer and racemate
2. Know some of the properties and reactions of aldehydes and ketones	2.1 Describe the reduction of aldehydes and ketones using $\text{NaBH}_4$
	2.2 Outline the mechanism for the reaction of carbonyl compounds with HCN
3. Know some of the properties and reactions of carboxylic acids	3.1 Show the reaction of a carboxylic acid with an alcohol to form an ester
	3.2 Outline the common uses of esters
4. Know some of the reactions of acyl chlorides and acid anhydrides	4.1 Describe the reactions of acyl chlorides and acid anhydrides with ammonia
	4.2 Explain the industrial advantages of ethanolic anhydride over ethanoyl chloride in the manufacture of aspirin
5. Know some of the properties and reactions of aromatic compounds	5.1 Describe the bonding in benzene, limited to planar structure and bond length, and explain the stability of the molecule

5.2 Outline the mechanism of nitration of benzene and give examples of the importance of nitration as a step in synthesis