

# Access to H.E. National Programme Unit



Unit Title:	Further Organic Chemistry		
Graded Unit Code:	GA33CHE06	Ungraded Unit Code:	UA33CHE06
Pathway(s):	Science and Engineering		
Module(s):	Chemistry		
Level:	3	Credit Value:	3
Valid from:	1 <sup>st</sup> August 2014	Valid to:	31 <sup>st</sup> July 2028

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
<b>The learner will:</b>	<b>The learner can:</b>
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 NaBH <sub>4</sub>
	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

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LEARNING OUTCOMES	ASSESSMENT CRITERIA
<b>The learner will:</b>	<b>The learner can:</b>
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