

Module Title:	Chemistry for Forensics 2
Academic year:	2009 2010
Credit Value:	5.0
Pre- requisites:	Module 4.3
Assessment:	Continuous assessments: 30% Final examination: 70%
Aims	This module aims to give students an in-depth knowledge of the synthesis of common Organic molecules, with an emphasis on the synthesis of legal and illegal drugs. Students will be expected to develop an appreciation of how drugs are synthesised, and how synthetic routes to simple compounds are designed and developed. Understanding reactions and reactivity will help the identification of drug precursors and also possible drug metabolites. An understanding of polymer chemistry will also be achieved as well as key Physical chemistry principles including equilibrium constants, solubility products, partition co-efficients and water solubility.
Module Content	Physical Organic Theory Important reactions of alkenes and alkynes Reactions at the Carbonyl Group Condensation reactions Introduction to aromatic heterocyclic compounds Retrosynthetic Analysis Physical Chemistry Principles
Intended Learning Outcomes: (September 2007)	At the end of this module the student will be able to: Write the mechanisms for key reactions of alkenes and alkynes, and of the carbonyl and hydroxyl groups, including the Diels-Alder reaction Apply retrosynthetic analysis to a target molecule, including identifying synthons, synthetic equivalents and the reagents used for major functional group transformations. Draw the canonical forms for heterocyclic electrophilic and nucleophilic substitution. Draw the mechanisms for carbocation rearrangements and products formed from carbocation reactions by identifying the intermediate stability. Explain equilibrium constants, solubility products, partition co-efficients and water solubility. Describe the principles of polymer chemistry.

