Module Title:	3-D Organic Chemistry
Academic year:	2009 2010
Credit Value:	8
Pre- requisites:	Organic Chemistry and Organic Synthesis
Assessment:	Final written exam 50% Practical Assessment 35% ContinuousAssessment 15%.
Aims	Completion of this module will allow students to identify and know the structural requirements needed for the different types of stereoisomers that can occur in Organic Chemistry. The student will also learn the conditions and reagents to use during an asymmetric synthesis.
Module Content	Enantiomerism, tetrahedral carbon and optical a Fisher projections. Stereogenic centres / planes of symmetry. *R*- and *S*- sequence rules / Fisher Projections. Enantiomers, Diastereomers and Meso Forms. Stereochemistry of cycloalkanes. Resolution of racemic mixtures. Regioselective, stereoselective and stereos reactions. Stereochemistry and mechanism of *syn*- and additions. Stereochemistry of *syn*- and *anti*-elimination reaction Sharpless Asymmetric epoxidation and dihydroxylatic Asymmetric Aldol Synthesis, Cram's Rule.

Intended Learning Outcomes: (September 2007)	At the end of this module the student will be able to: ▪ Recognise stereogenic centres. ▪ Name stereoisomers using the R & S notation. ▪ Identify enantiomers, diastereoisomers and meso structures. ▪ Understand the methods used to separate enantiomers in a racemic mixture. ▪ Understand the stereochemistry of the cycloalkanes. ▪ Understand the relationship between the mechanism of a reaction and the product stereochemistry.