

Module Details	
Module Title	Chemical Toolbox for Drug Discovery
Module Code	INC7016-B
Academic Year	2021/2
Credits	20
School	School of Pharmacy and Medical Sciences
FHEQ Level	FHEQ Level 7

Contact Hours	
Type	Hours
Tutorials	4
Lectures	24
Directed Study	172

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Semester 2

Module Aims
To provide students with a current and critical evaluation of methods, techniques and strategies used to prepare drug molecules. In particular, a specific aim is to provide students with an understanding of the reagents and conditions used for selective molecular transformations used in drug synthesis.

Outline Syllabus
Topics to be covered include: Survey of methods for the synthesis of drug molecules, Functional group interconversion, selective molecular transformations, protection/deprotection strategies, simple carbocyclic and heterocyclic synthesis, strategies for diversity oriented synthesis. Emphasis will be placed upon a practical means of obtaining organic molecules that are relevant in drug discovery, therefore, many examples of synthesis of pharmaceuticals will be presented.

Learning Outcomes	
Outcome Number	Description
01	Identify appropriate common and generally used chemical reagent, as well as practical means, of obtaining organic molecules that are relevant in drug discovery.
02	Design methods for the synthesis of complex organic drug molecules.
03	Critically evaluate, in the contexts which are relevant to drug discovery such as diversity oriented synthesis, strategies and methods for multi-step construction of organic drug molecules.
04	Develop specific as well as generic literature skills for life-long learning (literature and databases).

Learning, Teaching and Assessment Strategy
The assessment is done through examination of the ability to design strategy for finding solutions and to solve specific problems by using their knowledge of chemical synthetic methods. Both from examples in lectures and through assessed coursework, students gain experience of such problem solving activities before the final exam.

Mode of Assessment			
Type	Method	Description	Weighting
Summative	Examination - Closed Book	Comprising of a part A containing two questions of which both are answered, plus a part B containing 4 questions (2Hrs)	70%
Summative	Coursework	Four pieces of coursework (equally weighted), one from each module lecturer	30%

Reading List
To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html

Please note:

This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.