

<b>Module code</b>	SC-4383		
<b>Module Title</b>	Biological & Medicinal Chemistry		
<b>Degree/Diploma</b>	Bachelor of Science (Chemistry)		
<b>Type of Module</b>	Major Option		
<b>Modular Credits</b>	2	Total student Workload	4 hours/week
		Contact hours	2 hours/week
<b>Prerequisite</b>	None		
<b>Anti-requisite</b>	None		
<b>Aims</b>			
The objective of this module is to introduce the principles of molecular recognition for the major biological molecules (proteins, carbohydrates and nucleic acids) and how these principles are used in the design of modern pharmaceuticals.			
<b>Learning Outcomes</b>			
<i>On successful completion of this module, a student will be expected to be able to:</i>			
Lower order:	50%	- Understand the principles of molecular recognition for the major biological molecules - Understand the characteristics of anti-retroviral drugs	
Middle order:	30%	- utilise the knowledge of molecular recognition of nucleic acids in the design of modern pharmaceuticals	
Higher order:	20%	- work independently and cooperatively in group discussion/presentation on the design of modern pharmaceuticals	
<b>Module Contents</b>			
<ul style="list-style-type: none"> <li>- <i>Principles of molecular recognition</i></li> <li>- <i>The structure of proteins, protein recognition, drug action at enzymes and receptors, case studies (eg statins, penicillins, antivirals).</i></li> <li>- <i>Saccharide chemistry, antigenic determinants, carbohydrates in molecular recognition events, carbohydrate-based drugs, stereochemistry in drug design.</i></li> <li>- <i>The molecular recognition of nucleic acids and the design of anti-cancer drugs.</i></li> <li>- <i>Anti-Retroviral drugs.</i></li> </ul>			
<b>Assessment</b>	Formative assessment	Tutorial and feedback	
	Summative assessment	Examination: 60% Coursework: 40% - 2 written assignments (20%) - 2 class tests (20%)	