

<b>Module code</b>	SC-4327		
<b>Module Title</b>	Bio-Organic Chemistry		
<b>Degree/Diploma</b>	Bachelor of Science (Chemistry)		
<b>Type of Module</b>	Major Option		
<b>Modular Credits</b>	2	<b>Total student Workload</b>	4 hours/week
		<b>Contact hours</b>	2 hours/week
<b>Prerequisite</b>	None		
<b>Anti-requisite</b>	None		
<b>Aims</b>			
The module is designed for students to gain knowledge on selected bio-organic compounds and to utilize the concepts for the reactions and biosyntheses of natural products.			
<b>Learning Outcomes</b>			
<i>On successful completion of this module, a student will be expected to be able to:</i>			
Lower order:	50%	- gain a solid knowledge of bio-organic compounds such as carbohydrates, amino acids and proteins, terpenes and alkaloids	
Middle order:	30%	- apply theories and concepts learnt in identifying and solving problems related to biosyntheses of natural products	
Higher order:	20%	- work independently or collaboratively as a team	
<b>Module Contents</b>			
-Carbohydrates: Structures and reactions of monosaccharides. The use of protective groups in the syntheses of carbohydrate derivatives including oligosaccharides. Introduction to some biologically important sugars and their functions.			
-Amino acids and proteins: Stereoselective syntheses of amino acids, strategies and syntheses of peptides including both solution and solid-phase methods, structures and conformations of proteins.			
-Terpenes: The isoprene rule and the classification of terpenes into monoterpenes, sesquiterpenes. Isolation, structures, reactions and biosynthesis of selected terpenes.			
-Alkaloids: Introduction to the general methods of extraction of alkaloids, including the structures and properties of selected alkaloid.			
<b>Assessment</b>	Formative assessment	Tutorial and feedback	
	Summative assessment	Examination: 60%	
		Coursework: 40%	
		- 2 written assignments (20%)	
		- 2 class tests (20%)	