

Module code	SC-4327		
Module Title	Bio-Organic Chemistry		
Degree/Diploma	Bachelor of Science (Chemistry)		
Type of Module	Major Option		
Modular Credits	2	Total student Workload	4 hours/week
		Contact hours	2 hours/week
Prerequisite	None		
Anti-requisite	None		
Aims			
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.			
Learning Outcomes			
<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	
Module Contents			
-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.			
Assessment	Formative assessment	Tutorial and feedback	
	Summative assessment	Examination: 60%	
		Coursework: 40%	
		- 2 written assignments (20%)	
		- 2 class tests (20%)	