

Module code	SB-2243		
Module Title	Introduction to Biochemistry		
Degree/Diploma	Bachelor of Science (Biology)		
Type of Module	Major Core		
Modular Credits	4	Total student Workload	8 hours/week
		Contact hours	6 hours/week
Prerequisite	SB-2241 Cell Biology		
Anti-requisite	SB-2210 Cells, Biomolecules and Microbiology; SB-4306 Biochemistry		
Aims			
<p>The module is designed to provide students with a basic understanding of the structure, properties and function of biologically important macromolecules and assemblies. It will also provide them with the concept of energy conservation and conversion processes in a living cell and thus lay a foundation in understanding the reactions of metabolism.</p>			
Learning Outcomes			
<i>On successful completion of this module, a student will be expected to be able to:</i>			
Lower order :	50%	<ul style="list-style-type: none"> - Describe the building blocks of the various macromolecules - Describe the composition and architecture of biological membranes - Describe the structure and function of proteins - Explain enzyme action and regulation - Identify the molecular mechanisms underlying energy production in cells 	
Middle order :	40%	<ul style="list-style-type: none"> - Dissect important cellular processes including glycolysis, the tricarboxylic pathway and the electron transport chain - Conduct laboratory practicals, collect data, interpret and discuss results 	
Higher order :	10%	<ul style="list-style-type: none"> - Work effectively in groups during laboratory practicals and independently in reporting experimental results 	
Module Contents			
<ul style="list-style-type: none"> - An overview of the chemical components of cells - Structure and function of macromolecules - Lipids, carbohydrates and proteins - Basic concepts of thermodynamics and bioenergetics - Enzymes, characteristics and regulation - Cellular and anaerobic respiration - Glycolysis and the tricarboxylic acid cycle - The electron transport chain and oxidative phosphorylation - Alcohol and lactate fermentation 			
Assessment	Formative assessment	Tutorial assignments and feedback	
	Summative assessment	Examination: 60% Coursework: 40% <ul style="list-style-type: none"> - 5 practical assignments (30%) - 2 class tests (10%) 	