

<b>Module code</b>	SB-2333		
<b>Module Title</b>	Principles of Biochemistry		
<b>Degree/Diploma</b>	Bachelor of Science (Biology)		
<b>Type of Module</b>	Major Option		
<b>Modular Credits</b>	4	<b>Total student Workload</b>	8 hours/week
		<b>Contact hours</b>	6 hours/week
<b>Prerequisite</b>	None		
<b>Anti-requisite</b>	None		
<b>Aims</b>			
To provide students with a basic understanding of the structure, properties and function of proteins, concept of energy conservation and conversion processes in a living cell to help understand the reactions of metabolism.			
<b>Learning Outcomes</b>			
<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"> <li>- Describe the structure and function of proteins</li> <li>- Describe the various method to study proteins</li> <li>- Explain enzyme action, kinetics and regulation</li> <li>- Identify the molecular mechanisms underlying energy production in cells</li> </ul>	
Middle order :	40%	<ul style="list-style-type: none"> <li>- Discuss selected aspects of bioenergetics and metabolism</li> <li>- Dissect important cellular processes including glycolysis, the tricarboxylic pathway and the electron transport chain</li> <li>- Conduct laboratory practicals and collect data</li> </ul>	
Higher order:	10%	<ul style="list-style-type: none"> <li>- Work effectively in groups during laboratory practicals.</li> <li>- Interpret the information obtained during laboratory practicals and independently in reporting experimental results</li> </ul>	
<b>Module Contents</b>			
<ul style="list-style-type: none"> <li>- Chemistry in Biological Sciences</li> <li>- Basic concepts of thermodynamics and bioenergetics</li> <li>- Amino acids and proteins</li> <li>- Bioinformatics of protein complexes</li> <li>- Enzyme kinetics, characteristics and regulation</li> <li>- Carbohydrate metabolism</li> <li>- Glycolysis and the tricarboxylic acid cycle</li> <li>- The electron transport chain and oxidative phosphorylation</li> </ul>			
<b>Assessment</b>	Formative assessment	Weekly feedback, tutorial and discussion	
	Summative assessment	Examination: 60% Coursework: 40% <ul style="list-style-type: none"> <li>- 1 individual tutorial assignment (10%)</li> <li>- 4 individual laboratory reports (20%)</li> <li>- 1 class test (10%)</li> </ul>	