

<b>Module code</b>	SB-4306		
<b>Module Title</b>	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>	SB-2210 Cells, Biomolecules and Microbiology		
<b>Anti-requisite</b>	SB-2243 Introduction to Biochemistry; SB-4241 Advanced Biochemistry		
<b>Aims</b>			
<p>This module aims to provide an understanding of the principles of metabolism, encourage an appreciation of the diversity and interconnection of metabolic pathways, and stimulate an understanding of the applicability of metabolism in a broad range of biological contexts. It will allow students to be familiar with some of the fundamental metabolic pathways that describe how nutrients can be utilized for production of energy and for synthesis of new biological molecules, how these pathways are regulated, integrated and affect humans.</p>			
<b>Learning Outcomes</b>			
<i>On successful completion of this module, a student will be expected to be able to:</i>			
Lower order :	40%	<ul style="list-style-type: none"> <li>- Explain the fundamental concepts of metabolism</li> <li>- Describe the digestion and absorption processes of fuel molecules</li> <li>- Describe the major metabolic pathways of fuel molecules</li> </ul>	
Middle order :	40%	<ul style="list-style-type: none"> <li>- Discuss the diversity, integration and regulation of fuel metabolism in complex multicellular organisms</li> <li>- Analysis of selected metabolic disorders in man</li> <li>- Review the importance and applicability of metabolism in nutrition, medicine and other life sciences</li> <li>- Conduct lab practicals related to biochemistry, collect data, interpret and discuss results</li> </ul>	
Higher order:	20%	<ul style="list-style-type: none"> <li>- Follow lab procedures and protocols and develop competence in basic lab skill</li> <li>- Work effectively in groups when conducting lab practicals</li> <li>- Work independently in writing practical reports</li> </ul>	
<b>Module Contents</b>			
<ul style="list-style-type: none"> <li>- Thermodynamics of biological systems</li> <li>- Digestion and absorption of fuel molecules</li> <li>- Carbohydrate metabolism including cellular and anaerobic metabolism</li> <li>- Lipid metabolism</li> <li>- Nitrogen acquisition and amino acid metabolism</li> <li>- Metabolic interrelationships</li> </ul>			
<b>Assessment</b>	Formative assessment	Tutorial assignments and feedback	
	Summative assessment	Examination: 60% Coursework: 40% <ul style="list-style-type: none"> <li>- 5 practical reports (20%)</li> <li>- 2 class tests (20%)</li> </ul>	