

Module code	SB-4343		
Module Title	Bioinspiration		
Degree/Diploma	Bachelor of Science (Biology)		
Type of Module	Major option		
Modular Credits	4	Total student Workload	8 hours/week
		Contact hours	6 hours/week
Prerequisite	None		
Anti-requisite	None		
Aims			
The module focuses on how biologists and engineers find inspiration in nature and use it as a model to make technological innovations and solve societal problems.			
Learning Outcomes			
<i>On successful completion of this module, a student will be expected to be able to:</i>			
Lower order :	10%	- Describe how learning from nature can bring about innovation.	
Middle order :	10%	- Analyse and understand how we can take inspiration from biological systems and apply them to engineering and technological problems.	
Higher order:	80%	- Design a connection of the concepts and approaches in bioinspiration for the quantitative and qualitative analysis of biological function across different species and levels of organisation. - Facilitate the discovery of objective design methods for bioinspired technology that mimics biological function. - Create a deep understanding of the selective pressures that have shaped organisms and how these insights can transform bioinspiration from an art/craft into a mature engineering discipline.	
Module Contents			
<ul style="list-style-type: none"> - Introduction to Bioinspiration, Biodiversity, Creativity, and Innovation - Biological Materials and Nanostructures - Robotics and Sensing the Environment - Maintaining Community - Energy and Architecture - Bioinspiration and Human Health - The Business of Bioinspiration 			
Assessment	Formative assessment	Tutorials and Feedback	
	Summative assessment	Coursework: 100% - Two (2) tests (40%) - One (1) group mini-project (20%) - Two (2) literature-review assignments of 1000 words (20%) - Three (3) practical reports (20%)	