

<b>Module code</b>	SB-4343		
<b>Module Title</b>	Bioinspiration		
<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>			
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.			
<b>Learning Outcomes</b>			
<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.	
<b>Module Contents</b>			
<ul style="list-style-type: none"> <li>- Introduction to Bioinspiration, Biodiversity, Creativity, and Innovation</li> <li>- Biological Materials and Nanostructures</li> <li>- Robotics and Sensing the Environment</li> <li>- Maintaining Community</li> <li>- Energy and Architecture</li> <li>- Bioinspiration and Human Health</li> <li>- The Business of Bioinspiration</li> </ul>			
<b>Assessment</b>	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%)	