Module code	SB-4330		
Module Title	Marine Pollution and Ecotoxicology		
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	SB-2206 Principles of Animal Physiology		
Anti-requisite	None		

Aims

The aims of the module are to provide an overview of marine pollution management and its consequences for marine organisms and ecological systems. Particularly, to introduce the various kinds of organic and inorganic pollutants and their sources of origin, to explore the interaction between the organism and the polluted environment, with reference to avoidance, accumulation and sequestration of pollutants, and to provide an overview of remediation, management and conservation.

Learning Outcomes:

On successful completion of this module, a student will be expected to be able to:

Lower order :	20%	- Explain the different categories of pollutants and sources, pathways, persistence and fate of pollutants in the marine environment - Describe patterns of pollutants over a global scales, and severity of different pollutants categories; describe emerging pollutant issues
Middle order:	60%	- Review approaches to monitoring pollution in marine environments, including approaches using biomonitoring organisms - Analyse organismal responses to pollutant exposure (avoidance, accumulation and sequestration) and interactive of contaminants (physiological and fitness responses, endocrine disruption)
Higher order:	20%	- Evaluate impacts of pollutants on ecosystems, bioaccumulation and food web effects and toxic effects of secondary pollution (eutrophication, red tides) - Work independently on preparing practical reports

Module Contents

-Overview of marine pollution; consequences for marine organisms and ecological systems
-Categories of organic and inorganic pollutants and sources of origin
-Introduction to marine animal ecological physiology
-Physiological responses to variation in temperature, salinity, and pH
-Internal regulation or conformation to change in the external environment
-Interaction between the organism and the polluted environment (ecotoxicology)
-Avoidance, accumulation and sequestration of pollutants
-Population and ecosystem level effects; organisms as bioindicators of pollution exposure
-Remediation, management and conservation in the context of marine pollution

Assessment	Formative assessment	Tutorial assignments and feedback
	Summative assessment	Examination: 50%
		Coursework: 50% - 1 class test (10%) - 3 practical reports (30%) - 1 oral presentation (10%)