

Module code	SC-4365		
Module Title	Environmental Chemistry		
Degree/Diploma	Bachelor of Science (Chemistry)		
Type of Module	Major Option		
Modular Credits	4	Total student workload	10 hours/week
		Contact hours	4 hours/week
Prerequisite	None		
Anti-requisite	None		
Aims:			
Towards the completion of this module, students should be able to understand the chemistry of the environment and learn the underlying principles governing the atmosphere, the hydrosphere and the terrestrial environment; and learn the chemical basis of pollution and identify various ways to control and manage them.			
Learning Outcomes:			
<i>On successful completion of this module, a student will be expected to be able to:</i>			
Lower order:	40%	- Understand the chemistry of the environment and learn the underlying principles governing the atmosphere, the hydrosphere and the terrestrial environments	
Middle order:	40%	- Learn the chemical basis of pollution and identify various ways to control and manage them	
Higher order:	20%	- Able to design methods for mitigation of environmental problems and issues	
Module Contents			
- <i>The earth's atmosphere</i> Layers and chemical composition of the atmosphere; Ozone and stratospheric chemistry; Tropospheric chemistry; Atmospheric aerosols, Urban and indoor atmospheres; Global climate change; Acid precipitations, photochemical smog, sampling methods of air pollutants.			
- <i>The hydrosphere</i> The hydrologic cycle; Distribution of species in aquatic systems, Gases in water; Organic matter in water; Metals and semi-metals in the hydrosphere; Microbiological processes; Water quality and water quality standards; Water pollution and waste-water treatment chemistry.			
- <i>The terrestrial environment</i> Soil formation; Chemical and physical properties of soil; The chemistry of solid wastes; Solid and hazardous waste management.			
Assessment	Formative assessment	Tutorial and feedback	
	Summative assessment	Examination: 60% Coursework: 40% - 3 practical reports (20%) - 2 written assignments (10%) - 2 class tests (10%)	