

Module code	SC-1401		
Module Title	Chemistry of the Environment		
Degree/Diploma	Undergraduate GenNEXT Bachelor Degree		
Type of Module	Breadth		
Modular Credits	4	Total student workload	10 hours/week
		Contact hours	4 hours/week
Prerequisite	None		
Anti-requisite	None		
Aims			
At the end of the module, students should be able to identify and explain the underlying chemical principles involved in environmental processes and to apply these principles in understanding various man-made and natural environmental problems such as global warming, air pollution, water pollution, volcanic eruption, landslides, and solid wastes and so on.			
Learning Outcomes:			
<i>On successful completion of this module, a student will be expected to be able to:</i>			
Lower order :	40%	Identify and explain the underlying chemical principles involved in environmental processes	
Middle order :	40%	Apply these principles in understanding various man-made and natural environmental problems such as global warming, air pollution, water pollution, volcanic eruption, landslides, and solid wastes and so on	
Higher order:	20%	Critically work on the solutions to environmental problems	
Module Contents			
<ul style="list-style-type: none"> - Biogeochemical cycles - Pollution: sources, scales and effects in the atmosphere and air, the hydrosphere and water, the lithosphere and soil - Air pollution: urban smog, regional haze, acid rain, ozone layer, global warming, long range transport by the air - Pollution control of freshwater and seawater chemistry - Water pollution: metals, nutrients, inorganic and organic substances, dissolved gases, biochemical and chemical oxygen demands - Environmental water monitoring, sampling methods, quality standards - Treatment: wastewater and potable water - Pollution modelling - Solid waste: effects on ecological and health - Effects of chemical pollutions and managing environmental quality. 			
Assessment	Formative assessment	Problem based learning and presentation on environmental issues	
	Summative assessment	Examination: 60% Coursework: 40% - 3 PBL report and class participant (15%) - 3 class tests (15%) - 3 written assignments (10%)	