

<b>Module code</b>	SC-1401		
<b>Module Title</b>	Chemistry of the Environment		
<b>Degree/Diploma</b>	Undergraduate GenNEXT Bachelor Degree		
<b>Type of Module</b>	Breadth		
<b>Modular Credits</b>	4	<b>Total student workload</b>	10 hours/week
		<b>Contact hours</b>	4 hours/week
<b>Prerequisite</b>	None		
<b>Anti-requisite</b>	None		
<b>Aims</b>			
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.			
<b>Learning Outcomes:</b>			
<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	
<b>Module Contents</b>			
<ul style="list-style-type: none"> <li>- Biogeochemical cycles</li> <li>- Pollution: sources, scales and effects in the atmosphere and air, the hydrosphere and water, the lithosphere and soil</li> <li>- Air pollution: urban smog, regional haze, acid rain, ozone layer, global warming, long range transport by the air</li> <li>- Pollution control of freshwater and seawater chemistry</li> <li>- Water pollution: metals, nutrients, inorganic and organic substances, dissolved gases, biochemical and chemical oxygen demands</li> <li>- Environmental water monitoring, sampling methods, quality standards</li> <li>- Treatment: wastewater and potable water</li> <li>- Pollution modelling</li> <li>- Solid waste: effects on ecological and health</li> <li>- Effects of chemical pollutions and managing environmental quality.</li> </ul>			
<b>Assessment</b>	Formative assessment	Problem based learning and presentation on environmental issues	
	Summative assessment	Examination: 60%  Coursework: 40% <ul style="list-style-type: none"> <li>- 3 PBL report and class participant (15%)</li> <li>- 3 class tests (15%)</li> <li>- 3 written assignments (10%)</li> </ul>	