

<b>Module code</b>	SP-3407		
<b>Module Title</b>	Introduction to Renewable Energy		
<b>Degree/Diploma</b>	Bachelor of Science (Applied Physics)		
<b>Type of Module</b>	Breadth		
<b>Modular Credits</b>	4	<b>Total student workload</b>	8 hours/week
		<b>Contact hours</b>	4 hours/week
<b>Prerequisite</b>	None		
<b>Anti-requisite</b>	None		
<b>Aims</b>			
The module examines the availability and distribution of various renewable energy resources such as solar thermal, photovoltaic, wind, tidal, ocean, hydroelectric, fuel cells, biomass and others. The module will enable the student to evaluate renewable energy resources in a well-informed way.			
<b>Learning Outcomes:</b>			
<i>On successful completion of this module, a student will be expected to be able to:</i>			
Lower order :	40%	- Describe renewable energy resources - Assess and evaluate the performance of renewable energy resources	
Middle order :	40%	- Search information sources - Investigate, analyse and interpret information related to renewable energy	
Higher order:	20%	- Appraise, recommend and justify renewable energy resources - Present information and arguments for justification in written communications	
<b>Module Contents</b>			
<ul style="list-style-type: none"> <li>- The sun, measurements and estimation of solar radiation,</li> <li>- solar thermal energy,</li> <li>- photovoltaic energy,</li> <li>- wind energy,</li> <li>- ocean and tidal energy,</li> <li>- geothermal energy,</li> <li>- fuel cells,</li> <li>- biomass,</li> <li>- hydroelectric,</li> <li>- energy storage,</li> <li>- evaluation of energy resources,</li> <li>- fossil fuels,</li> <li>- environmental effects of renewable and non-renewable energies.</li> </ul>			
<b>Assessment</b>	Formative assessment	Online multiple choice questions and feedback	
	Summative assessment	Examination: 60%	
		Coursework: 40% - 2 written assignments (20% each)	