

Module code	TE-4307		
Module Title	Energy Systems and Sustainability		
Degree/Diploma	Bachelor of Engineering (Energy Systems)		
Type of Module	Major Option		
Modular Credits	2	Total student Workload	4 hours/week
		Contact hours	2 hours/week
Prerequisite	None		
Anti-requisite	None		
Aims			
To expose students to good knowledge on the concept of energy systems and sustainability and its evolving issues at the global and local level. This provides students with an insight into the strategies and practices adopted by governments, cooperation and institutions towards achieving sustainable development.			
Learning Outcomes			
<i>On successful completion of this module, a student will be expected to be able to:</i>			
Lower order :	30%	<ul style="list-style-type: none"> - describe the different types of energy systems and their pattern of energy consumption. - comprehend the energy, environmental, economic, and social element of sustainability. 	
Middle order :	30%	<ul style="list-style-type: none"> - apply the basic concept of sustainability for applications in selected energy systems engineering. - analyse the energy, environmental, economic, and social element of sustainability. 	
Higher order:	40%	<ul style="list-style-type: none"> - justify the need of sustainability in the areas of resources, energy conversion and end-use in power systems, water systems, waste management systems, transportation systems and urban planning systems. - solve complex energy engineering problems related to energy, environmental, economic, and social element of sustainability. - recommend various methods for meeting energy need and justify how they can be used to sustainably improve human welfare. - work cooperatively in groups when reviewing case studies 	
Module Contents			
<ul style="list-style-type: none"> - Overview to sustainable development - Sustainable energy for the world - Sustainable water management - Sustainable waste management - Sustainable transport systems - Sustainable urban planning - Energy management systems 			
Assessment	Formative assessment	Monthly online quizzes will be used to test and to give feedback for their learning.	
	Summative assessment	Examination: 50% Coursework: 50% - 5 individual assignments (10% each)	