Module Code	TE-3302			
Module Title	Energy Generation and the Environment			
Degree/Diploma	Bachelor of Engineering (Energy Systems)			
Type of Module	Major Option			
Modular Credits	4	**Total student Workload**	8	hours/week
		Contact hours	4	hours/week
Prerequisite	None			
Anti-requisite	SP-3407 Introduction to Renewable energy; SP-4303 Renewable Energy			

Aims

This module provides an overview of the different methods of generating energy, such as turbine driven electrochemical generators, fuel cells, photovoltaic, and thermoelectric devices. An overview of the direct and indirect impact of energy generation on the environment. Topics include global climate change, clean energy technologies, energy conservation, air pollution, water resources, and nuclear waste issues.

Learning Outcomes

On successful completion of this module, a student will be expected to be able to:

Lower order :	30%	- recognise and identify the various technologies available for the generation of energy from non-renewable and renewable sources - explain and assess the effects of different energy generation to the environment
Middle order :	40%	- research, investigate and identify where, how and why non-renewable and renewable energy systems are utilised
Higher order:	30%	- design and create potential scenarios of the usage of different energy sources - describe and present the potential effects, in terms of pollution and from the generation of various energy sources - review and justify regulations and policies towards the selection of energy technologies

Module Contents

- The importance of energy in human systems
- The physical and technical aspects of energy and energy supply/demand systems
- The relationship between energy consumption and environmental pollution
- A practical and theoretical knowledge of energy systems and apply that knowledge to real world situations
- The effect of government regulations, politics, and corporate development in the renewable energy industry

Assessment	Formative assessment	Monthly online multiple choice questions will be used to test and to give feedback for their learning
	Summative assessment	Examination: 50%
		Coursework: 50% - 2 class tests (10% each) - 2 group laboratory reports (10% each) - 1 individual assignment (10%)