Module code	TE-4203			
Module Title	Research Project (Engineering Design VII & Engineering Design VIII for Energy Systems)			
Degree/Diploma	Bachelor of Engineering (Systems Engineering) for Energy Systems			
Type of Module	Major Core			
Modular Credits	8	**Total student Workload**	16	hours/week
		Contact hours	8	hours/week
Prerequisite	None			
Anti-requisite	TE-4201 Engineering Design VII (Energy Systems); TE-4202 Engineering Design VIII (Energy Systems)			

Aims

To implement and integrate the concepts and theories of research methodologies as well as the acquired practical skills when performing an independent research project. It also aims to teach students about research attitude, research ethics and data analyses and interpretation where applicable.

Learning Outcomes

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

Lower order :	10%	- describe research methodologies and research ethics
Middle order :	10%	- review research subject areas pertaining to the respective topic of study - design research proposal and experiments - analyse and collect experimental data
Higher order:	80%	- use equipment and follow instructions according to standard procedures - interpret and critically appraise study design, research procedure and findings - manage project tasks and timeline in order to successfully accomplish given project - frequent verbal and written communication with supervisor - present experimental data and observations orally - write a research project report in journal article format

Module Contents

- Identify research problem and research topic in energy systems engineering related subjects
- Investigate and explore the application of the concepts of related subjects
- Research methodology, laboratory skills and scientific reporting skills
- Research proposal writing
- Field work for data collection
- Conduct of research including physical measurements, data analysis & interpretation and time management
- Report writing in the form of academic journal article

Assessment	Formative assessment	Weekly discussions about progress of project with supervisor(s)
	Summative assessment	Examination: 0%
		Coursework: 100% - 1 research proposal (20%)* - 1 research project report in journal article format (40%)* - 2 oral presentations of project report (15% each)* - Assessment of student's initiative (10%)** Notes: *by two assessors (other than supervisor); **by supervisor