



**SCHOOL OF
RENEWABLE ENERGY
TECHNOLOGY (SERT)**



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One of a kind, SERT is dedicated to teaching, focusing on research and development in renewable energy with leading tools in “Green Technology” for sustainable development with environmentally-friendly concerns.

SERT is proud of the first “Energy Park” ever founded in Asia for exhibitions, demonstrations, research, and commercial ventures in renewable energy technology and equipment. It serves as a pivotal venue where utilization of the technology is disseminated to the public on a continuous basis.

Solar power plant technology is fully developed by SERT in full cycle from research to development and application. We have sole ownership of the following:

1. Solar thermal parabolic trough power plant.
2. 120 kW-PV Micro Grid System.

At present, SERT is self-sufficient in electricity generation from renewable energy.

Master of Science Program in Renewable Energy

Research Focus

- Solar Thermal
- PV System
- Community Energy
- Biomass
- Hydrogen, Fuel Cell
- Energy Economics and Policy

Structure of the Program

1. Credit Requirements *

Requirements	Option 1.2	Option 2.1
Coursework	24	30
- Core Courses	12	12
- Electives	12	18
Required Non-credit Courses	5	5
Thesis	12	-
Independent Study	-	6
Total	36	36

* Minimum credits required

2. Core Courses

Requirements	Option 1.2		Option 2.1	
	Course No.	Cr.	Course No.	Cr.
Instrumental Techniques in Renewable Energy Research	852504	3	852504	3
Renewable Energy	852505	3	852505	3
Thermodynamics and Fluid Mechanics	852506	3	-	-

Requirements	Option 1.2		Option 2.1	
	Course No.	Cr.	Course No.	Cr.
Simulation, Design, and Optimization of Energy System	852507	3	-	-
Energy Conversion	-	-	852508	3
Energy Economics	-	-	852541	3
Total	4	12	4	12

3. Electives

Requirements	Option 1.2		Option 2.1	
	Course No.	Cr.	Course No.	Cr.
Bioenergy	852511	3	852511	3
Biogas	852512	3	852512	3
Biomass Combustion	852513	3	-	-
Biomass Gasification and Pyrolysis	852514	3	-	-
Solar Thermal and Applications	852521	3	852521	3
Photovoltaic Systems	852522	3	852522	3
Energy Storage Systems	852523	3	852523	3
Concentrating Solar Thermal Power Technology	852524	3	-	-
Solar Thermal Refrigeration Technology	852525	3	-	-
Solar Drying Technology	852526	3	-	-
Community Energy	852531	3	852531	3
Community Energy Technology	852532	3	-	-
Renewable Energy Technology for Agriculture	852533	3	-	-
Sustainable Energy Development	852534	3	852534	3
Current Topics in Renewable Energy	852535	3	852535	3
Energy Economics	852541	3	-	-
Economic Policy Formulation of Renewable Energy	852542	3	852542	3
Energy Management	852543	3	852543	3

Requirements	Option 1.2		Option 2.1	
	Course No.	Cr.	Course No.	Cr.
Energy Management in Green Industry	852544	3	852544	3
Energy Conservation	852545	3	852545	3
Environmental Impact and Carbon Trading	852546	3	852546	3
Fuel Cell Technology	852551	3	852551	3
Wind Energy	852552	3	852552	3
Hydro Power Plant	852553	3	852553	3
Geothermal Energy	852554	3	852554	3
Total	25	≥12	17	≥18

4. Required Non-credit Courses

Requirements	Option 1.2		Option 2.1	
	Course No.	Cr.	Course No.	Cr.
Research Methodology in Science DNA Technology	852501	3	852501	3
Seminar 1	852502	1	852502	1
Seminar 2	852503	1	852503	1
Total	3	5	3	5

5. Thesis Credit Requirements

Requirements	Option 1.2		Option 2.1	
	Course No.	Cr.	Course No.	Cr.
Thesis 1	852591	3	-	-
Thesis 2	852592	3	-	-
Thesis 3	852893	6	-	-
Independent Study 1	-	-	852581	2
Independent Study 2	-	-	852582	2
Independent Study 3	-	-	852583	2
Total	3	12	3	6