

SAIAE Solar energy course

18-19 July 2018 - Pretoria

Course description:

Solar energy is, simply, energy provided by the sun. This energy is in the form of solar radiation, which makes the production of solar electricity possible. Electricity can be produced directly from photovoltaic, PV, cells.

Main topics:

1. Differences between standalone, grid tied and hybrid systems
2. Components of a photovoltaic solar energy systems:
 - 2.1 Photo Voltaic Solar Panels
 - 2.2 Inverter / Charger
 - 2.3 Batteries
 - 2.4 Automation
 - 2.5 Sun tracking
 - 2.6 Monitoring equipment
3. Solar energy data available for the design of systems
4. Equalising constant energy requirements with variable available solar energy
 - 4.1 Energy requirements of different equipment and energy use during the day
 - 4.2 Specific reference to the use of solar energy for irrigation systems and pumps.
5. Design of a photovoltaic solar energy system
6. Energy yield calculations and the economic benefits
7. Regulatory specifications and requirements
8. Legislation regarding use of photovoltaic systems.

What will you learn?

Course attendees will learn about the design and fundamentals of a photovoltaic system from engineers and people with experience in the solar energy and electrical field. Knowledge will be shared about the components to use monitoring of systems and grid connections.

Target group

The short course is aimed at engineers, technicians, consulting firms, government departments, associations, local authorities, and private entrepreneurs.

A laptop with a spreadsheet will be essential for the practical exercise

Course cost: R 4500.00 per person – SAIAE member / R5000-00 Non-Member

Program

DAY 1		
Time	Items	Presenters
07h30 to 08h15	Registration	
08h15 to 08h30	Welcome	Adriaan Louw
08h30 to 08h45	Solar energy introduction	Adriaan Louw
08h45 to 09h00	Differences between standalone, grid tied and hybrid systems	Adriaan Louw
09h00 to 10h00	Components of a photovoltaic solar energy systems Photo Voltaic solar panels Mountings and theft Sun tracking Inverter / Charger Automation equipment Monitoring equipment Batteries	Adriaan Louw & Fred Claassens
10h00 to 10h30	Tea/coffee and networking	
10h30 to 10h45	Discussions and questions regarding components	Adriaan Louw & Fred Claassens
10h45 to 11h45	Monitoring of solar systems practical demonstration	Fred Claassens
11h45 to 12h45	Solar energy data available and adjustments required for the design of systems	Adriaan Louw
12h45 to 13h45	LUNCH	
13h45 to 14h00	Some practical experience with installations	Fred Claassens
14h00 to 14h15	Energy requirements of different equipment and energy use during the day Start-up current of electric motors	Adriaan Louw
14h15 to 15h15	Energy requirements and pump performance impact on irrigation systems	Adriaan Louw
15h15 to 15h45	Tea/coffee and networking	
15h45 to 16h30	Equalising constant energy requirements with variable available solar energy	Adriaan Louw
16h30 to 16h40	Closure/Summary of Day 1	
DAY 2		
Time	Items	Presenters
08h00 to 09h00	Regulatory specifications and requirements and lightning protection	Tjibbe Spoelstra
09h00 to 09h15	Legislation regarding the use of photovoltaic systems	Adriaan Louw
09h15 to 10h00	Energy yield and economic benefit calculations	Adriaan Louw
10h00 to 10h30	Tea/coffee and networking	
10h30 to 12h45	Design of a photovoltaic solar energy system Panel sizes and configuration Inverters Cable sizes Lightning protection Strength of structures Mountings Working through examples	Adriaan Louw
12h45 to 13h45	LUNCH	
13h45 to 15h00	Practical exercise	Adriaan Louw
15h00 to 15h30	Tea/coffee and networking	
15h30 to 16h30	Discussions of exercise and questions	Adriaan Louw
16h30 to 16h40	Closure/Summary of Day 2	Adriaan Louw

Registration form: SAIAE – Solar energy short course

18-19 July 2018 - Pretoria

Person who will be attending:			
Name:			
Company:			
Registration fees:	Small energy course, Pretoria, 18-19 2018 SAIAE member		R 4500.00
	Solar energy course, Pretoria, 18-19 2018 Non SAIAE member		R 5000.00
Dietary requirements:		Total amount:	R
Person / Company responsible for payment:			
Name:			
Postal address:			
Email address:			
Contact person:		Tel / Cell no:	

Conditions:

1. Please complete the registration form and email to boeboe@saili.co.za by 15 May 2018. Places are limited and will be awarded on a first come – first serve basis.
2. Payment of registration fees is required prior to the event, no later than 15 June 2018.
3. Upon receipt of the registration form, an invoice with a reference number will be issued
4. Payments can be made directly into the SAIAE bank account, using the reference on the invoice:
Account name: SAIAE **Bank:** ABSA
Branch: Silverton **Branch code:** 334445 **Account no:** 070720329
5. Please email the proof of payment to boeboe@saili.co.za , where after a confirmation of receipt will be sent
6. Attendees are responsible for their own travel and accommodation arrangements and costs prior or following the short course.
7. SAIAE reserves the right to change the dates or cancel the course and will not be held responsible for any losses incurred by attendees thereby.

I would like to attend the event on 18 – 19 July 2018 and accept the conditions listed above. By signing this registration form, I indemnify SAIAE, its employees, representatives and subcontractors against all damages, losses and/or costs arising out of or about illness, injuries, death and/or damage to and/or loss of property of all persons in any way sustained about the short course.

Initials & surname

Signature

Date