



CENTRE FOR RENEWABLE &  
SUSTAINABLE ENERGY STUDIES

# Advanced PV Systems

**Date:** 12 – 16 July 2021

**Venue:** Electrical Engineering, Faculty of Engineering, Stellenbosch University, Stellenbosch

**Registration:** [Link to be confirmed](#)

**Course fees:** R11 800

**Presenter:** **Dr Arnold Rix** is a senior lecturer in the Department of Electrical and Electronic Engineering. He holds a BEng and an PhD degree in Electrical Engineering. His main research field is photovoltaic.



For the past few years he was working in the renewable energy sector on the construction of large scale wind turbines and the development, construction and grid connection of utility scale photovoltaic generation plants.

## Synopsis

The aim of the course is to provide attendees with the understanding and tools to design grid-tied (including hybrid configurations with backup power) PV systems within the South African solar resource, technical and legislative contexts. The underlying design criteria will be to optimise the energy yield versus lifecycle costs of the PV system within the given resource, technical and legislative constraints, i.e. the optimising the financial viability of the system.

Specifically, the following topics will be covered:

- Solar resource & irradiation data sources
- Different solar PV technologies
- Photo-voltaic panel: electrical characteristics, maximum power point, influence of shading & diffuse irradiation, etc.
- Photo-voltaic array: impact of positioning & tracking, string design and DC cable sizing, etc.
- Connection to the distribution grid: power electronics basics, earthing and circuit-breaker design, system sizing, AC cable sizing, South African regulations & standards, etc.
- Financial viability: understanding tariffs, payback, etc.

## Who should attend

Engineers, technologists and technicians involved in the marketing, design & implementation of grid-tied PV systems.

## Certification and Accreditation

The module has been registered with the Engineering Council of South Africa for 4 Continuous Professional Development points. A Certificate of Attendance will be awarded to all participants who attend the full course.

## Venue and Time

This course will be presented at the Engineering Knowledge Centre, Faculty of Engineering, Stellenbosch University and will run Mo-Fri & Sa from 08:00 to 17:00 on 12 – 16 July 2021 and from 09:00 to 13:00 on 18 July 2021. Directions can be obtained from: [crses@sun.ac.za](mailto:crses@sun.ac.za) or <http://crses.sun.ac.za/contact-us>

## Travel and Accommodation

Accommodation and travel are for your own account. The Stellenbosch Information Bureau can be contacted at tel. 021-883 3584 for delegates who want to make their own accommodation arrangements. A list of available accommodation can also be obtained from [crses@sun.ac.za](mailto:crses@sun.ac.za)

## Registration

The course is designed for a restricted number of attendees so as to personalize and maximize the learning experience. Bookings will be taken on a first come first served basis.

## Course Fees

- Cancellations made up to and including 23 June 2021 will be subject to a 15% handling fee. No refunds will be made after this date; however, substitutions will be accepted.
- **Payment is mandatory for attendance.**
- In the case of unforeseen circumstances, Stellenbosch University reserves the right to cancel the course or change the lecturer, in which case all fees will be reimbursed in full, on request.
- The course fee includes all study material, tea/coffee, and lunch.

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