This initiative is hosted by



## PHOTOVOLTAIC TECHNOLOGIES

NELSON MANDELA

-Energy-Tracking-Solar-Cells-Sun-Panels-

It will aid in the understanding and tools to design grid-tied photo-voltaic (PV) systems within the South African solar resource, technical and legislative contexts.

## ENTRY REQUIREMENTS

All candidates must have a scientific background. Please note that all courses are engineering based.



## **PV INFO**



The underlying design criteria will be to optimise the energy yield, versus life cycle costs of the PV system within the given resource and technical and legislative constraints, i.e. the optimising of the financial viability of the system.

Topics to be covered:

- Solar resource & irradiation data sources
- How the photo-voltaic cell converts irradiation to energy
- 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.

Each course is offered intensively over a 5 day period and is accredited by the Engineering Council of South Africa (ECSA) for Continuous Professional Development points (CPD). Note: These short courses do not lead to

qualifications or part – qualifications registered on the NQF.

For course enquiries and bookings:

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