



# Aston CPD Centre Birmingham

**Distance Learning  
Course in  
Photovoltaic Power**

## Aims and Objectives

This specialist course describes the technology of photovoltaic power installations from domestic through to large solar farms and will be of particular interest to engineers involved in design, construction and commissioning of pv projects. It comprises 25,000 words, 68 pages and 64 diagrams.

## Timescale

The course should be completed within six weeks of receipt, including completion and submission of the assignment. Additional time may be allowed on application for illness, change in personal or family circumstances within an absolute time limit of 12 weeks.

## Delivery of Course and Return of Assignment

The course will be supplied as a digital file in .pdf format attached to an e mail. A supplementary copy of the course can also be dispatched on CD-ROM to the student's home or company address on request. Colour printed material can be supplied on application although this will incur an additional charge. Students should be aware that although a CD Rom or documents are always sent to overseas addresses by air mail, delays of up to two weeks can be expected. Assignments should be sent to Aston CPD as e mail attachments in .doc or .docx format.

## Student Support

The course tutor will reply to student's e-mailed questions on the same day if received before 6pm including weekends. Student assignments will be marked and scored and where appropriate model answers will be supplied.

## Award of Certificate

A **Course Completion Certificate** will be awarded on completion.

## Course Tutor

The course tutor enjoyed a long career in a large UK electricity utility, where he obtained experience at all levels from junior operational engineer through to senior manager. Over the last ten years he has worked as a consultant in the UK, overseas, in utilities and process industries including major oil refineries.



## Content – PV Power

Overview and Historic Perspective, Characteristics of Renewable Generation, Functionality of Renewable Generation, Solar Cell Types, Power Collection and Optimum Tilt, Insolation, Tracker Systems, Solar Cell as a Diode, Solar Cell Efficiency, Shunt Resistance ( $R_{SH}$ ) and Series Resistance ( $R_S$ ), Bypass and Blocking Diodes, Maximum Power Point Tracking, Power Optimisers and Micro Inverters, Inverter Types, Transformer and Transformerless Inverters, Small PV (Mainly Domestic) Installations, Power Decoupling, Earth Leakage Monitoring, Small and large Installations, Panel Row Pitch, Panel Fixing, Frame and Foundation Loads, Transformers, Lightning Protection, Earthing of Installations, Surge Protection within the PV Installation, Electrical Protection at Large Solar Farms, Economic Appraisal. ENA TS ER G83 and G59 are described.

## Contact Address and Telephone Numbers

Aston CPD Centre, Aston House, 6 Greville Drive, Edgbaston, Birmingham B15 2UU. For technical enquiries: Dr. M. Sadeghzadeh 0778894 7658 or course tutor Geoff Jackson 01452 840064. For course availability: Andrew Carter 07780 561764 E mail: [enquiries@astoncpdcentre.co.uk](mailto:enquiries@astoncpdcentre.co.uk) Website & Mailing Subscription <http://www.astoncpdcentre.co.uk>



### BOOKING FORM

Student name.....

Address (Company address if company sponsored).....  
.....  
.....

Postcode (UK only).....

Tel. No:..... Fax. No:.....

E Mail address.....

#### **Please enrol me onto the PV Power Course**

When you have completed this form either scan and e mail it back to us, or post it.

Payment of £375.00 (\$630US) may be made by either a company purchase order on Aston CPD or by cheque made out to Aston CPD. On receipt of payment your registration will be confirmed by e mail and the course will be forwarded as an e mail attachment.

**Please note that the assignment must be submitted within 12 weeks from the date of issue of the course.**

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