

MAXX SOLAR
ONLINE
ACADEMY

Solar Power Designer
- Backup





Module - 1

***Introduction of the
maxx-solar-online-
academy and
course overview***

Module - 2

Renewable Update PV developments

Solar industry update

- Latest industry trends, technology developments, and price developments
- Market outlook in Solar
- Where are we now, where do we need to go
- World electricity changing
- Battery Storage
- Pricing developments
- LCOE, Simple paybacks

Module - 3

Recap of key concepts

Recap of the Basic course

- Electrical concepts
- Basic overview of PV technology
- Solar resource
- System performance and yields

Module - 4

System configurations

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- Different system configuration options
 - Embedded generation
 - Exporting energy
 - With diesel generators

Module - 5

System components and their function

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- Solar PV modules
 - Electrical characteristics
 - Temperature performance
 - Warranties
 - Rooftop mounting system
 - Penetrating systems
 - Non-penetrating
 - Integrated
 - PV inverters
 - MPPT
 - Grid following/forming
 - Inverter classes
 - Inverter loading
 - Battery inverters
 - Types
 - Functions
 - Batteries
 - Technologies
 - Features and functions.
 - Sizing and selection
 - Charge controllers/ MPPTs
 - Features and functions.

Module - 6

Electrical design and protection

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- Interconnected electrical system
 - DC cabling
 - DC combiners
 - Inverter input protection
 - Inverter output protection
 - Metering
 - Monitoring
 - Earthing

Module - 7

Desktop assessment and on-site visit

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- Energy and tariffs
 - Desktop assessment
 - Site Assessment

Module - 8

Step by Step Design

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- Steps of System Sizing
 - Backup system
 - Site survey
 - Backup Inverter
 - Battery sizing

Module - 9

Simulation tool overview

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- Solar information resources online
 - Calculation and Design Tools Commercial
 - Calculation and Design Tools from manufacturers

Module - 10

Software-based system design

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- Entering Project/Site Data
 - Dimensioning Solar Panels array
 - Adding Keep Outs and Shadows
 - Selecting the Inverter
 - Single Line Diagram
 - Final Report

Module - 11

Best practices

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- PV modules
 - Mounting system
 - PV inverter
 - Combiner boxes
 - Cable routing

Module - 12

Evaluation and final Test

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- Feedback questionnaire and Evaluation
 - Final Test
 - Certificate of participation with content overview