

Course Description: Join our comprehensive Solar Professional course in Dubai to gain expertise in solar system design, installation and commissioning. Suitable for all skill levels, this hands-on training equips you with skills needed to succeed in the rapidly growing UAE solar market. Master key PV technologies, safety practices and business skills. Earn industry-recognized certification and launch your solar career.

SOLAR TRAINING

BASIC ELECTRICALS

- Voltage
- Current
- Power & Energy
- DC Power

TYPES OF SOLAR POWER PLANT

- On grid Solar Power plant
- Hybrid Solar Power Plant
- Off-grid solar power plant
- Zero Export Solar System
- Diesel Generator Sync Solar System

SELECTION OF SITE AND SHADOW ANALYSIS

- Selection of PV module tilt angle
- Site survey and assessment
- Type of solar radiation

COMPONENTS OF SOLAR PV SYSTEM

- AC Power & Power Factor
- Types of Load
- Battery Capacity
- Basics Of Home Wiring
- Irradiance assessment and comparison
- Geometric Effects
- Solar Panel
- Charge Controller
- Inverter
- Cables & Cable termination
- DC Combiner box
- Fuses & Circuit Breakers

SOLAR TERMINOLOGIES

- Irradiance, Radiation & Insolation
- Peak Sun Hours
- STC & NOCT
- Sun Path Diagrams

PV MODULE CHARACTERISTICS & TECHNOLOGIES

- PV Cells
- Types Of PV Modules
- Bypass Diodes
- Electrical Characteristics – Voc, Vmp, Isc, Imp
- Maximum Power Point & Series Fuse
- Ratings
- Efficiency & Fill Factor
- Thermal Characteristics – Temp Coeff, NOCT

CONNECTION OF PV MODULE (SERIES AND PARALLEL CIRCUIT)

- Series Circuits
- Parallel Circuits
- Matching the PV Array to the Current requirement
- Combining Series & Parallel Circuits
- Matching the PV Array to the Power
- PV module string connection requirement
- Matching The PV Array to the Voltage
- Summary of Calculations for Matching Array requirement and Inverter

TYPES OF BATTERIES

- Types of Batteries
- D.O.D & S.O.C
- Charging & Discharging Modes
- Best Practices

SIZING OF SOLAR PV SYSTEM

- Selection & Sizing of PV panel
- Selection & Sizing of Cables
- Selection & Sizing of Charge Controller
- Selection & Sizing of Earthing System
- Selection & Sizing of Battery
- Selection & Sizing of LA & SPD
- Selection & Sizing of Protective Devices
- Designing on grid solar system
- Selection & Sizing of Inverter
- Designing of off grid solar system
- Selection & Sizing of Battery system
- Designing of hybrid solar system

EARTHING

- Earthing requirements & Codes
- Types of Earthing
- Earth resistance measurement

SUMMARIZING DESIGNING

- Derating Factors
- Calculating Energy Yield
- Calculating ROI

INSTALLATION & COMMISSIONING PROCEDURE

- Factors to consider Installation of Solar
- Panels in Roof Top, Ground mounted etc
- HSE Practices
- Other System Requirements & Remote Communication

DEMO INSTALLATION

- Practical

INTRODUCTION TO SIMULATION

- Limitations of Manual Calculations
- Requirements of Software Based Simulations
- Common Software used for Solar Simulation

INTRODUCTION TO PV SYST

- Importance of PV Syst
- Create Projects
- Creating, Exploring & Importing Meteo & Site
- Import & Export Project Files

CHOOSING METEO

- Explanation of GHI, DNI & Albedo
- Project settings
- Tilt & Azimuth Angle
- Temperature Coefficient
- Choosing right Orientation
- Meaning Of transposition factor

SYSTEM SIZING

- System Sizing Explanation of Variant
- Selection Of Panels, Inverters & Optimizers
- Overloading & Pnorm Ratio
- String Sizing & Array Matching
- Pan File, OND File & BTR File
- Clipping Factor

OTHER CALCULATIONS

- Losses Calculation
- Cable Sizing

SHADOW ANALYSIS

- Horizon & Near Shading
- 3D Lay out

LAY OUT

- Importing Sketchup Drawing
- Shading Factor & Shadow Analysis
- String Lay out & Framing
- Understanding Probability
- Calculation of ROI

ECONOMIC EVALUATION

- Costing

FINAL DESIGNING

- Over all Designing Of On grid
Megawatt Project

DESIGNING OF OFF GRID & HYBRID

- Storage requirement
- Load Profile
- Designing of Hybrid & Stand alone
Project

REPORTS

- PV Syst Report & Importance
- Understanding Reports
- Customizing PV Syst Reports