



COURSE SCHEDULE

Introduction to Grid-Connected Photovoltaic (PV) Systems Design for Non-Engineers

DAY	TIME	SUBJECT	DESCRIPTION
1 (Monday)	0900 ~ 0930	Lecture	Welcoming and Course Outline
	0930 ~ 1030	Lecture	Basic solar engineering: Introduction, Earth Geography
	1030 ~ 1050	Break	Refreshment is provided
	1050 ~ 1245	Lecture	Basic solar engineering: Earth-sun-collector geometry; Availability of solar energy
	1245 ~ 1400	Break	Lunch is provided
	1400 ~ 1700	Lecture	Photovoltaic technology: Introduction; Solar cells; PV modules; Datasheets; Standards; Array configuration; Operational issues
	1700 ~ 1720	Break	Refreshment is provided
2 (Tuesday)	0900 ~ 1030	Tutorial	Exercises based on previous work
	1030 ~ 1050	Break	Refreshment is provided
	1050 ~ 1245	Lecture	Introduction to grid connection; Introduction to grid inverter technology
	1245 ~ 1400	Break	Lunch is provided
	1400 ~ 1500	Lecture	Grid interactive inverter: Introduction; Types; Datasheets; Standards
	1500 ~ 1700	Lecture	Other balance of system (BOS) components: Connector; Bypass diode; Wiring cable; Conduit; Trunking; String over current protection; Switches; Array junction box; Grounding; Surge protection device; Connection and interconnection Issues
	1700 ~ 1720	Break	Refreshment is provided
3 (Wednesday)	0900 ~ 1030	Tutorial	Exercises based on previous work
	1030 ~ 1050	Break	Refreshment is provided
	1050 ~ 1245	Lecture	Design and sizing of GCPV systems: Dimensioning of PV array; Matching of PV array to inverter
	1245 ~ 1400	Break	Lunch is provided
	1400 ~ 1600	Lecture	Design and sizing of GCPV systems: Other BOS components and integration
	1600 ~ 1700	Lecture	System performance and evaluation: Types of monitoring and equipment; Performance indices
	1700 ~ 1720	Break	Refreshment is provided



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DAY	TIME	SUBJECT	DESCRIPTION
4 (Thursday)	0900 ~ 1030	Tutorial	Exercises based on previous work
	1030 ~ 1050	Break	Refreshment is provided
	1050 ~ 1245	Lecture	Installation; Testing and commissioning
	1245 ~ 1400	Break	Lunch is provided
	1400 ~ 1500	Lecture	Operation and maintenance
	1500 ~ 1700	Lecture	Lightning protection system (LPS): Introduction; Types of LPS; Air termination; LPS for small systems & large systems; Indirect lightning; LPS materials
	1700 ~ 1720	Break	Refreshment is provided
5 (Friday)	0900 ~ 1030	Practical	Solar assessment; PV module measurements; Testing and commissioning; Acceptance test; Operation and maintenance
	1030 ~ 1050	Break	Refreshment is provided
	1050 ~ 1215	Practical	Solar assessment; PV module measurements; Testing and commissioning; Acceptance test; Operation and maintenance
	1215 ~ 1445	Break	Lunch is provided
	1445 ~ 1700	Practical	Solar assessment; PV module measurements; Testing and commissioning; Acceptance test; Operation and maintenance
	1700 ~ 1720	Break	Refreshment is provided
6 (Saturday)	0900 ~ 1030	Examination	Practical [one-on-one candidate demonstrates and interviewed]
	1030 ~ 1050	Break	Refreshment is provided
	1050 ~ 1245	Examination	Practical [one-on-one candidate demonstrates and interviewed]
	1245 ~ 1400	Break	Lunch is provided
	1400 ~ 1700	Examination	Practical [one-on-one candidate demonstrates and interviewed]
	1700 ~ 1720	Break	Refreshment is provided



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DAY	TIME	SUBJECT	DESCRIPTION
7 (Monday)	0900 ~ 1030	Group	Group presentation
	1030 ~ 1050	Break	Refreshment is provided
	1050 ~ 1245	Group	Group presentation
	1245 ~ 1400	Break	Lunch is provided
	1400 ~ 1700	Open	Q & A
	1700 ~ 1720	Break	Refreshment is provided
8 (Tuesday)	0830 ~ 0930	Examination	Part A - Comprehensive Open Book
	0930 ~ 1000	Break	Refreshment is provided
	1000 ~ 1300	Examination	Part B – Comprehensive Open Book
	1300 ~ 1415	Break	Lunch is provided