

Battery Storage

Competencies: UEERE4001, UEERE5001

Day	Time	Activity
1	8:00 – 10:00	Induction, enrolment forms, L & N, introduction to course.
1	10:15 – 12:00	Working on Energised electrical equipment, legislative requirements, follow on from L & N assessment.
1	12:30 – 2:30	Ohms law basics, Definitions: <ul style="list-style-type: none"> Factors affecting resistance Factors affecting inductance Factors affecting capacitance Power – active, reactive, apparent Energy – kWh, Ah etc.
1	2:45 – 3:30	Battery Chemistry: <ul style="list-style-type: none"> Battery life Battery Failure Charging regimes Hazards Disposal
1	3:30 – 4:00	Summarise day's events
2	8:00 – 10:00	Hybrid Systems: <ul style="list-style-type: none"> Sizing battery Sizing Charge Controllers Sizing Multimodal Inverter Cost Benefits of battery system Cost analysis based on local tariffs
2	10:15 – 12:00	Design an electrical circuit: <ul style="list-style-type: none"> Sizing cable for current carrying capacity Sizing cable for voltage drop Sizing cable for short circuit temperature rise
2	12:30 – 2:30	Design an electrical circuit: <ul style="list-style-type: none"> Automatic disconnection to limit rise in touch Voltage Sizing protective device using tripping curves Sizing protective device using let through energy curves.
2	2:45 – 3:30	Design an electrical circuit: <ul style="list-style-type: none"> Protective earthing conductors Equipotential bonding conductors Functional earthing conductors
2	3:30 – 4:00	Summarise day's events

Competencies: UEERE4001, UEERE5001 (continued)

Day	Time	Activity
3	8:00 – 10:00	Develop schematic diagram of electrical system for domestic premises: Cable sizing (active, neutral, positive, negative, earthing) (reasons for sizing) Protection (reasons for protection) Develop wiring diagram of electrical system for domestic premises: Layout of equipment Layout of conduits, trunking
3	10:15 – 12:00	Install domestic hybrid system (working in pairs) RA and SWMS Mount Equipment
3	12:30 – 3:30	Install domestic hybrid system (working in pairs) Cabling and protection Modify existing switchboard to include essential and non-essential loads.
3	3:30 – 4:00	Summarise day's events
4	8:00 – 10:00	Parametrisation: Communication with multimodal inverter RS232, RS485, networking Setting parameters for multimodal inverter
4	10:15 – 12:00	Electrical safety testing and commissioning of system: Visual Earth continuity Insulation Correct Circuit Connections Polarity Fault Loop Impedance testing (I know it's not mandatory, but there is a reason why I do it) RCD testing (again I do more than just push-button test) Function tests of hybrid system
4	12:30 – 2:30	Prepare work health and safety Policy: Hazard Identification, risk assess, controls Labelling
4	2:45 – 3:30	Develop schematic diagram of electrical system for commercial premises: Cable sizing (active, neutral, positive, negative, earthing) (reasons for sizing) Protection (reasons for protection) Develop wiring diagram of electrical system for domestic premises: Layout of equipment Layout of conduits, trunking
4	3:30 – 4:00	Summarise day's events

Day	Time	Activity
3	8:00 – 12:00	Complete documentation for assignments Domestic Installation design & construct Commercial Installation design & construct
5	12:30 – 1:30	Revision
5	1:30 – 3:00	Theory Exam
5	3:00 – 4:00	Mark Assessment / question and answer time with Robert regarding experience in the industry. Feedback forms and certificates