

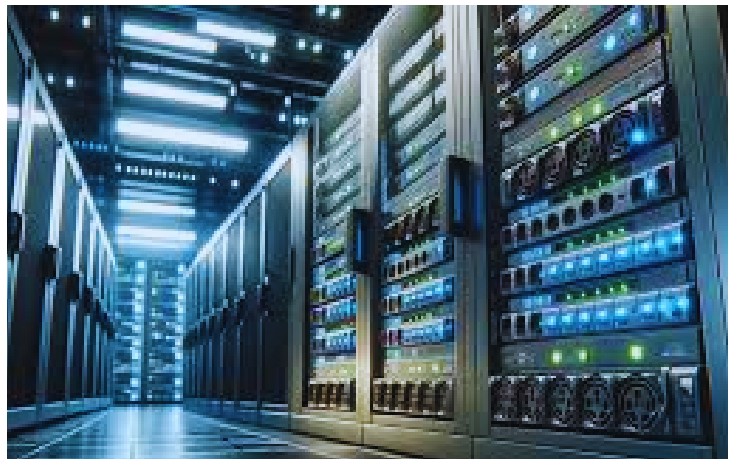
DCT Data Center Power

Program Duration:

5 Days

Program Objectives

- Introduction to data center electrical and power systems.
- Redundancy concepts for electrical distribution and equipment.
- Understanding of electrical equipment, systems, and controls
- How differing priorities and data center types change the electrical design



Target Audience

- Architects
- Engineering design professionals
- Facilities operations
- Contractors
- Technicians
- Electrical engineers, technicians, operators

Pre-requisites

Basic understanding of data centers, layouts, and common terms

Program Overview

The DCT Data Center Power course dives more deeply into the electrical and power systems and components that support data centers. With data centers using about 5% of the world's energy and growing, these power systems are ever-expanding and improving. The Course covers the many aspects of the most typical electrical systems and equipment for data centers, including terminology, standards, acronyms, operation, efficiency, and more.

Data Centre Power Course Outline (Include DCT Essentials)

1. Introduction to Data Center
2. Data center Power Requirements
3. Power units - VA, W and VAR - Power Triangle
4. DC and AC systems power supply systems
5. Power flow in Data Center and Mission Critical Systems
6. Sizing of Data Center Power & Critical Systems
7. Electrical Codes and Standards for Data Centers
8. Power Topologies - single phase vs three phase . & AC and DC Power Supply
9. Sources of Electrical Power - Gensets, Utility, Solar, Nuclear etc
10. Electrical Conductors, Cables, Cable trays and conduits
11. Types of Cables and Conductors
12. Sizing of Data Center cables and conductors
13. Cables trays and cable trucking's
14. Cable conduits - PVC and Metallic
15. Power Protection Devices
16. Circuit breakers, Fuses, Relays, Isolators, Switches sizing
17. Voltage Regulation and Stabilization devices
18. Line diagrams and electrical power layout drawings
19. Lightning Arrestor
20. Power Distribution
21. Power Distribution in data center
22. Switch room Switch gear and devices
23. Distribution Panels and Boards
24. Critical vs Raw power distribution standards
25. Floor vs Overhead Power Distribution
26. Rack Power Distribution - PDUs
27. EPO Guidelines and Layout
28. Transformers
29. ATS and MBS systems
30. Power factor correction systems & Surge Suppression systems
31. PUE
32. Data Center energy efficiency and power efficiency
33. Measuring, Monitoring & Routine Checks
34. Trends in Data Center Power Systems
35. Standby Power Systems
36. UPS systems
37. What is a UPS system?

Data Centre Power Course Outline (Include DCT Essentials)

- 38. Types of UPS system
- 39. Sizing of UPS systems
- 40. UPS Components: Batteries , UPS Room, SNMP etc
- 41. UPS Configurations - Parallel and Eco Modes
- 42. Redundancy Systems and Topologies N, N+1, 2(N+1)
- 43. Generators
- 44. Generators room specifications
- 45. Fuel Management
- 46. Earthing, and Grounding Bonding
- 47. Lighting
- 48. Operation and Maintenance of Power Equipment's
- 49. Electrical system maintenance o
- 50. SNMP and IoT in DC Maintenance