

Course Training

Data Center Fundamental

Course Content

Knowing data center fundamentals enable bridging the knowledge gap between your onsite IT personnel and building operations personnel and is essential in data center operations. This course seeks to do just that so both parties are speaking the same language, understanding the other's work practices, and progressing toward the ultimate goal in data center operations...100% uptime. This course will orient participants to network basics, components of a data center, and structured cabling design basics. It will also dive into project management and how that is controlled by the client's standards and protocol.

Course Objectives

After taking this course, you should be able to:

- Understand the evolution and types of data centers to appreciate current trends and design philosophies.
- Recognize the strategic role of data centers in supporting core business functions and services.
- Identify key data center standards, rating systems, and compliance requirements to ensure operational excellence.
- Learn the critical factors influencing data center site selection to optimize performance and minimize risks.
- Examine various areas within a data center and their specific functions for efficient space utilization and workflow.
- Explore different topology designs and their corresponding ratings to select the appropriate architecture for resilience and reliability.
- Gain knowledge of the complete power infrastructure, including utility power, backup systems, and power distribution mechanisms.
- Understand lighting requirements, including emergency lighting protocols, to maintain a safe and compliant environment.
- Comprehend the essentials of cooling infrastructure to manage thermal load and ensure equipment longevity.
- Get acquainted with network infrastructure components, including cabling standards and equipment racks, for robust IT operations.
- Learn about comprehensive security measures, from perimeter defense to access controls, to safeguard data center assets.
- Understand fire detection and suppression systems to minimize the risk of fire-related incidents and ensure continuous operation.
- Discover the importance of monitoring and reporting tools like DCIM and EMS/BMS for proactive management of data center environments.

Course Prerequisite

- Basic understanding of IT principles and terminology, to ensure comprehension of the technical language used throughout the course.
- Familiarity with computer hardware and network components, as these are fundamental to data center operations.
- An interest in data center operations and infrastructure, to ensure engagement with the course material.

- Willingness to learn about industry standards and best practices related to data centers.
- Basic knowledge of electrical and cooling systems is helpful, though not mandatory, as these concepts will be covered in the course.

Who should attend

- IT Enthusiasts looking to expand their knowledge of data centers.
- Entry-level IT Professionals seeking a solid data center foundation.
- System Administrators aiming to deepen their understanding of data center operations.
- IT Students desiring practical data center knowledge.
- Career Changers considering IT or data center-related roles.
- Small Business Owners interested in enhancing their IT infrastructure.

Course Outline

- Introduction to Data Centers
- The Data Centre and its Relation to Business
- Data Centre Standards
- Data Centre Site Selection
- Data Centre Facilities Areas
- Topology Designs
- Components of the Power Infrastructure
- Lights
- Cooling Infrastructure
- ICT/Network Infrastructure
- Data Centre Security
- Fire Suppression
- Monitoring and reporting