



Data Center Infrastructure Specialist ®



 **Duration:** 2 Days (16 Hours)

 **Discounts:** Inquire

 **Certifications:** 1 Course, 1 Certification

 **Prerequisites:** None

 **Mode:** Virtual & In-Person

 **Type:** Public & Private

The Data Center Infrastructure Specialist (DCIS)® course provides end-to-end coverage of the mission-critical infrastructure systems that support data centers and mission-critical environments with high availability requirements. The course will provide a full understanding of the data center industry's current, and future state, latest trends, and best practices

Who Should Take This Course?



Professionals



Specialists



Experts



Technicians



Architects



Managers



Operators



Business Professionals

What You Will Learn

- Data center principles
- Data center systems and components
- Data center best practices, standards, & frameworks
- Latest data center trends
- Data center language, terminologies, and buzzwords
- The Infinity Paradigm®
- Review alternative technologies
- Validate actual needs and critic service providers



Amazon Web Services (AWS)

Data Center Technician

Very valuable way to understand the foundation and fundamentals of what goes on inside the data center world.

DAY 1

Introduction to Data Centers

- Data Center History
- Data Center Definitions
- The Data Center Beast
- Data Center Downtime & Outage
- Current Data Center Standards
- Future of Data Center Standards

The Infinity Paradigm

- Application Ecosystem (AE)SM
- Core & Pyramid Models
- The Organization
- The 7 Abstraction Layers
- Application Layer
- Platform Layer
- Compute Layer
- ITI Layer
- SFI Layer
- Site Layer
- Topology Layer
- Application Delivery Model (ADM)
- Application Delivery Infrastructure (ADI)
- Data Center Node (DCN)
- Logical Infrastructure
- Physical Infrastructure

Grading Systems

- Data Center Tiers & Classes
- Data Center Grade Levels
- AER, OER, EER, RER, SER
- Efficacy Score Rating

Data Center Development

- The 12-Phase Data Center Development Process

Site Civil & Architecture

- Data Center Site Selection & Criteria
- Data Center Site Proximity, Hazard & Risks
- Data Center Topology
- Data Center Structure
- Data Center Construction

Site Civil & Architecture

- Data Center Interior Fit-out
- Data Center Space Relationships
- Data Center Raised Floor System
- Racks & Cabinets
- Computer room requirements
- Data Center Cabling Spaces ER, MDA, HDA, ZDA & EDA
- Data Center Grounding & Bonding

Site Civil & Architecture

- Data Center Earthing
- Batteries room
- UPS room
- Network Operations Center
- Security rooms
- Staging & Storage rooms
- Data Center Support Areas

Redundancy

- Redundancy Definition
- Redundancy levels
- Redundancy examples

Power Systems

- Logical Electrical Flow
- DC, AC, W, AV Rates and Concepts
- Utility Service
- High Voltage Systems
- Switchgear
- Transformers
- Low Voltage Systems
- Uninterruptible Power Supply (UPS) Systems
- UPS Configurations
- Battery and Battery Types
- Generators
- Fuel Tanks
- Power Distribution
- ATS, STS
- Power Cabling
- Busbar Trunking System (BTS)
- EPO
- Grounding
- Lightning Protection System

Alternative Power Sources

- Solar Power
- Wind Power
- Fuel Cells
- Renewable Energy farms

Electro Magnetic Fields

- Electric Fields explained
- Magnetic fields explained
- EMF, EMI possible sources
- Mitigation examples

DAY 2

Mechanical Systems

- Environmental Air
- Cooling Capacity
- Precision Cooling
- Direct Expansion (DX) Systems
- Non-DX Systems
- Cooling Methodologies
- Cold-Aisle / Hot-Aisle
- CRAC/CRAH
- Cooling Topologies
- Open CRAC Systems
- Aisle Containment (Cold & Hot)
- In-Row Cooling
- In-Rack Cooling
- Cooling Towers
- Chillers

Data Center Water Supply

- Water Concepts
- Water Sources
- Water Storage
- Water Treatment

Data Center Fire Protection

- Fire Types and Classes
- Smoke and Heat Detection
- Aspiratory Detection and Sensing
- Sprinkler Systems
- Gas Suppression Systems & Agents (FM200, Novec, etc.)
- Fire Prevention Technology

Data Center Structured cabling

- Cabling Layout
- Patching & Termination
- Labeling
- Intelligence

Sustainability & Efficiency

- Identifying Cost of Energy
- Power Usage
- PUE, DCIE

Telecommunication

- Definition
- Parameters
- Connection types
- Metro Networks
- High Availability Designs

Data Center Security

- Definition
- Physical Infrastructure Security
- CCTV, Access Control, Security vestibules, etc..
- Security Protocols & Procedures
- IT Infrastructure Security

IT Infrastructure

- System
- Storage
- Networks
- Virtualization & Cloud
- External Telecom Connectivity
- High Availability Designs

Application & Hosting Models

- Application considerations
- Multi-tier Application delivery
- Hosting Models

Monitoring & Management

- General Concepts
- Goals
- Systems



Examination

