



CERTIFIED DATA CENTER ASSOCIATE

Introduction

From the apps on mobile devices and computers to online shopping, streaming platforms, cloud storage, and even everyday banking - every digital activity is powered by data centers, the backbone of the modern world.

Global demand for data storage and processing is doubling at record speed, with new data center facilities being built across every region in the world. This rapid expansion is fuelling huge opportunities for skilled professionals. Careers in data centers and their supporting industries are not only exciting but also among the most future-proof in today's digital world.

Designed for higher education students, the Certified Data Center Associate (CDCA[®]) program equips students with essential knowledge about data centers, their components and operations. These skills open doors across the entire digital economy, from data center and IT to mechanical and electrical (M&E) engineering, cybersecurity, sustainability, and more. With CDCA[®], students enhance their career opportunities with global technology companies, data centers, cloud providers, IT solution providers, equipment designers/manufacturers, consulting firms, and outsourced service providers.

Why CDCA[®]

Career Ready Skills: Acquire the foundational knowledge needed to land internships, research projects, and jobs in the fast-growing data center industry and its global supply chain.

Global Recognition: Earn a credential recognized worldwide, boosting your resume for high-demand roles across the digital economy.

Industry-Relevant Knowledge: Master the same principles and terminology used by professionals working in global technology companies, cloud providers, and colocation facilities.

Interdisciplinary Skills: Develop an understanding of engineering, business, and sustainability concepts, making you adaptable in multiple fields.

Pathway to Specialization: Use CDCA[®] as a first step toward advanced certifications in design, operations, or compliance, increasing employability.

Sustainability Focus: Understand how data centers impact the planet and how future professionals can drive innovation in energy efficiency and green technology.

Audience

The primary audience is students in higher education institutions pursuing IT or engineering studies.

Prerequisites

There is no specific prerequisite for the CDCA[®] course other than a desire to learn.

Global Accreditation & Recognition



Course Benefits ☒

After completion of the course the participant will be able to:

- ☒ Understand the Big Picture: Explore the history, business importance, and future sustainability challenges of data centers.
- ☒ Know the Types: Learn the differences between colocation, enterprise, cloud, edge and hyperscale facilities.
- ☒ Master Site Selection: Understand the criteria for data center site selection.
- ☒ Apply Global Standards: Understand international standards and topologies that define quality and reliability.
- ☒ Explore Core Infrastructure: Gain knowledge on infrastructures from architecture to power, cooling, fire protection, monitoring, safety and security.
- ☒ Understand the Interdisciplinary Nature: Learn how multiple disciplines work together to manage, operate and maintain data centers.
- ☒ Focus on Sustainability: Understand the environmental impact of data centers and how renewable energy and efficiency metrics like PUE, WUE, CUE shape the industry.
- ☒ Plan Your Career: Discover career pathways in design/build, operations, governance, or standards and compliance.

- **Introduction to Data Centers**
 - History of Data Centers
- **The Data Center and Its Relation to Business**
 - The relationship between data center and business
 - Importance of a data center
 - Causes of unavailability
 - The data center market and industry challenges
- **Definition of Different Types of Data Centers**
 - Enterprise data center
 - Commercial/Co-lo data center
 - Wholesale
 - Cloud data center
 - Modular/Edge data center
 - Hyperscale data center
- **Data Center Standards**
 - Standards and guidelines
 - Standard development process
 - SDO, SO, AB/NAB, RCB/CB/CAB
 - Comparison of common data center standards
- **Topology Designs**
 - Rating definitions
 - Example of ratings levels
 - Concurrent Maintainability
 - Fault Tolerant
 - Compartmentalization
 - Definitions of N, N+x, 2N, 2N+x
- **Data Center Site Selection**
 - Criteria for selecting the data center location
 - Criteria for facility and supporting infrastructure
- **Data Center Facilities Areas**
 - Listing of all areas and their function
- **Components of the Architectural Infrastructure**
 - Walls
 - Windows
 - Doors
 - Roof
 - (Raised) Floor
 - (Suspended) Ceiling
- **Components of the Power Infrastructure**
 - The basics of electricity
 - Basic formulas and calculations
 - AC/DC/Power/Power factor
 - Utility power
 - Microgrid
 - Transformers
 - Diesel and Turbine Generators
 - Fuel systems
 - ATS
 - Static/Dynamic UPS systems
 - Battery types and technology
 - Electrical switch gear
 - Cabling/busbar systems
 - Power rails/strips
- **Lights**
 - Lights
 - Emergency lighting
- **Components of the Cooling Infrastructure**
 - Cooling requirements and standards
 - Chillers
 - DX Systems
 - Make up water
 - Chemical dosing
 - CRAC/CRAU/HVAC
 - Cooling concepts for computer rooms
 - Raised/non-raised floor, containment
 - High density / liquid cooling
 - Geothermal cooling
- **Components of the ICT/Network Infrastructure**
 - Racks
 - Equipment mounting
 - Network cabling (fibre, copper)
 - Cable trays and pathways
 - TIA 606B labelling
- **AI Infrastructure Design Requirements**
 - Power infrastructure design considerations
 - Cooling infrastructure design considerations
- **Components of Fire Suppression**
 - Detection systems
 - Water-based suppression systems
 - Gaseous-based suppression systems
 - Fire prevention system
 - Fire extinguishers
 - Fire safety
- **Safety**
 - Safety requirements
 - Safety practices and industry norms
 - Safety signage and alarm systems
- **Data Center Monitoring Systems**
 - Environmental Monitoring System (EMS)
 - Building Management System (BMS)
 - Data Center Infrastructure Management (DCIM)
 - Liquid leak detection
 - Notification Systems
- **Components of Security Infrastructure**
 - Perimeter security
 - Physical protection
 - CCTV/VSS
 - Access control
- **Data Center Operations**
 - Operations team
 - Roles and duties of the operations team
 - Asset management
 - Facilities Maintenance
 - Floor management
 - Equipment installation from truck to rack
 - Monitoring and reporting
 - Vendor management
 - Security management
 - Safety & Crisis management
 - Document management
- **Impact of Data Centers on the Environment**
 - Predictions made in 2010
 - Current situation
 - Kyoto protocol / the Paris agreement and others
 - Outlook and commitments
- **Environmental Sustainability**
 - Environmental sustainability framework (ISO 14001)
 - Standards and guidelines – ISO 50001 / ISO 30134
 - Data center efficiency mode
 - The three scopes for GHG emissions
 - Measurement and categories
 - Baselineing
 - Trend analysis
 - Reporting
- **Key Metrics**
 - PUE - Power Usage Effectiveness
 - WUE - Water Usage Effectiveness
 - CUE - Carbon Usage Effectiveness
 - REF - Renewable Energy Factor
- **Waste Management**
 - Life-cycle assessment
 - 3 R's for waste management
- **Sustainable Energy Usage**
 - Sustainable energy sources
 - Power purchase agreements
 - Energy attribute certificates
 - Renewable Energy Factor (REF)
 - Matching renewable energy supply and demand
 - Sustainable energy storage
 - Carbon trading
- **EXAM: Certified Data Center Associate**



Delivery Structure and Methods

The course is delivered by lecturers who have successfully completed EPI's rigorous certification program and earned the prestigious EPI Certified Instructor credential.

Examination

The exam is a 2.5 hours closed book exam with 120 multiple-choice questions. The passing mark is 84 out of 120.

Certification

Students who pass the exam will be awarded the internationally accredited and recognised 'Certified Data Center Associate' (CDCA®) certificate. Valid for three years, the certificate can easily be renewed through a simple recertification process, ensuring it remains relevant for career advancement. Candidates can also progress to higher level certifications within the EPI Data Center Training Framework, accelerating your career growth.

Global Accreditation & Recognition

The CDCA® certification is accredited by EXIN, an internationally respected, independent organization that ensures training programs meet high standards of quality. With over 30 years of experience, EXIN is trusted by governments and organisations around the world. For students, this means your CDCA® certificate carries global recognition, giving you a valuable credential that employers respect.

Recommended Next Course

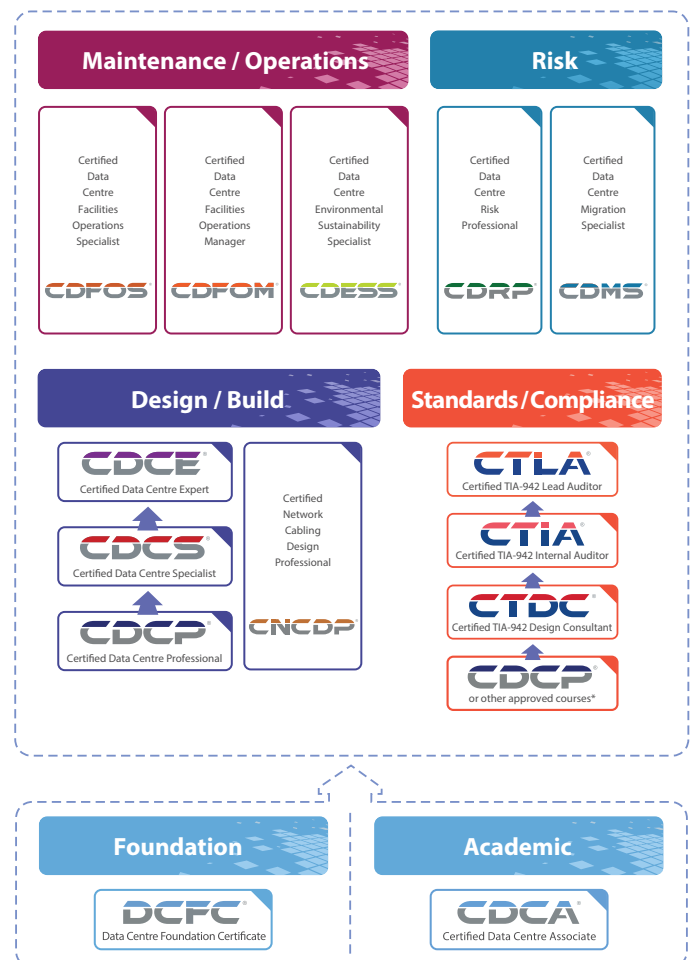
To continue building your expertise, we recommend progressing to CDCP or CDFOS. CDCP is designed for professionals pursuing the facility design specialization, while CDFOS focuses on operations management.

Course Schedule

The CDCA® program is available only through higher education institutes, giving students exclusive access to this globally recognized certification as part of their studies.

EPI Data Center Training Framework®

EPI has developed the world's first and most comprehensive training framework for data center education. The curriculum covers all the key areas needed to design, operate, and manage modern data centers. Delivered in over 60 countries worldwide, these certifications are recognized internationally and highly valued by employers. Many leading data centers require their staff to complete EPI courses as part of their career development. For students, this means your CDCA® certification connects you to a proven pathway that can open doors to exciting career opportunities.



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TÜV NORD GROUP

The Company

EPI is a data center specialist company of European origin operating world-wide in over 60 countries through direct operations and a large partner network. EPI offers an extensive range of data center services on auditing, certification and training. EPI's focus is on mission-critical, high-availability environments. Established in 1987, EPI has developed an international reputation for delivering high quality technical expertise, with flexible and innovative services, techniques and methodologies.

All our services are aimed at helping our customers to:

- Increase **Availability** of their mission-critical infrastructure
- Improve **Efficiency, Effectiveness** and **Manageability**
- **Minimise risk** of business interruption

Our Clients share a common need to protect their valuable data, run their mission-critical infrastructure efficiently and to be protected on a 24 x 7 basis. By protecting the interests of our customers, EPI is committed to an intensive program of comprehensive services development backed by engineering and support excellence.

Quality Systems and Procedures have always been at the heart of every stage of our service delivery to ensure consistent and high quality services. We are known for our thoroughness, flexibility and responsiveness. We focus on providing services that fit each organization and each project with a drive to deliver quality on time, every time.

Let us put our expertise to work for you!

Data Center Services

Audit & Certification

- Data Center Standards
 - ANSI/TIA-942
 - EN 50600
 - DCOS®
 - ISO/IEC 22237
- Other International Standards
 - ISO 9001
 - ISO/IEC 27701
 - ISO 14001
 - ISO 37001
 - ISO 14644
 - ISO 45001
 - ISO/IEC 20000-1
 - ISO 46001
 - ISO 22301
 - ISO 50001
 - ISO/IEC 27001
 - PCI DSS
- Other Standards
 - SS 507
 - CBPR
 - SS 564
 - PRP
 - SS 584
 - SCRA
 - DTPM
 - RMIT

Professional Training & Certifications

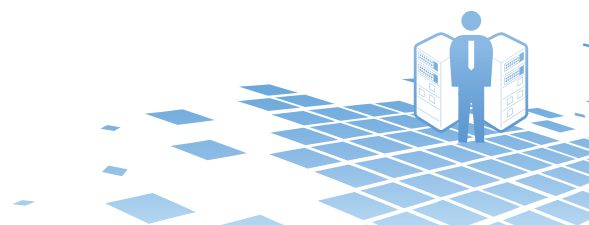
- Data Center
 - CDCA®, DCFC®, CDCP®, CDCS®, CDCE®, CNCDP®, CDFOS®, CDFOM®, CDESS®, CDRP®, CDMS®, CTDC®, CTIA®, CTLA®
- IT
 - CITO®, CITM®, CITD®
- Non-Certification Training
 - Digital Transformation

Frameworks

- IT&DCF® - IT & Data Center Framework
- DCCF® - Data Center Competence Framework
- DCTF® - Data Center Training Framework
- ITTF - IT Training Framework

Standard

- DCOS® - Data Center Operations Standard
- MDCS - Modular Data Center Standard
- SCMDCS - Self-Contained Modular Data Center Standard
- CRUR® - Computer Room Utilisation Ratio



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Authorised Reseller/Partner:

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