

**Module Title** : Course CDCE : Certified Data Centre Expert  
**Duration** : 5 days

## Course Description

With few exceptions, enterprises today rely on IT for the delivery of business-critical services - often directly to the end consumer. It is therefore vital that the mission critical data centre is designed, maintained and operated with high availability and efficiency in mind. Fact is, however, that most Data Centres do not meet the full availability, capacity, safety or efficiency requirements often demanded. The ever changing technologies put even more pressure on data centre managers along with the faster pace at which these changes are required.

The Certified Data Centre Expert course is a five-day course designed to prepare participants to analyze a given business case and perform technical evaluation for a project plan and a set of designs for implementation of a mission critical Data Centre. The course also engages participants in product evaluations and demonstrates how to select equipment and develop equipment test scripts (IET) and integrated performance and validation testing (IPVT). CDCE® builds upon knowledge gained in CDCP® and CDCS® courses. Participants who pass the exam will join the industry's elite Data Centre project design experts.

## Audience

The primary audience for this course is an IT, facilities or Data Centre Operations professional working in and around the data centre and having oversight accountability or responsibility for achieving and improving high availability and manageability of the Data Centre and involved in the design/build, renovation or relocation of a mission critical Data Centre.

## Prerequisites

Participants must hold a valid CDCS® certificate in order to register for the CDCE® class.

## At Course Completion

After completing this course, you will be able to:

- Choose an optimum site for mission critical Data Centre's based on current and future needs
- Describe all components important for hi-availability in a Data Centre and how to effectively setup the Data Centre
- Understand the design lifecycle stages for Data Centre build projects and the phases involved in project execution.
- Analyze a business case and develop a project brief that is aimed at fulfilling the business resilience, site selection and design requirements for a -t-for-purpose and suitably redundant mission critical Data Centre.
- Conduct technical level design reviews for a given set of preliminary design documents and perform a technical compliance audit of a set of final design development documents compliant to TIA standards.
- Understand how to read electrical Single Line Diagrams (SLE) and other related design documents, and be able to detect the most common design mistakes.
- Evaluate product datasheets and discriminate among technical specifications and functional requirements for suitability against a set of given design requirements for a given site and business case.
- Correlate equipment specifications to site design constraints, such as room size and space, floor loading capacity, cooling capacity, power quality conditions and maintenance requirements while ensuring equipment selection does not compromise desired tier level compliance.
- Develop Individual Equipment Test (IET) and Integrated Performance and Validation Test (IPVT) plans for a mission critical Data Centre.
- Develop guidelines and checklists for hand-over of a mission critical Data Centre facility, its architectural, mechanical, electrical, IT elements and documentation.
- Develop retirement plans for decommissioning and hand-over of an aged mission critical Data Centre facility.

## Course Outline

### Module 1 The Data Centre Lifecycle

- The Data Centre lifecycle stages & phases

### Module 2 The Data Centre Project

- Delivery options & methods
- The team structure & team members
- Team roles & responsibilities
- Feasibility & business impact analysis

### **Module 3 Developing The Data Centre Design Brief**

- Business case assessment
- Site selection assessment
- Redundancy & resilience assessment
- Risk & disaster recovery assessment
- Design brief development
- Hands-On Exercise: Develop project design brief & group presentation

### **Module 4 Preliminary Design Review**

- Preliminary design drawings review:
- Building layout & construction
- Room/space allocations & collocation
- Electrical & power distribution review
- Mechanical ventilation & plumbing
- Architectural aspects (slab-to-slab, raised floor, floor loading, ceiling, lifts)
- Cooling infrastructure: design & air flow dynamics
- Computer room & rack/equipment layout
- Structured cabling review
- WLD & -re suppression review
- EMS/BMS & CCTV review
- Environmental management: temperature & humidity, room & equipment monitoring
- Security & safety review: physical/logical
- Hands-On Exercise: Evaluation of design drawings & group presentation

### **Module 5 Final Design Assessment - Validation**

- Consolidated drawings validation
- Tier compliance validation
- Design freeze validation
- Criteria for equipment selection / tendering & acquisition
- Hands-On Exercise: Validation of final design documents &
- group presentation

### **Module 6 Product Evaluation - Equipment Selection**

- Equipment data sheets review:
- Technical & functional specifications

- Standards & tier level compliance
- Maintainability & serviceability
- Spares availability & repair-ability
- Product & service warranty & EOL
- Final selection / acquisition decisions
- Hands-On Exercise: Develop final equipment selection list

#### **Module 7 Individual Equipment Testing (IET)**

- Tools selection
- IET plan development
- IET script development
- Hands-On Exercise: develop checklist, test plans & test scripts

#### **Module 8 Integrated Performance & Validation Testing (IPVT)**

- Tools required
- IPVT plan development
- IPVT script development
- Hands-On Exercise: develop checklist, test plans & test scripts

#### **Module 9 Data Centre Handover**

- Facility (building & premises) Mechanical/electrical/ACMV/-re & security Facility management & DC operations training
- Documentation (drawings, manuals, etc)
- Maintenance & operations procedures
- Documentation requirements & assembly review (AS-BUILT)
- Key sign-offs & hand-over certification
- Hands-On Exercise: Develop hand-over plan & handover checklist

#### **Module 10 Retirement**

- Decommissioning / re-purposing
- Demolition & site clearance
- Disposal of dangerous goods & hazardous substances & waste
- Hand-over/hand-o & sign-o
- Hands-On Exercise: Develop decommissioning plan & checklist

**Exam Module:**

- Q & A review & exam preparation
- Self study period (time permitted)
- CDCE® certification exams

**EXAM: Certified Data Centre Expert**

## Examination

Certification exam papers can be taken in paper based format at the end of the last day of the course, or online via an authorised training partner, depending on the country in which the course is delivered. The exam is in two parts: Part A is a one and a half hour, 60 questions multiple choice and closed book exam. For this part of the exam the attendee needs to have 45 out of 60 questions correct. Part B is a one and a half hour, 25 open questions and closed book exam. For this part of the exam the attendee needs to have 75% of the answers correct. Results of the exam will be communicated to the attendee within four-to-six weeks following the examination.

## Certification

Attendees who successfully pass the exam will receive the official 'Certified Data Centre Expert' certificate. Certification is valid for a three years period after which the student needs to re-certify. More information on re-certification and verification of the current status of certification can be found on the EPI corporate website, <http://www.epi-ap.com>.