



Certified Data Center Commissioning Professional

Pearson BTEC Level 5
Professional Award

5 Day Program

Program Duration

5 days requiring pre-class study of approximately 20 hours.

Program Objectives

This five-day program provides you with the skills and knowledge to create a strategic plan for all commissioning activities from factory witness testing to full integrated systems testing.

1. Understand what commissioning involves
2. Formulating a data center commissioning plan
3. Implementing a data center commissioning plan
4. Handover a commissioned data center for business as usual operations

Learner Profile

This program is perfect for project managers, data center managers or experienced technicians familiar with the data center environment seeking to enhance their knowledge, skills and gain official certification. It is also ideal for those already working at a data center looking to develop project management skills for commissioning, or anybody interested in developing commissioning-focused management skills.

Pre-requisites

Data center management, facilities management or project management experience would be advantageous, along with previous exposure to a relevant technical discipline. Learners at this level should be able to analyze, interpret and evaluate relevant information, concepts and ideas. A high level of computer literacy will be of great benefit.

Program Requirements

As a remote learner, you will need a suitable computer with a stable internet connection, together with sufficient IT competence to make effective use of word processing, internet and email.

Qualification

- ▶ Internationally and industry recognized Pearson BTEC Level 5 Professional Award Certified Data Center Commissioning Professional

Certification

- ▶ Official Certified Data Center Commissioning Professional (CDCCP[®]) certification
- ▶ Use of the CDCCP post-nominal title
- ▶ Use of CDCCP[®] digital badge
- ▶ Use of the CDCCP[®] logo

Certifications demonstrate a commitment to lifelong learning and offer the perfect portal to ensure knowledge, skills and certification remain current and up-to-date. Each certification gained requires re-certifying every three years via an online learning management system.

Additional Awards

- ▶ Continual Professional Development (CPDs)

Certified Data Center Commissioning Professional (CDCCP[®])

Learn how to create and implement a strategic plan for all commissioning activities to ultimately reduce data center risk whilst maintaining business continuity.

Program Overview

Commissioning is a vital part of an efficient, effective data center. For those involved in today's mission critical facilities, it is essential that systems are consistently reliable, and failures are reduced to as close to zero as possible, therefore maintaining business continuity and reducing overall business risk. This program is designed to help you to achieve exactly that.

Failure to commission correctly is to prepare to fail and is all too commonly seen. An inability to identify small problems during the commissioning process can lead to disastrous consequences further down the line. Thorough examination of power, cooling and IT as component parts, functional and integrated systems is the only way to ensure potential issues are highlighted before they become a technical failure.

Commissioning is not simply a one-time event. A data center professional needs to understand that there are multiple steps towards ensuring correct commissioning to create a resilient facility, which do not stop on day one of live operations. The need for continuous commissioning and recommissioning is essential to the health of individual systems and the facility as a whole.

This program provides a comprehensive understanding of the elements needed for successful commissioning at all points of a data center's lifecycle, and an appreciation of the need for thorough life planning, from the very start of the design phase. It will also explore effective evaluation of the interdependencies between individual components, individual systems and full integrated systems testing, enabling improvements to the organization's chances of efficient and sustainable operations, for both new facilities and upgraded facilities.

A certified CDCCP[®] can analyze the requirements for compliance and have a full understanding of national and international regulations, codes and standards. During the program, learners will be provided a valuable opportunity to access the latest industry standards.

Certified Data Center Commissioning Professional (CDCCP®) Topics

Data Center Principles Review

- ▶ Data center types
- ▶ Compliance
- ▶ The 4 C's:
 - ▶ Power
 - ▶ Cooling
 - ▶ Space
 - ▶ IT Infrastructure
- ▶ Regulatory & statutory compliance
- ▶ Maintenance strategies

Data Center Design Principles

- ▶ Examining opportunities for geographical location:
- ▶ Live mapping natural disasters
- ▶ Sustainability opportunities
- ▶ Resource availability (power, IT, people)
- ▶ Cost saving opportunities (free cooling)
- ▶ Security
 - ▶ Local restrictions (noise pollution)
 - ▶ Local government Incentives (financial, planning laws, etc.)
- ▶ Resilience modelling (TIER rating)
- ▶ Financial cost (build and running costs)
- ▶ Power
- ▶ Operations
- ▶ Administration
- ▶ Maintenance

The Multi-disciplined Team (Stakeholders)

- ▶ Data center key stakeholders
- ▶ Data center senior operational management
- ▶ The design and deployment teams
- ▶ External agencies
- ▶ RACI Model (exercise)

Commissioning Principles

- ▶ Level 0 - Design phase
- ▶ Level 1 - Factory testing
- ▶ Level 2 - Equipment delivery, placement and pre-start Up testing
- ▶ Level 3 - System start-up
- ▶ Level 4 - Functional testing (system acceptance tests)
- ▶ Level 5 - Integrated system tests
- ▶ Level 6 - Completion, handover role of the PM in a multi-disciplined, high-value project
- ▶ Core principles
- ▶ Clear goals

- ▶ Understanding the scope
- ▶ Business and customer alignment
- ▶ Team alignment
- ▶ Phase management
- ▶ Contractual constraints and disturbances
- ▶ Risk management (risk to the project, client, their customers, and risk to the business)
- ▶ Attributes of a project manager:
 - ▶ Personality
 - ▶ Understand management concepts
 - ▶ Communication style (internal and external)
 - ▶ Decision making
 - ▶ Interpersonal relationships
 - ▶ Delegation skills
 - ▶ Ability to meet key project objectives
 - ▶ Competence (appropriate technology knowledge)

Commissioning Process & Tools

- ▶ Project scope definition (needs to be agreed and baselined)
- ▶ Quality plan
- ▶ Work Breakdown Schedule (WBS)
- ▶ Risk management
- ▶ Organization and Work Breakdown Structures (OBS)
- ▶ Change management process
- ▶ Health and safety (including CDM)
- ▶ Site rules (all parties)
- ▶ Precedence diagramming (project plan/program)
- ▶ Earned value management
- ▶ Impact analysis
- ▶ Cost impact (aligned to contractual terms)
- ▶ Immediate cost
- ▶ TCO, ROI re-alignment
- ▶ Commission and snagging matrix
- ▶ Handover procedure and customer training

Understanding Commissioning as a Project

- ▶ Scope of works and review process (avoidance of scope creep)
- ▶ Business drivers
- ▶ Stakeholder relationships
- ▶ Technical deliverables
- ▶ Ongoing customer activities
- ▶ Project controls
- ▶ Contractual constraints
- ▶ Utility and vendor services
- ▶ Communication

- ▶ Escalation procedure
- ▶ Documentation

The Commissioning Process

- ▶ Purpose, scope and definitions
- ▶ Predesign, design and construction phase
- ▶ Occupancy and operations phase
- ▶ Technical guidelines for the commissioning process
- ▶ Commissioning process flowchart
- ▶ Cost and benefits of the commissioning process
- ▶ Commissioning process documentation matrix
- ▶ Roles and responsibilities
- ▶ Acceptance plan (SAC and AIS)
- ▶ Business project requirements
- ▶ Design specifications
- ▶ Construction checklists
- ▶ Quality-based sampling examples
- ▶ Integration test plan
- ▶ Systems and training manual
- ▶ Training needs

Implementation of Commissioning

- ▶ Phase gates:
 - ▶ Predesign
 - ▶ Design
 - ▶ Construction
 - ▶ Occupancy
 - ▶ Operations
- ▶ Technical guidelines for the commissioning process
- ▶ Commissioning process flowchart
- ▶ Cost and benefits of the commissioning process
- ▶ Commissioning process documentation matrix
- ▶ Commissioning process request for qualifications
- ▶ Acceptance plan (SAC and AIS)
- ▶ Business requirements and specifications
- ▶ Construction checklists
- ▶ Quality-based sampling examples
- ▶ System monitoring
- ▶ Integration test plan
- ▶ Systems manual
- ▶ Training manual and training needs
- ▶ Formal hand-over process

Case Studies & Assessments

- ▶ Creating an integrated test plan
- ▶ Building a RACI Model
- ▶ Commissioning activities as part of the project timeline
- ▶ There are daily assessments and a final assessment

CDCCP® Benefits for Individuals

- ▶ Develop competency in the use of a commissioning process and management tools
- ▶ Gain technical knowledge and understanding of complex data center build projects
- ▶ Increase confidence when interacting with project stakeholders
- ▶ Develop personal leadership and management attributes
- ▶ Demonstrate the ability to successfully manage complex repeatable processes

CDCCP® Benefits for Businesses

- ▶ Greatly improve business reputation through successful delivery of commissioning
- ▶ Control operational costs by delivering competent project management
- ▶ Demonstrate investment and development of the individual and overall development of a successful team
- ▶ Create greater opportunities for repeat business from satisfied customers