Certified Green Data Centre Professional Course

Overview

The CGDCP® (Certified Green Data Centre Professional) is a 3-day course designed to expose participants to the key features and functionality of the green data centre.

CGDCP® training will address how to setup, manage and monitor key aspects such as power, cooling, etc. to ensure a high-available data centre. CGDCP® training will also address key operations and maintenance aspects.

CGDCP® is the first entry level training in the GCI Green Data Center training track. Thereafter, participants can continue on intermediate and advanced level training such as Certified Green Data Center Specialist (Mechanical), Certified Green Data Center Specialist (Electrical) and Certified Green Data Center Expert.

Audience Profile

The primary audience for the CGDCP® course:

- IT, Facilities or Data Centre Operations professional working in and around the data centre (representing both end-customers and/or service provider/facilitators) and,
- having the responsibility to achieve and improve energy efficiency and manageability of the Green Data Centre, such as Data centre managers, Operations / Floor / Facility managers,
- data centre engineers,
- network/system engineers/data centre sales/consultants.

Prerequisites

There is no specific prerequisite for the CGDCP® course. However, participants who already have at least one or two years' experience in a data centre or facilities environment may be best suited. Those with no experience just yet are most welcome to participate.

Courseware

Participants will be provided with an English courseware that covers all course information. Depending on country, an additional local translation version of the courseware will be made available at no extra charge. Other languages available are French, Spanish, Bahasa Melayu, Chinese, Japanese and German.

Course Objectives

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

- design/deploy/manage and monitor environmental and sustainability parameters for a green data center
- design/deploy/manage and monitor hardware and software essential in a green data center
- design/deploy/manage and monitor mechanical engineering technologies in a green data center
- design/deploy/manage and monitor electrical engineering technologies in a green data center
- design/deploy/manage and monitor green data center policies
- design/deploy/manage and monitor various data center key performance indicators

Course Outline

Module 1: Introduction to Climate Change

In Module 1 - Introduction to Climate Change, you will be introduced to the basic concepts and terminology of climate change. This includes discussions on global warming science, understanding the environmental impact of the data center industry globally, learning how to calculate carbon footprints of an individual as well as the carbon footprint of a data center facility. The module is concluded with a variety of exercises for you to complete.

Module 2: Deploying Green ICT Hardware and Software

In Module 2 – Deploying Green ICT Hardware and Software, you will be exposed to the various hardware and software technologies available to aid you in choosing the right solutions for your green data center. This includes discussions on power optimization on servers, configuration and service management, equipment rack features, IT resilience, tiered resilience and energy efficient software. The module is concluded with a variety of exercises for you to complete.

Module 3: Understanding Mechanical Engineering for Green Data Centers

In Module 3: Understanding Mechanical Engineering for Green Data Centers, you will be introduced to the mechanical engineering aspects of a green data center. This includes various types of cooling systems optimized for energy efficiency, airflow management, cooling optimization, variable speed drives and fans. The module is concluded with a variety of exercises for you to complete.

Module 4: Understanding Electrical Engineering for Green Data Centers

In Module 4: Understanding Electrical Engineering for Green Data Centers, you will be introduced to the power chain of a green data center. This includes discussions on power provisioning, lighting, switchgears, transformers, generators, uninterruptible power systems (UPS) and power distribution units (PDU). The module is concluded with a variety of exercises for you to complete.

Module 5: Implementing Green Data Center Policies

In Module 5: Implementing Green Data Center Policies you will learn about the various green data center policies related to cooling, cooling system impact, approval boards, utilization maximizing, IT purchasing, IT end-of-life, scalability, part load efficiency, hardware and carbon credits. The module is concluded with a variety of exercises for you to complete.

Module 6: Monitoring and Reporting Green Data Center Performance

In Module 6: Monitoring and Reporting Green Data Center Performance, you will be exposed to the plethora of green data center monitoring and reporting requirements and tools. Discussions will be centered on energy metering, carbon footprint measurements, energy reporting, reporting consoles and various metrics. The module is concluded with a variety of exercises for you to complete.

Exam Workshop

The exam workshop will be on the last day of the course. This session will help participants prepare for the certification exam through mock questions.

Exam

Certification exams will be administered at the end of the last day of the course. The exam is a one-hour, 40 questions, closed book exam. Results of the exam pass/fail will be communicated to the attendee immediately after the examination. Attendees who pass the exam will receive the official “Certified Green Data Centre Professional” Certificate. The CGDCP® certificate is valid for 2 years, after which attending the updated version of this course and updated exam will be required to maintain the CGDCP certification standing.