

Certified Data Environmental sustainability Specialist

Course Duration:16 Hours

Course code: CDESS

1. Course Overview

This course equips IT and data center professionals with the knowledge and skills to implement environmentally sustainable practices in data centers and IT operations. Participants will learn how to optimize energy consumption, reduce carbon footprint, and ensure compliance with environmental regulations while maintaining high operational efficiency.

2. What you'll learn?

By the end of the course, learners should be able to:

- Understand the principles of environmental sustainability in IT
- Identify areas of energy consumption and waste in data centers
- Implement strategies for energy efficiency and green IT practices
- Monitor and report environmental impact and sustainability metrics
- Align sustainability initiatives with regulatory standards and corporate policies
- Incorporate sustainable design in new data center deployments
- Promote organizational awareness and culture around sustainability

3. Target Audience

- Data center managers and IT operations teams
- Environmental and sustainability officers in IT organizations
- IT architects and infrastructure planners
- Compliance and regulatory professionals

4. Pre-Requisites

Familiarity with:

- Data center infrastructure (servers, storage, networking, cooling systems)
- IT operations and management
- Basic concepts of energy efficiency and environmental sustainability

- Corporate compliance and reporting frameworks

5. Course content

Module 1: Course Introduction

- Introduction
- Course contents

Module 2: Introduction to Environmental Sustainability in IT

- Definition and importance of sustainability
- Environmental impact of IT and data centers
- Sustainability frameworks and standards (ISO 14001, LEED, ENERGY STAR)

Module 3: Data Center Energy Management

- Power consumption analysis
- Energy efficiency strategies
- Cooling optimization techniques
- Renewable energy integration

Module 4: Green IT Practices

- Server virtualization and consolidation
- Storage optimization and tiering
- Network optimization and traffic management
- Lifecycle management of IT assets

Module 5: Environmental Compliance and Regulations

- National and international regulations
- Reporting and audit requirements
- Environmental risk assessment
- Policies for electronic waste (e-waste) management

Module 6: Sustainable Data Center Design

- Sustainable site selection
- Energy-efficient architecture
- Modular and scalable designs

Module 7: Monitoring and Measuring Sustainability

- Key performance indicators (KPIs) for sustainability
- Energy and carbon footprint tracking tools
- Reporting dashboards and analytics
- Continuous improvement frameworks

Module 8: Climate Risk and Resilience Planning

- Assessing climate-related risks
- Designing resilient IT infrastructure
- Disaster recovery and business continuity in the context of sustainability
- Mitigation and adaptation strategies

Module 9: Automation and Smart Management

- Energy management systems (EMS)
- Automated monitoring and alerts
- AI and IoT for sustainable operations
- Predictive maintenance to reduce energy waste

Module 10: Sustainability Initiatives and Best Practices

- Case studies of green data centers
- Corporate sustainability programs
- Employee engagement and awareness programs
- Partnerships and certifications

Module 11: Reporting and Communication

- Environmental reporting frameworks (GRI, CDP)
- Communicating sustainability metrics to stakeholders
- Integration with corporate social responsibility (CSR) goals

Module 12: Course Wrap-Up

- Summary of key concepts
- Recommended resources for further learning

