Certified Data Centre Technician Professional (CDCTP)

Program Content

Data Centre Fundamentals

- What is a data centre?
- Understanding the basic design requirements
- Availability and resilience measures and practices

Compliance

- Codes and regulations
- National and international standards
- Industry guidelines and best practices
- Certification and accreditation

The Physical Infrastructure

- The Four Key Environments (Power, Cooling, IT Connectivity & Space)
  - **Power**
    - Power infrastructure (data centre electrical distribution)
  - **Cooling**
    - Cooling infrastructure and Airflow Management
    - Overview of different cooling system technologies
  - **IT Connectivity**
    - Active Network
      - Equipment configuration
      - Servers, software & services
      - Storage infrastructure
      - Data centre networks
      - Distribution options
    - Physical Network
      - IT Cabinets and frames
      - Cable containment
      - Data centre topologies
      - Structured wiring
      - Fibre optical cabling
  - **Space**
    - Relationship between white and grey space environments
    - Physical security and access control

Working in the Data Centre

- Safety considerations
  - Risk Assessment and Method Statements
  - Environmental health and safety
  - Personal Protective Equipment
  - Life safety systems (Fire detection and suppression)
- Task Preparation
  - Understanding the operation structure
  - Operational processes and procedures
  - Move, Adds & Changes (MACs)
  - Decommissioning
  - Operational Measuring & Monitoring
  - Asset management
  - Management tools, administration
  - Change management

Data Centre Maintenance

- The need for maintenance
- Maintenance strategies
  - Preventative maintenance
  - Predictive maintenance
  - Reliability centered maintenance
  - Condition-based maintenance
- Power Maintenance
- Cooling Maintenance
- IT Connectivity Maintenance

Advanced Power

- Electrical Safety
- Power Infrastructure Systems (distribution path and components)
- Back-up Power Infrastructures
- Earthing and Bonding
- Measuring, Monitoring & Routine Checks
- Benchmarking and Data Centre Metrics

Advanced Cooling

- Understanding the need for cooling
- Data Centre Cooling architectures and systems
- Air cooling
- Economiser modes

- Liquid cooling
- Chilled water plant
- Cooling towers
- Measuring, Monitoring and Routine checks
- HVAC efficiency and Power Usage Effectiveness (PUE) relationship

There are a number of group and individual case studies throughout this program.