



This three-day instructor-led course is designed to teach students the principles of Data Center Operations and Maintenance, including a focus on Risk Reduction through design strategies. Concepts related to risk tolerance and availability are covered, as well as how data center investments can support high availability. Strategic elements for operational success are discussed, including operations/maintenance action plans and supporting resources that are available. This course is 100% lecture.

### Audience

- Data center IT managers
- Data center facility managers
- IT and facility operations staff members
- Business managers
- Project managers
- Finance managers
- Data center clients
- Data center service support vendors
- Data center designers
- IT architecture designers

### Prerequisites

- An understanding of why data centers are necessary in meeting a business strategy
- An understanding of how important applications are to meeting the business strategy
- An understanding of how the IT architecture supports the business applications

**Course title:** Data Center Operations, Maintenance, and Risk Reduction

**HP product number:** hh602s

**Category/Subcategory:** Data Center Portfolio

**Course length:** 3 days

**Level:** Intermediate

**Delivery language:** English

**To order:** You can order this course online at <http://www.hp.com/learn>. At the site, select a country, then choose "registration" or "Book a course" and fill out the online registration form.

- An understanding of the importance of the data center facilities infrastructure in achieving the degree of availability required to meet the business strategy supported by the data center

- Familiarity with electrical and mechanical infrastructure used to provide power and cooling to IT equipment in the data center.
- Familiarity with a data center environment and its typical operational needs

## Course objective

After completing the course, the student should be able to:

- Explain why an investment in developing sound operational practices contributes to data center availability
- Outline the key strategic elements in facility infrastructure operations that deliver high availability data center performance
- Develop an action plan that incorporates the key strategic elements of sound data center operations practices
- Identify the resources required to execute the action plans in a cost effective manner
- Identify the facility infrastructure electrical systems in a data center and explain their purpose in achieving high availability
- Explain the critical considerations essential to managing the electrical systems to optimum performance
- Explain the critical considerations essential to managing the electrical systems to optimum performance
- Identify related infrastructure systems (such as fire detection and suppression systems) which contribute to data center reliability
- Explain the difference between reliability and availability and why both are important metrics for successful design
- Explain what a Single Point Of Failure (SPOF) is, and why it is important
- Describe how the use of reliability engineering reduces risk and improves data center designs

## Benefits to you

Students will receive instruction on topics in the following critical areas:

- Data Center Failure and Risks
- Critical Data Center Systems
- Safety Considerations
- Risk Reduction through Design

## Next steps

- For Next Steps, please contact your local HP Education representative for details.

## Detailed course outline

### Data Center Failure and Risks

- Data Center Failure Overview
- Risk Tolerance and Availability
- Understanding the Risks
- Investing to Avoid Failure
- Strategic Elements for Operational Success
- Developing an Action Plan
- Resources and Options

### Data Center Power, Climate Control, and Safety Systems

- Data Center Electrical Systems
- Getting Power to the Data Center
- Standby Power for the Data Center
- Power Conditioning for IT Critical Loads
- Switchgear Systems
- Static Switches
- Critical Considerations: Electrical Systems
- Data Center HVAC Systems
- Critical Considerations: HVAC Systems
- Other Critical Systems: Fire and EPO Systems
- Safety Considerations

### Risk Reduction through Design

- Risk Reduction: The Issues
- Introduction to Risk Probability and Statistics
- Reliability and Availability
- Data Center Nomenclature
- Reliability Block Diagrams
- Basic Data Center Designs
- Designs Comparison from Reliability and Availability Perspectives

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