

**EC-Council**

**Disaster  
Recovery  
Professional**

™

# Disaster Recovery and Business Continuity

## Course Description

This course teaches you the methods in identifying vulnerabilities and takes appropriate countermeasures to prevent and mitigate failure risks for an organization. It also provides the networking professional with a foundation in disaster recovery principles, including preparation of a disaster recovery plan, assessment of risks in the enterprise, development of policies, and procedure and understanding of the roles and relationships of various members of an organization, implementation of the plan, and recovering from a disaster. This course takes an enterprise-wide approach to developing a disaster recovery plan. Students will learn how to create a secure network by putting policies and procedures in place, and how to restore a network in the event of a disaster.

## Who Should Attend

Network server administrators, firewall administrators, systems administrators, application developers and IT security officers.

## Duration:

5 days (9:00 – 5:00)

## Certification

The EC-Council Disaster Recovery Professional certification exam 312-76 will be conducted on the day of training. Students need to pass the online Prometric exam to receive the **EDRP** certification

## Course Outline v2

Module 01: Introduction to Disaster Recovery and Business Continuity

- Disaster Recovery & Business Continuity: Terminologies
- Disaster Types
- Consequences of Disaster
- Disaster Recovery & Business Continuity
- Principles of Disaster Recovery and Business Continuity

- Disaster Recovery & Business Continuity: Issues Addressed
- Activities of Disaster Recovery & Business Continuity
- Disaster Recovery and Business Continuity Program
- Disaster Recovery & Business Continuity Solutions
- Best Practices in Disaster Recovery & Business Continuity Program
- International Strategy for Disaster Reduction (ISDR)
- International Day for Disaster Reduction

## Module 02: Nature and Causes of Disasters

- Nature of Disasters
- Categorization of Disasters
- Natural Disasters
- Earthquakes
- Protecting Yourself During Earthquake
- Earthquakes: Volcanoes
- Protection from Volcanoes
- Forecasting Volcanoes
- Estimating Earthquakes
- Earthquakes: Tsunami
- Protecting Yourself During Tsunami
- Landslides
- Effects of Landslides
- Protecting Yourself from Landslides
- Hurricanes
- Safety Measures During Hurricanes
- Predicting Hurricanes

- Floods
- Effect of floods
- Prevention Measures
- Wildfires
- Safety Measures
- Drought
- Consequences of Drought
- Measures to Overcome Drought Effects
- Man-Made Disasters
- Accidents
- Power Outage
- Telecommunication Outage
- Categorization of Human Intentional Disasters
- Arson
- Civil Disorder
- Terrorism
- War
- Chemical Biological Radiological Nuclear (CBRN)

#### Module 03: Emergency Management

- Emergency
- Emergency Management
- Need for Emergency Management
- Emergency Management Phases
- Mitigation
- Preparedness

- Response
- Recovery
- Effect of Disaster on Business Organizations
- Emergency Management for Business Organizations
- FEMA- Federal Emergency Management Agency
- FEMA as an Organization
- Activities of FEMA

#### Module 04: Laws and Acts

- Applicable Acts in DR
- Laws and Acts in United States of America
- Industries: Sarbanes-Oxley Act
- Foreign Corrupt Practices Act (FCPA)
- Healthcare: HIPAA Regulations
- Financial Institutions: Gramm-Leach-Bliley Act
- Flood Disaster Protection Act of 1973
- Robert T. Stafford Disaster Relief and Emergency Assistance Act
- CAN-SPAM Act of 2003
- Federal Financial Institutions Examinations Council (FFIEC)
- Personal Information Protection and Electronic Documents Act (PIPEDA)
- Laws and Acts of Europe
- Data Protection Act 1998
- Transmission of Personal Data: Directive 2002/58/EC
- Personal Data: Directive 95/46/EC
- Insurance: Financial Groups Directive (FGD)
- The Foundation of Personal Data Security Law: OECD Principles

- Dutch Personal Data Protection Act
- Austrian Federal Act concerning the Protection of Personal Data
- German Federal Data Protection Act
- Laws and Acts in Australia
- Health Records and Information Privacy Act (HRIP)
- Financial Transactions Reporting (FTR) Act 1988

#### Module 05: Business Continuity Management

- Business Continuity Management
- Business Continuity Planning
- Objectives of Business Continuity Planning
- Essential Resources in Business Continuity Planning
- Business Continuity Management Planning Steps
- ISO (International Organization for Standardization)
- Overview of BS 7799 / ISO 17799
- ISO/IEC 17799:2005
- ISO/IEC 17799:2005: Business Continuity Management
- Risk Analysis
- Risk Assessment
- Basic Elements of Risk Assessment
- Business Impact Analysis (BIA)
- Components of Business Impact Analysis
- Threat Analysis
- Risk Analysis and Business Impact Analysis
- Crisis Management
- Steps in Crisis Management

- Crisis Management Phases
- Compliance
- Preparedness
- Training and Resource Development
- Contingency Planning
- Points to remember in BCM Plan Testing
- Birmingham City Council's BCM Assessment Template
- Greenwich Council – Emergency and BCM Plan

#### Module 06: Disaster Recovery Planning Process

- Disaster Recovery Planning Process
- Management Support
- Organizing DR Team
- Components of Disaster Recovery Team
- Disaster Recovery Planning Team
- Building a Planning Team
- Establishing Team at the Departmental Level
- Risk Assessment
- Risk Assessment
- Conduct Business Impact Analysis
- Critical Business Activities
- Analysis Sheet
- Example: Analysis Sheet for IT System
- Roles and Responsibilities
- Individual: Leader
- Individual: Disaster Recovery Coordinator

- Individual: IT Administrator
- Individual: Network Manager
- Individual: Disaster Recovery Manager
- Individual: DR Team Member
- Team: Administration Team
- Team: Technical Team
- Team: Damage Evaluation and Salvage Team
- Team: Physical Security Team
- Team: Communications Team
- Responsibilities Common to all Disaster Recovery Teams
- Developing Charts of Responsibilities
- Facility Disaster Recovery Chart of Responsibilities
- Department Disaster Recovery Chart of Responsibilities
- Business Process Disaster Recovery Chart of Responsibilities
- Developing Policies and Procedures
- Assumptions for DR Planning
- Need for Disaster Recovery Planning
- Disaster Recovery Plan Development
- Disaster Recovery & Management: Budgeting
- Centralized Office of DR Planning: Budget
- Safety and Health Procedures
- Procedures for Internal and External Communications
- Procedures for Containment and Property Protection
- Procedures for Recovering and Resuming Operations
- Assessing Insurance Requirements & Coverage Needs

- Need for Insurance
- Evaluating Insurance Policies
- Testing and Training
- DRP Testing and Rehearsal Process
- DRP Testing: Advantages
- DRP Testing: Methods
- DRP Testing Steps
- DRP Testing Flow Chart
- Training DR Teams
- Commence Training Program for Disaster Recovery
- Training for Executives
- Training for Middle Managers
- Training for Supervisors
- Training for Disaster Response Teams
- Training for Employees
- Documentation of DR Procedures
- Need for Documentation of Plans
- Important Documentations in Disaster Recovery Process
- Writing Disaster Recovery Plan
- Best Practices for Documentation
- Managing Records
- DRP Maintenance
- Monitoring Process
- Monitoring Procedures
- Evaluate Latest Technologies

- Conducting Regular Reviews
- Conducting Training Programs for Updated Plan
- DRP Implementation
- DR Plan Implementation
- Internal and External Awareness Campaigns

#### Module 07: Risk Management

- What is Risk
- Introduction to Risk Management
- Functions of Risk Management
- Analytic Process of Risk Management
- Risk Analysis
- Risk Reduction Analysis
- Management Decision
- Risk Reduction Planning
- Reviews and Audit
- Project Risk Management
- IT Security Risk Management
- Risk Management Standards
- Financial Risk Management
- Basel II and Risk Management
- Pillar I: Minimum Capital Requirement
- Pillar II: Supervisory Review Process
- Pillar III: Market Discipline
- Quantitative Risk Management
- Best Practices in Risk Management

## Module 08: Facility Protection

- Facility Protection
- Water Supply
- Protecting Water Supply
- Fire
- Types of Fire Extinguishers
- APW Extinguishers
- Dry Chemical Extinguisher
- Carbon Dioxide Extinguishers
- Points to Remember
- Using a Fire Extinguisher
- Fire Suppression for Companies
- Fire exits
- Power Supply
- Common Power Supply Problems
- Ensuring Steady Power Supply
- Ventilation
- Kinds of Ventilation
- Measures for Proper Ventilation
- Air Conditioners
- Measures for Proper Working of Air Conditioners
- Building and Premises
- Checklist for Securing Facility

## Module 09: Data Recovery

- Types of Data Recovery

- Logical Data Recovery
- Physical Data Recovery
- Disk-to-Disk-to Disaster Recovery (3DR) Concept
- Steps in Data Recovery
- Recovery Management
- Recovery Management Evaluation Metrics
- Recovery Time Objective (RTO)
- Role of RTO in Disaster recovery
- Recovery Point Objective (RPO)
- Network Recovery Objective (NRO)
- Recovery Management Model Layers
- Data Protection Continuum
- Do's and Don'ts
- Lumigent's Log Explorer
- Best Practices in Data Recovery

#### Module 10: System Recovery

- System Restore in Windows XP
- Linux System Recovery
- Linux System Crash Recovery
- Crash Recovery Kit for Linux
- Mac System Recovery
- Restoring Windows Server 2003
- Recovering from Boot problems in Windows Server 2003
- Step 1: Start computer by using Last Known Good Configuration
- Step 2: Starting computer in Safe Mode

- Step 3: Use Event Viewer to Identify the Cause of the Startup Problem
- Step 4: Use System Information to Identify the Cause of the Startup Problem
- Step 5: The Safe Mode Boot Log File
- Step 6: Use Device Manager to Identify the Cause of the Startup Problem
- Step 7: Use System Configuration Utility
- Microsoft Windows Recovery Console
- Automated System Recovery
- Windows 2000 Backup and Restore Utility
- Methods for Restoring Replicated Data
- Restoring Server Services
- Active Directory Recovery: Non-Authoritative Restore
- Active Directory Recovery: Authoritative Restore
- Verifying Active Directory Restoration: Advanced Verification
- Verifying Active Directory Restoration: Basic Verification
- Active Directory Recovery on a Computer with a Different Hardware Configuration
- Sysvol Recovery: Primary Restore
- Sysvol Recovery: Non-authoritative Restore
- Sysvol Recovery: Authoritative Restore
- Recovery of Global Catalog Server
- Recovery of an Operations Master
- Domain Controller Recovery: With a Working Domain Controller
- Domain Controller Recovery: Without a Working Domain Controller
- Database Integrity Testing
- Rights Management Services Restoration
- Rights Management Services Database Restoration

- Tools for Active Directory Disaster Recovery: Recovery Manager
- Restoring IIS Configurations: iisback.vbs
- Restoring Microsoft IIS Metabase Backup
- WANSync IIS
- WANSync IIS: Working
- Restoring Exchange Server 2003
- Data Recovery Scenarios
- Exchange Data Recovery Preparation
- Single Mailbox Recovery
- Single Item Recovery using Deleted Items Retention
- Single Item Recovery using Third-party Brick Backup Programs
- Full-Server Recovery: Preparation
- Full-Server Recovery: Option 1
- Full-Server Recovery: Option 2
- Full-Server Recovery: Option 3
- Full-Server Recovery: Option 4
- Exchange Server Backup/Recovery Solution: SonaSafe
- Recovering Blackberry Enterprise Server
- IBM WebSphere Application Server Recovery
- Recovering Coldfusion Application Server: CFMAIL Bug
- Recovering Coldfusion Application Server: Variable Deadlocks
- Recovering Coldfusion Application Server: ODBC Errors
- Recovering Coldfusion Application Server:500 IIS Internal Server Error
- Recovering Coldfusion Application Server: System Registry Access Problem
- Recovering from Domino Server Crashes

- Tool: SteelEye LifeKeeper
- Restoring MySQL Server
- Restoring MS SQL Server: Option 1
- Restoring MS SQL Server: Option 2
- Restoring MS SQL Server: Option 3
- Restoring MS SQL Server: Option 4
- Restoring MS SQL Server: Option 5
- Restoring MS SQL Server: Option 6
- Restoring MS SQL Server: Option 7
- Restoring MS SQL Server: Option 8
- Restoring My SQL Server
- Recovering Cisco IOS

#### Module 11: Backup and Recovery

- Backup
- Need for Backup
- Types of Backup:
  - Full Backup
  - Incremental Backup
  - Differential Backup
  - Hot Backup
  - Hot Backup Sample Code
  - Cold Backup
  - Cold Backup Sample Code
- Backup Sites
  - Hot Site/ Cold Site

- Redundant Array of Inexpensive Disks (RAID)
- RAID: Some Important Levels
- Wide Area File Services (WAFS)
- Backup for UNIX
- Bare Metal Recovery for LINUX
- Bucky Backup for Mac OS X
- System Backup Administrator
- NanoCopy Technology
- Backup4all
- Backup4all Features
- ABC Backup Software
- Genie Backup Manager
- NTI BackupNow
- High Availability Disaster Recovery (HADR)
- Best Practices in Backup & Recovery

## Module 12: Centralized and Decentralized System Recovery

- Distributed Computing
- Objectives of Distributed Computing
- Architecture for Distributed Computing
- Working of Distributed Computing
- Centralized Backup
- Centralized Backup Using SAN or NAS Server
- Data Consolidation
- Cross-Platform Data Consolidation
- Mainframe as Centralized Storage Source

- Tiers of Disaster Recovery
- GDPS/PPRC
- GDPS/PPRC Configuration
- GDPS/PPRC Single-site Workload Configuration
- GDPS/PPRC Multi-site Workload Configuration
- Best Practices in Centralized and Decentralized System Recovery

#### Module 13: Windows Data Recovery Tools

- Digital Photo Recovery
- Active@ UNERASER
- Test Disk
- PhotoRec
- BadCopy Pro
- Directory Snoop
- Data Advisor
- Fast File Undelete
- File Scavenger
- GetDataBack
- Kernel Recovery for FAT+NTFS
- R-Mail
- R-Studio
- Recover4all
- Recover It All
- Recover My Files Data Recovery
- Quick Recovery for Windows
- Restorer2000

- File Recovery
- EasyRecovery DataRecovery
- EasyRecovery Professional
- RecoverSoft Media Tools Professional
- RecoverSoft Data Rescue PC
- ADRC Data Recovery Software Tool
- SalvageRecovery for Windows
- Disk Doctors Email Recovery
- Winternals Recovery Manager

#### Module 14: Linux, Mac and Novell Netware Data Recovery Tools

- Kernel Recovery for Linux
- Kernel Recovery for ReiserFS
- Kernel Recovery for JFS
- Kernel Recovery for Macintosh
- Kernel Recovery for Novell-Netware
- Stellar Phoenix Linux
- R-Linux
- Quick Recovery for Linux
- Quick Recovery for Macintosh
- SalvageRecovery for Linux
- SalvageRecovery for Mac
- SalvageRecovery for Netware
- Disk Doctors Linux Data Recovery Software
- DiskInternals Linux Reader

#### Module 15: Incident Response

- Incident
- Category of Incidents
- Low Level
- Mid Level
- High Level
- How to Identify an Incident?
- How to Prevent an Incident?
- Relationship between Incident Response, Incident Handling, and Incident Management
- Incident Management Plan
- Incident Handling
- Information Security Life Cycle
- Incident Response
- Incident Response Policy
- Risk Analysis
- Risk Analysis and Incident Response
- Incident Response Methodology
- Preparation
- Identification
- Containment
- Eradication
- Recovery
- Follow up
- CERT (Computer Emergency Response Team)
- CSIRT (Computer Security Incident Response Team)
- General Categories of CSIRTs

- Members of CSIRT Team
- Building an Effective CSIRT
- FIRST (Forum of Incident Response and Security Teams)
- Request Tracker for Incident Response
- Helix – Incident Response & Computer Forensics Live CD
- Incident Response Tools Present in Helix CD
- THE FARMER'S BOOT CD
- Resources

#### Module 16: Role of Public Services in Disaster

- Public Services
- State and Local Governments
- Public Utilities and Departments
- Hospitals
- Blood Banks
- Medical Laboratories
- Food Banks
- Fire Fighting Service
- Waste/ Debris Management
- Police
- Armed Forces
- Public Transportation
- Water Supply System
- Electricity Department
- Information & Public Relations Department
- IT Service Providers

## Module 17: Organizations Providing Services during Disasters

- Organizations Providing Services during Disasters
- Relief Organizations
- International Committee of the Red Cross (ICRC)
- International Federation of Red Cross and Red Crescent Societies (IFRC)
- United Nations Children's Fund (UNICEF)
- National Emergency Response Team (NERT)
- CARE
- Ananda Marga Universal Relief Team (AMURT)
- Action Against Hunger (AAH)
- Emergency Nutrition Network (ENN)
- Doctors Without Borders
- Hunger Plus, Inc.
- InterAction
- International Rescue Committee (IRC)
- Mennonite Central Committee (MCC)
- Mercy Corps (MC)
- Refugees International
- Relief International
- Save the Children
- Project HOPE

## Module 18: Organizations Providing Disaster Recovery Solutions

- Organizations Providing Disaster Recovery Solutions
- Symantec
- System Sizing

- System Sizing: Practices
- Disk-based Backup
- Manual System Recovery
- Disadvantages
- Automated System Recovery
- IBM
- Human Capital Resilience
- Human Capital Risks in Crisis Situations
- Business Resilience
- Elements of Business Resilience
- Framework for Business Resilience
- Causes of E-Mail Outages
- E-Mail Continuity
- DELL
- Oracle Data Guard Utility
- RMAN Utility for Database Backup
- NAS (Network Attached Storage)
- Sun Microsystems
- Integrated Solutions of Sun and Vignette
- Sun Cluster Geographic Edition
- Infosys Business Continuity Planning Solution
- Infosys BCP solution
- Sybase Business Continuity Planning Solution
- Sybase Model
- HP Business Continuity and Availability solutions

- HP 3-tiered Service Levels Balance Investment with Risk
- PricewaterhouseCoopers Fast Track BCP
- AT&T's Business Continuity and Disaster Recovery

#### Module 19: Case Studies

- Business Continuity for Critical Applications
- Jones Walker: Weathering the Storm
- Let's be prepared: An educational project about disasters in Cuba
- From rehabilitation to safety: Gujarat school safety initiative, India
- Disaster-resistant schools: A tool for universal primary education
- Disaster Recovery Situation Assessment
- Disaster Recovery Planning
- Business Continuity Planning and Business Impact Analysis
- Local risk management in earthquake zones of Kazakhstan
- Disaster Recovery Case Study: Max Re
- Disaster Recovery Case Study: GSD&M
- Storage Assessment Services
- Backup and Recovery Plan and Design
- Storage Infrastructure Design and Implementation
- Continuous Data Protection and Disaster Recovery
- Disaster Recovery Testing
- Disaster Recovery Strategy Assessment and Validation
- Case Study: Improving Disaster Recovery Without Breaking the Bank