

CDFE - Certified Digital Forensics Examiner

Course Overview

This course will teach students about examining digital forensics. Topics covered include investigative theory, digital acquisition & analysis tools, forensic examination protocols, processing techniques, specialized artifact recovery, mobile forensics, and more.

Module 1 - Computer Forensics Incidents

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Computer Forensics Incidents

Where are We?

Overview

Section 1: Origins of digital forensic science

The Legal System

The Legal System

The Legal System

The Legal System

Section 2: Differences between criminal and civil incidents

Criminal Incidents

Criminal Incidents

Criminal Incidents

Criminal Incidents

Criminal Incidents

Criminal Incidents

Criminal Incidents

Civil Incidents

Civil Incidents

Civil Incidents

Section 3: Types of computer fraud incidents

Computer Fraud

Computer Fraud

Computer Fraud

Computer Fraud

Section 4: Internal and external threats

Internal Threats

Internal Threats

External Threats

External Threats

External Threats

External Threats

Section 5: Investigative challenges

Investigative Challenges

Investigative Challenges

Investigative Challenges

Common Frame of Reference

Media Volume

Review

Module 2 - Incident Handling

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Incident Handling

Overview

Section 1: What is an Incident?

Incident Handling Defined

What is a Security Event?

Common Security Events of Interest

What is a Security Incident?

What is an Incident Response Plan?

When does the Plan get Initiated?

Common Goals of Incident Response Management

Section 2: Incident Handling Steps

Incident Handling Steps

Phase 1: Preparation

Goal

Be Prepared

The Incident Response Plan

Incident Handling

Incident Response Plan

Incident Response Plan

Incident Response Plan

Roles of the Incident Response Team

Incident Response Team Makeup

Challenges of building an IRT

Incident Response Training and Awareness

Jump Kit

Jump Kit

Prepare Your Sites and Systems

Prepare Your Sites and Systems

Prepare Your Sites and Systems

Prepare Your Sites and Systems

Prepare Your Sites and Systems

Prepare Your Sites and Systems

Phase 2: Identification and Initial Response

Goal

Identification of an Incident

Basic Incident Response Steps

Proper Evidence Handling

Phase 3: Containment

Goal

Containment

Onsite Response

Secure the Area

Conduct Research

Make Recommendations

Establish Intervals

Capture Digital Evidence

Change Passwords

Phase 4: Eradication

Goal

Module 4 - Investigative Process

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Investigative Process

Overview

Section 1: Investigation Prerequisites

Prior to the Investigation

Forensics Workstation

Building Your Team of Investigators

Who is involved in Computer Forensics?

Who is involved in Computer Forensics?

Approval Authority and Authorization

Risk Assessment

Forensic Investigation Toolkit

Section 2: Investigation Process

Investigating Computer Crimes

Investigation Methodology

Preparing for an Investigation

Preparing for an Investigation (cont.)

Preparing for an Investigation (cont.)

Search Warrant

Forensic Photography

Preliminary Information

First Responder

Collecting Physical Evidence

Collecting Electronic Evidence

Collecting Electronic Evidence

Collecting Electronic Evidence (cont.)

Guideline for Acquiring Electronic Evidence

Securing the Evidence

Managing the Evidence

Chain of Custody

Duplicate the Data

Verify the Integrity of the Image

Recover Last Data

Data Analysis

Data Analysis Tools

Assessing the Evidence

Assessing the Case

Assessing the Case (cont.)

Location Assessment

Best Practices

Documentation

Gathering and Organizing Information

Writing the Report

Writing the Report (cont.)

Expert Witness

Closing the Case

Review

Module 5 - Digital Acquisition & Analysis Tools

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Digital Acquisition & Analysis Tools

Overview

Section 1: Acquisition Procedures

Digital Acquisition

Digital Acquisition

Digital Acquisition

Digital Acquisition

Digital Acquisition Procedures

Digital Acquisition Procedures

Digital Acquisition Procedures

Digital Acquisition Procedures

Digital Acquisition Procedures

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Digital Acquisition Procedures

Digital Acquisition Procedures

Digital Acquisition Procedures

Digital Acquisition Procedures

Digital Acquisition Procedures

Digital Acquisition Procedures

Digital Acquisition Procedures

Section 2: Evidence Authentication

Digital Acquisition Procedures

Digital Acquisition Procedures

Digital Acquisition Procedures

Digital Acquisition Procedures

Digital Acquisition Procedures

Digital Acquisition Procedures

Digital Acquisition Procedures

Digital Forensic Analysis Tools

Digital Forensic Analysis Tools

Digital Forensic Analysis Tools

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Module 6 - Disks and Storages

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Disks and Storages

Overview

Section 1: Disk OS and FileSystems

Disk Based Operating Systems

Disk Based Operating Systems

Disk Based Operating Systems

Disk Based Operating Systems

Disk Based Operating Systems

Disk Based Operating Systems

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OS / File Storage Concepts

OS / File Storage Concepts

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OS / File Storage Concepts

Section 3: The 20 Basic Steps of Forensics

Forensic Examination

Forensic Examination

Forensic Examination

Forensic Examination

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Forensic Examination

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Module 8 - Digital Evidence Protocols

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Digital Evidence Protocols

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Section 1: Digital Evidence Categories

Digital Evidence Concepts

Digital Evidence Concepts

Digital Evidence Concepts

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Digital Evidence Categories

Section 2: Evidence Admissibility

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Digital Evidence: Admissibility

Digital Evidence: Admissibility

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Module 9 - Digital Evidence Presentation

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Digital Evidence Presentation
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Digital Evidence: Hearsay
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Module 10 - Computer Forensic Laboratory Protocols

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Quality Assurance
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Reports
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Who Should Review?
Peer Review
Consistency
Accuracy
Research
Validation
Relevance
Peer Review
Peer Review
Annual Review

Deviation
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Lab Intake
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Computer Forensic Processing Techniques
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National Software Reference Library (NSRL)

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Module 12 - Specialized Artifact Recovery

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Specialized Artifact Recovery
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Prep System Stage
Prep System Stage
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Windows Registry
Windows Registry Hives
Windows Registry Hives
Windows Registry Hives
Windows Registry Hives
Windows Registry Hives
Windows Registry Hives
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Windows Alternate Data Streams

Windows Alternate Data Streams

Windows Unique ID Numbers

Windows Unique ID Numbers

Other ID's

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Historical Files

Historical Files

Historical Files

Historical Files

Splunk

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Historical Files

Event Viewer

Historical Files

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Historical Files

Historical Files

Historical Files

Historical Files

Historical Files

Historical Files

Historical Files

Historical Files

Historical Files

Historical Files

Historical Files

Outlook E-Mail

Outlook E-Mail

Web E-Mail

Section 4: Web Forensics

Web Forensics

Historical Files

IE database location

Mozilla Firefox SQLite database

Google Chrome

Microsoft Edge

Understanding The Database Files

Understanding The Database Files

Investigating SQLite Files

Investigating SQLite Files

Investigating SQLite Files

Tables Relation

Tables Relation

Viewing Visited Websites

Review

Module 13 - Electronic Discovery and Electronically Stored Information

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Electronic Discovery and Electronically Stored Information

Overview

eDiscovery

eDiscovery

Discoverable ESI Material

Discoverable ESI Material

eDiscovery Notification

Required Disclosure

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What is Metadata?

Data Retention Architecture

“Safe Harbor” Rule 37(f)

eDiscovery Spoliation

Tools for eDiscovery

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Module 14 - Mobile Forensics

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Mobile Forensics

Overview

Section 1: Cellular Network

Mobile Devices

Types of Cell Networks

What can a criminal do with Cell Phones?

Cell Phone Forensics

Forensics Information in Cell Phones

Subscriber Identity Module (SIM)

Integrated Circuit Card Identification (ICCID)

International Mobile Equipment Identifier (IMEI)

Electronic Seal Number (ESN)

Section 2: Forensic Process

Device Seizure

Device Seizure

Device Seizure

Acquisition

Data Acquisition

Acquire Data from SIM Cards

SIM Cards

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Analyze Information

Analyze

Non-Invasive Forensics

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Forensic Card Reader
ForensicSIM Tool
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Paraben Forensics Hardware
Paraben: Power Bank
Paraben: Mobile Field Kit
Paraben: Wireless Stronghold Tent
Paraben: Passport Stronghold Bag
Paraben: Project-a-phone
Paraben: Project-a-phone
Paraben: SIM Card Seizure
Paraben: Sticks
Paraben: P2C-P2 Commander
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Module 15 - Digital Forensics Reporting

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Digital Forensics Reporting
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Forensic Examination
Tools
Evidence
Items of Evidence
Analysis
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Exhibits
Signatures
Review

Total Duration: 6h 18m