

Cellebrite Mobile Forensics Fundamentals (CMFF)

Global forensic training



Level
Entry

Length
Two day (14 hours)

Training Track
Investigators,
Technicians, CSI Staff,
Forensics

Delivery mode
Instructor Led Training
or Web-Based Training

Course description

The 2-day, Cellebrite Mobile Forensics Fundamentals (CMFF) course no longer represents an introduction to forensics, often referred to as the basics. Rapid evolutions in technology and the increasing variety of mobile communication devices and Internet of Things appliance demand more from persons engaged in digital forensics. The CMFF curriculum provides attendees with compulsory digital forensics core knowledge (fundamentals) including: mobile device communication networks, explorations of Android and iOS file systems, extraction methodologies, memory (NAND) functions, and the proper handling of digital evidence for use in administrative, civil, or criminal actions. Moreover, attendees will learn the reasoning and strategies (concepts) used by credible practitioners and organizations to form the future of digital forensic best practices. Although Cellebrite products are used in CMFF, the course is not a single tool or application centric program. Cellebrite believes a responsibility exists to teach members of the digital forensic community the necessary competencies to conduct exams ethically, using universal professional standards.



Cellebrite

Digital intelligence
for a safer world

Course objectives

Upon successful completion of this course, the student will be able to:

- Recognize the legal responsibility in using Cellebrite products
- Identify mobile device hardware based on physical characteristics using various methods
- Recognize and describe the four phases of the forensics process
- Apply best practices when seizing devices to a mock scenario
- Conduct basic analysis and searches of extracted device data using UFED Reader software
- Create basic reports using UFED Reader software

Module	Description and objectives
Introduction	<ul style="list-style-type: none"> • Course introduction and administration • Course materials • Instructor introductions • Participant introductions • Cellebrite overview
Introduction to Mobile Devices	<ul style="list-style-type: none"> • Introduction to Mobile Devices • Case Study: Chelsea Bombing • Introduction to Mobile Device Investigations • Criminal Uses for Mobile Technology • Introduction to Mobile Devices for Investigators • Unmanned Aerial Vehicles (Drones) • Location of UAV Data • Types of Data • Flight Information • Drone Cases • The Value of Mobile Evidence • Device Identification • Mobile Device Technology - Form Factors • Mobile Device Class - Smart Device • Mobile Device Classes - Feature Phone • Market Share • Popularity of Apple Apps • Mobile Device Operating Systems • iOS Overview • iOS Evolutions • iOS Versions • Android Evolutions • Android Fundamental Analysis Issue • Service Providers • Hardware Identification CDMA • Hardware Identification GSM • Mobile Device Terminology • Web Resources • Wireless Network & Technologies • Cellular Networks (WiFi, Bluetooth, NFC, Satellite, 2G, 3G, 4G and 5G) • Wireless Technologies in Review • SIM Extractions • SIM File System Organization • SIM Card Evidence Processing • SIM PINs and PUKs • SIM Extraction Report

Module	Description and objectives
<p>Forensic Process Overview</p>	<ul style="list-style-type: none"> • Forensic Sterilization of Media • Phases of the Forensics Process • Relationship Between Forensic Phases • Legal Authority Considerations. • Personal and Personnel Safety • The First Responder’s Role • The Digital Forensic Practitioner’s Role • Handling Evidence Processes • Documentation • Search Kit – Mobile Device Tools • New Technologies Considerations • Hiding Devices • Protecting Evidence – Device Shielding • Faraday Technology • Mobile Device Make and Model Identification • Search and Seizure Considerations • On State: Home Screen - iPhone • On-State: Setting - iPhone • Mobile Device On-State: Data Collection • Off State—Data Collection Procedures • Mobile Device Forensic Challenges • Pattern Lock, Knock Codes and PINs • Passcodes on iOS Devices • UFED Camera Services • Bag and Tag Mobile Devices. • Transportation and Storage
<p>Extraction Methodologies</p>	<ul style="list-style-type: none"> • Data Extraction Approaches (Manual, Logical, File System, Physical, JTAG, Chip-off, ISP) • Extraction Method Options • Extractions Methods Explained (Logical, File System, Physical (Bootloader or Client) • What is a Hash Value • Cellebrite tools store created hash values?
<p>Data Encoding and Storage</p>	<ul style="list-style-type: none"> • What is Flash Memory • Nand Flash Organization • Flash Memory Gates • Nand Structure (Bad Block, Wear Levelling, Garbage Collection) • NAND Flash Basic Operations • Data Encoding Schemes • ASCII, Unicode, Binary, Hex, Little Endian, Big Endian • 7 Bit SMS Sample and SMS 7 bit PDU
<p>Reader</p>	<ul style="list-style-type: none"> • Description of UFED Reader capabilities • Understanding of what a UFDR file is • How to import a UFDR file into UFED Reader for analysis and reporting • Reader Search Techniques, Tagging, Timeline Analysis • How to bookmark and filter a UFDR Report • How to create reports from UFED Reader files

Successful class completion results in a certificate of completion and demonstration of mastery of these concepts is one of the prerequisites for students desiring to take the Cellebrite Certified Mobile Examiner (CCME) certification examination. Students considering the CCME Certification are also required to successfully complete the Cellebrite Certified Operator (CCO) course and the Cellebrite Certified Physical Analyst (CCPA) course.

Get skilled. Get certified.

Every day around the world, digital data is impacting investigations. Making it intelligent and actionable is what Cellebrite does best. The Cellebrite Academy reflects our commitment to digital forensics excellence; training forensics examiners, analysts, investigators and prosecutors around the world to achieve a higher standard of professional competency and success.

Learn more at cellebritelearningcenter.com

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