



Training
Services

Communications Data Processing

Training Overview

Version 1.11

Course Code: FA015

October 2018

City & Guilds Accredited Training

City & Guilds | **Accredited Programme**

Forensic Analytics
Communications Data Experts



Course Overview	3
Course Content	3 & 4
Price & Booking	5

The name 'CSAS' and the logo are registered Trademarks of Forensic Analytics Ltd.

Forensic Analytics has and will continue to take all reasonable efforts to ensure that the information contained in this material is accurate and up to date. Forensic Analytics Ltd.'s responsibility for inaccurate or out of date information contained in this material is limited to the correction of such errors. Forensic Analytics Ltd will not be responsible for any losses (actual or consequential) that may result from such errors.

Copyright Notice: The content of this document is copyrighted and all rights are reserved by Forensic Analytics Ltd. Apart from fair dealing for the purposes of research or private study, as permitted under the Copyright, Designs and Patents Act 1988, the contents of this document may only be reproduced or transmitted in any form or by any means with the prior permission in writing of Forensic Analytics Ltd.

Course Overview

Duration: 2, 3, 4 or 5 days

Intended Audience: communications, intelligence and cell site analysts and front-line investigators

Maximum participants per course: 10

Course description: This course has been designed to introduce participants to the concepts and techniques required to process (or 'cleanse') communications billing records into normalised, useable evidence and to be confident in presenting and explaining the results of that processing in court.

This course is accredited with City & Guilds and successful completion of the course will result in participants achieving a recognised City & Guilds qualification.

Pre-requisites: depends on the level of participant experience and the required outcome – experienced analysts who require an overview of the technical concepts that underlie CDRs could book just the 2 day version – whereas new

analysts with no CDR experience could book the 3, 4 or 5 day version. We are always able to advise further on this.

Course objectives: to provide participants with a detailed overview of the structure and meaning of communications billing record formats and further to provide them with practical experience of cleansing, normalising and processing records into a standardised format ready for analysis.

The 4 or 5-day versions of the course will also provide an overview of some of the basic forms of analysis that can be performed on the cleansed call data.

The course will mix explanatory sessions with practical activities to provide a thorough grounding in communications data processing and analysis.

Course resources: electronic course manual, exercise handouts, anonymised call data examples

Course content:

Day 1

- Intro to/Overview of Comms Data Analysis
- Comms data analysis & cell site analysis concepts
- Cellular networks overview
- Capturing Billing Data in the network
- Comms data analysis process – obtain data > cleanse > normalise > analyse
- Legally obtaining comms data
- Examples of comms data
 - Types – voice, SMS, GPRS/data, MMS
 - Other disclosable information – top up records, subscriber details
 - File formats – xls, xlsx, csv, pdf, xml
- Typical data fields
- Event types
 - Outgoing voice call example
 - Incoming voice call example
 - Call Forward/Divert events
 - Outgoing SMS
 - Incoming SMS
 - Data/GPRS session
 - MMS
 - Network events
- Timestamps – time & date formats
- Phone Numbers – formats
- A.B.C numbers – different ways of representing them
- IMEIs, IMSIs
- Data/GPRS fields – APN, MAC, IP Address
- Cells IDs – start cells and end cells
- Site, Sector, azimuth, centroids
- 3G SACs and Stacked Cells
- 4G VoLTE Calls & SRVCC

- WiFi Calling records
- Cleansing overview
 - Checking & validating
 - Matching & merging
 - Deduplication
 - Normalisation
- Evidence vs Intelligence
- Combining event rows – dealing with timestamps
- Normalisation
- Example normalised call schedule

Day 2

- Overview of UK CDRs
- Cleansing O2 UK formats
 - Range of formats
 - O2 Event Types
 - O2 Cell ID formats
 - O2 LEXIS Voice CDRs
 - O2 LEXIS GPRS CDRs
 - O2 cell addresses & Sort Cellar
 - Legacy O2 formats
 - O2 Cleansing issues & gotchas
 - O2 Cleansing exercises
- Cleansing VF UK formats
 - Range of formats
 - VF Event Types
 - VF Cell ID formats
 - VF Raw Voice/SMS CDRs
 - VF Simplified Voice/SMS CDRs
 - VF Simplified GPRS CDRs
 - VF cell addresses
 - VF Cleansing issues & gotchas
 - VF Raw issues
 - VF Simplified issues
 - VF Cleansing exercises

Day 3

- VF Raw GPRS CDR Cleansing H3 UK formats
 - Range of formats
 - H3 Event Types
 - H3 Cell ID formats

- H3 Voice CDRs
- H3 Data Locations CDRs
- H3 SMS/MMS CDRs
- H3 cell addresses
- H3 Cleansing issues & gotchas
- H3 Cleansing exercises
- Cleansing EE UK formats
 - Range of formats
 - EE Event Types
 - EE Cell ID formats
 - EE CLEAR CDRs
 - EE cell addresses
 - EE Legacy formats
 - TM Legacy Cell ID format
 - EE Cleansing issues & gotchas
 - EE Cleansing exercises

Option to use Day 4 for more practical exercises to cleanse comms data formats

Day 4 or 5

- Creating combined call schedules
- Single row & multirow schedules
- Comms Data Exhibits
- Comms data analysis – what it can prove
- Common forms of analysis
- Calls count and pivot tables
- Link analysis – finding bridges and facilitators
- Lifestyle Analysis
- Comparing data for different phones together
- Cell site analysis – what it can prove & what it can't prove
- High level analysis
- Creating cell location maps and inferring cell coverage areas
- Incorporating RFPS/RF Survey evidence
- Combining comms data and other forms of evidence – CCTV, ANPR, etc
- Low level analysis
- Full analysis report packages
- End of course tests (if required)
- Questions & Answers

Price & Booking

Pricing

For 'open' deliveries, this course costs £400 per delegate per day (excluding VAT, travel, accommodation, etc) but including lunch each day.

The per person delivery fee will be charged as a multiple of £400 x number of days + VAT.

e.g. £1,200+VAT for the 3-day version, etc

We offer discounts on these prices for 'closed' courses, delivered at the customer's premises.

The quoted prices include electronic versions of the course material. Printed copies of course material can be provided but there is an extra cost for this, please enquire for pricing.

Accommodation

To be booked by attendees as it is not included in the course fees.

The Premier Inn Letchworth Garden City Hotel, Station Rd, Letchworth is located approximately 0.5 miles from The Pixmore Centre and The Broadway Hotel & Carvery, Broadway, Letchworth is located approximately 1 mile away.

Terms & conditions

Full details of our training Terms & Conditions are available on request.

In general, we will require a PO (Purchase Order) number for the full course fees from each customer before a training event can be confirmed. We may require part or full payment in advance in some circumstances.

Unless otherwise agreed, all intellectual property rights, including copyright, patents and design related to any training material supplied shall belong to and remain vested in Forensic Analytics (or in the copyright holder identified on any training material supplied by Forensic Analytics).

Course delivery location

This course will be delivered at:

Forensic Analytics Ltd
The Pixmore Centre
Pixmore Avenue
Letchworth SG6 1JG

Closed courses may be delivered at the customer's premises or chosen venue. Open courses may be delivered at other locations depending upon requirements.



Booking & queries

Please contact us at:
training@forensicanalytics.co.uk
0800 158 3830



Forensic Analytics Ltd - Registered in England and Wales - Company No: 08606475