
Audit Data Analytics and Evidence Evaluation Training Course

1 – 5 March 2027
Amsterdam





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Programme Summary

Audit data analytics and evidence evaluation is a one-week training course for audit leaders at managerial level, culminating in an analytics-enabled audit engagement plan for a real area of their own organisation. Audit teams still test small samples by hand while the organisation's transactions run into millions, and conclusions are challenged when evidence is thin or poorly documented. The approach moves from data acquisition to full-population testing, sampling, anomaly detection and the evaluation of evidence behind each finding. Mars Training Centre UK delivers this programme in audit data analytics and evidence evaluation.

The Business Case

Audit functions that rely on manual sampling miss patterns that only appear across whole populations, and spend time on low-risk testing. Functions that combine analytics with disciplined evidence evaluation cover more risk with the same staff, raise findings that management accepts, and give audit committees greater confidence in the assurance they receive.

- Assurance Coverage: Widens as full populations are tested instead of small samples.
- Audit Cycle Time: Shortens as data extraction, testing and exception follow-up are standardised and reused.
- Finding Acceptance: Rises as each finding rests on sufficient, reliable and well-documented evidence with a clear root cause.

Principles and Evidence Base

- IIA Global Internal Audit Standards: Set the requirements for engagement analyses, evaluating findings and documentation applied in Sessions 3 and 4.
- COSO Internal Control - Integrated Framework: Links each analytic test to the control objective and component it evaluates in Session 1.
- Benford's Law: Provides the statistical basis for digit analysis used to flag anomalous populations in Session 3.
- Criteria, Condition, Cause and Effect Model: Structures how evidence is turned into findings and conclusions in Session 4.



Intended Participants

- Leaders who set the audit plan and decide where analytics will be used.
- Managers who supervise audit engagements and review working papers.
- Senior auditors who design tests and present findings to management.
- Compliance and risk reviewers who examine transaction data for control failures.

The programme serves internal audit functions, compliance and risk departments, public sector audit bodies and finance and procurement assurance teams.

Learning Outcomes

1. Participants will be able to prioritise audit areas where data analytics adds the most assurance.
2. Participants will be able to construct analytic tests and analytical procedures linked to control objectives.
3. Participants will be able to justify sampling approaches where full-population testing is not possible.
4. Participants will be able to diagnose exceptions and anomalies to separate control failures from data noise.
5. Participants will be able to evaluate audit evidence for sufficiency, reliability and relevance.
6. Participants will be able to construct findings with root causes and evidence-based conclusions.

Programme Structure

Day 1: Audit Data Analytics Foundations

Where can analytics give more assurance than traditional testing?

- Analytics Maturity Assessment for the Audit Function
- Mapping Tests to COSO Control Objectives
- Data Request, Extraction and Ownership
- Data Cleansing, Completeness and Integrity Checks
- Computer-Assisted Audit Techniques Overview

Day 2: Analytical Procedures and Sampling

How are expectations set and tested, and when is sampling still the right choice?

- Ratio, Trend and Reasonableness Analysis
- Setting Expectations and Investigation Thresholds
- Statistical and Non-Statistical Sampling
- Sample Size, Selection and Error Projection
- Full-Population Testing Design



Day 3: Exception and Anomaly Detection

Which patterns in the data signal control failure or misconduct?

- Duplicate, Gap and Split Transaction Tests
- Benford's Law Digit Analysis
- Segregation of Duties Conflict Analysis
- Exception Triage and False Positive Reduction
- Data Visualisation for Audit Insight

Day 4: Evidence Evaluation and Findings

Is the evidence strong enough to support the conclusion?

- Sufficiency, Reliability and Relevance of Evidence
- Working Paper Documentation and Review
- Root Cause Analysis of Audit Exceptions
- Criteria, Condition, Cause and Effect Findings
- Writing Evidence-Based Audit Conclusions

Day 5: Applying Audit Data Analytics

How are analytics, sampling and evidence evaluation combined into one engagement?

- Risk Area Selection for a Participant Organisation
- Analytic Test Script Design
- Exception Review Simulation
- Peer Review of Findings and Evidence
- Analytics-Enabled Audit Engagement Plan Presentation

Methodology

The programme is built around a data workshop. Participants work with anonymised payment, payroll and procurement data sets, run tests, triage exceptions and document evidence as they would on a live engagement. Cases are drawn from manufacturing, banking and public sector audits.

- Suggested activity: Running duplicate payment and split purchase tests on a vendor ledger.
- Suggested activity: Applying digit analysis to an expense claims population.
- Suggested activity: Rewriting a weak finding using the criteria, condition, cause and effect model.



Capstone Output

Each participant completes an analytics-enabled audit engagement plan for a real area of their organisation. It contains the risk rationale, data sources, analytic test scripts, sampling decisions, exception handling rules and evidence standards for findings, ready for approval by the head of audit.

Frequently Asked Questions

Is audit data analytics suitable for audit leaders without programming skills?

Yes. It suits heads of audit, audit managers and senior auditors. It assumes audit experience and spreadsheet familiarity but no programming or data science background.

Which standards underpin audit data analytics and evidence evaluation?

It rests on the IIA Global Internal Audit Standards, the COSO Internal Control - Integrated Framework, Benford's Law and the criteria, condition, cause and effect model for findings.

How is the analytics-enabled audit engagement plan used at work?

You take back a plan your head of audit can approve and your team can run on the next engagement in that area.

How does audit data analytics differ from general internal audit programmes?

It concentrates on testing data and judging evidence, rather than audit planning, stakeholder management or the running of the audit function.