



Using AI in Internal Auditing and Data Analysis

25 – 29 July 2027
Manama (Bahrain)



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Ref: 4_1074587 **Date:** 25 – 29 July 2027 **Location:** Manama (Bahrain) **Fees:** 5500 Euro

Introduction

The Using AI in Internal Auditing and Data Analysis course at Mercury Training Center responds to the rapid digital transformation reshaping governance and organisational control. It helps participants understand the growing role of artificial intelligence in making audit work more efficient and improving the quality of data analysis, with a focus on using advanced analytics to detect risk and fraud and support data-driven decisions.

This training course presents modern concepts of AI-enabled internal auditing within a practical, structured framework. It covers best practice in automating audit procedures and analysing big data in organisational settings, so participants can apply intelligent solutions that support the move to advanced digital auditing.

Target Audience

The Using AI in Internal Auditing and Data Analysis course is designed for:

- Internal auditors in government and private organisations.
- Staff in audit, governance and risk management departments.
- Data analysts who want to move into intelligent auditing.
- Compliance and financial control officers.
- Digital transformation leaders in organisations.
- IT specialists who support the audit function.
- Anyone looking to build data analysis skills for internal audit.

Course Objectives

By the end of this Using AI in Internal Auditing and Data Analysis training course, participants will be able to:

- Explain the concept of AI in modern internal auditing.
- Describe how advanced data analytics improves audit quality.
- Understand the digital tools available to internal auditors.
- Identify risks using intelligent analytics.
- Read and interpret big data to support audit decisions.
- Apply a methodology for automating internal audit procedures.
- Assess internal controls more efficiently using intelligent techniques.
- Detect financial fraud using machine learning algorithms.
- Build data-driven audit reports.
- Prepare organisations to adopt AI-based auditing.
- Explain the governance requirements for using AI in audit.
- Develop analytical thinking in the modern digital audit environment.

Targeted Competencies

Through the Using AI in Internal Auditing and Data Analysis programme, participants will gain the following competencies:

- Applying AI to internal audit tasks.
- Analysing financial data with advanced tools.
- Interpreting predictive analytics results for audit.
- Designing automated audit procedures.
- Assessing risk using big data.
- Detecting anomalies and unusual patterns in data.
- Preparing professional digital audit reports.
- Integrating intelligent analytics into the annual audit plan.
- Supporting management decisions with accurate analytical indicators.

Scenario Studies

In the Using AI in Internal Auditing and Data Analysis training, participants will build their skills through scenario studies:

- Analysing an organisation that implemented AI-enabled internal auditing.
- Reviewing a financial fraud detection scenario using big data analysis.
- Studying the automation of audit procedures in a digital environment.
- Applying a machine learning-based risk assessment model.
- Analysing an audit efficiency improvement driven by predictive analytics.
- Discussing how to integrate AI tools into the audit plan.

Course Content

Day 1: Introduction to AI in Internal Auditing

- The concept of AI and its evolution in the modern business environment.
- Why internal audit must shift to a data-driven approach.
- Traditional auditing versus AI-enabled auditing.
- The role of data analysis in making internal audit more effective.
- AI applications in governance and risk management.
- Key challenges in adopting intelligent auditing in organisations.
- Digital infrastructure requirements for automated audit projects.
- Future trends in digital internal auditing.

Day 2: Advanced Data Analytics to Support Internal Audit

- Data analysis fundamentals for modern internal audit.
- Types of data used in intelligent audit work.
- Techniques for cleaning and preparing data for advanced analysis.
- Using descriptive analytics to assess control performance.
- Using diagnostic analytics to identify the causes of variances.
- Applying predictive analytics to anticipate future risks.
- The role of big data in extending audit coverage.
- Data quality indicators and their effect on audit results.
- Common mistakes in audit data analysis and how to avoid them.
- Building interactive audit dashboards for decision makers.

Day 3: AI and Machine Learning Tools in Auditing

- Introduction to machine learning and its uses in internal audit.
- AI algorithms for financial fraud detection.
- Using pattern analysis to spot unusual transactions.
- Automating internal control testing with intelligent models.
- Using natural language processing to review documents.
- The role of robotic process automation RPA in audit procedures.
- Criteria for selecting AI-based audit tools.
- The limits of intelligent models in the audit environment.
- Quality controls for analytical models in internal audit.
- Integrating analytics tools with ERP systems.

Day 4: Risk Management and Compliance with Intelligent Analytics

- Linking AI to the enterprise risk management framework.
- Data-driven risk assessment methodologies.
- Building early warning models for operational and financial risks.
- Using continuous analytics to monitor compliance.
- The role of continuous auditing in strengthening corporate governance.
- Analysing fraud indicators with advanced data.
- Developing audit plans based on digital risks.
- Governing the use of AI in the control environment.
- Ethical and legal aspects of data-driven auditing.
- Measuring the return on investment of intelligent auditing.

Day 5: Implementing AI-Enabled Internal Audit Projects

- Stages of implementing AI in the internal audit function.
- Preparing a roadmap for the transition to digital auditing.
- Building an audit team with data analysis skills.
- Managing change when introducing automation into internal audit.
- Designing KPIs to measure the success of intelligent auditing.
- Preparing interactive, data-driven audit reports.
- Best practice for integrating analytics into the annual audit plan.
- Assessing organisational readiness to adopt AI.
- Operational challenges in automated audit projects.
- Sustaining continuous improvement in the digital audit environment.

Course Summary and Recommendations

AI and data analytics mark a step change in the efficiency and effectiveness of organisational internal auditing. A gradual, well-planned approach to integrating intelligent analytics is recommended, so that it delivers lasting control value and strengthens governance quality.