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ACCOUNTING AND FINANCE | AF-015

AI for Internal Audit: Continuous Auditing and Control Testing

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Course content

Why Attend

Internal audit functions are increasingly expected to provide timely assurance over complex business processes, digital transactions, financial controls, and emerging risks. Traditional audit approaches based on periodic reviews and limited transaction samples may fail to identify control failures, unusual activities, and emerging risk patterns early enough for effective management action.

The AI for Internal Audit: Continuous Auditing and Control Testing course develops practical capabilities for applying artificial intelligence, machine learning, process mining, data analytics, and intelligent automation to internal audit activities. Participants learn how to analyze complete transaction populations, develop continuous auditing routines, identify control exceptions, evaluate anomalies, and use AI-assisted techniques to strengthen audit planning, fieldwork, reporting, and follow-up.

The programme emphasizes practical applications across finance, procurement, payroll, inventory, and enterprise systems while addressing data quality, false positives, explainability, confidentiality, and the professional judgment required when using AI-generated audit evidence.

Professional Problems This Course Is Designed to Solve

• Delayed identification of control failures: Using continuous auditing and automated testing to detect unusual transactions, policy violations, and control exceptions between scheduled audit engagements.

• Limited audit coverage: Moving beyond small transaction samples by applying data analytics to complete populations of financial and operational records.

• Manual and repetitive control testing: Reducing time spent extracting data, reconciling records, checking approvals, and identifying exceptions through repeatable analytical procedures.

• Difficulty detecting sophisticated anomalies: Applying statistical analysis and machine learning to identify unusual patterns, duplicate payments, suspicious transactions, and potential control weaknesses.

• Fragmented audit data: Combining information from ERP systems, financial applications, procurement platforms, payroll systems, and operational databases for more effective assurance.

• Unreliable AI-generated audit findings: Managing false positives, incomplete data, model limitations, unsupported conclusions, and insufficient audit evidence.

• Weak follow-up on control deficiencies: Developing dashboards, exception management workflows, and continuous monitoring indicators that support timely remediation and management accountability.



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Course Methodology

The programme combines instructor-led technical sessions, audit analytics demonstrations, realistic transaction datasets, control-testing workshops, AI-assisted audit exercises, case studies, and practical simulations. Participants explore workflows using Excel, Power BI, SQL, Python-based analytical techniques, and generative AI assistants where appropriate.

Exercises focus on audit objectives, data requirements, testing logic, exception analysis, evidence validation, and the communication of audit findings. Participants progressively develop a continuous auditing framework and an AI-supported control-testing approach for selected business processes.

Course Objectives

By the end of this course, participants will be able to:

- Understand the applications and limitations of AI in internal auditing
- Distinguish continuous auditing from continuous monitoring and periodic assurance
- Identify business processes suitable for automated control testing
- Extract, prepare, and validate data from financial and operational systems
- Develop analytical tests for key financial and operational controls
- Apply anomaly detection techniques to identify unusual transactions and potential control failures
- Use process mining concepts to examine workflow deviations and control effectiveness
- Apply generative AI to selected audit planning, documentation, and reporting activities
- Design dashboards and exception reporting mechanisms for continuous auditing
- Evaluate AI-generated results and maintain sufficient, reliable audit evidence
- Address privacy, cybersecurity, model risk, and governance considerations
- Develop an implementation roadmap for AI-enabled continuous auditing

Target Audience



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Target Audience

This course is suitable for:

- Internal auditors and senior internal auditors
- Internal audit managers and heads of internal audit
- IT auditors and information systems auditors
- Risk management and compliance professionals
- Internal control specialists
- Fraud examination and investigation professionals
- Financial controllers and assurance professionals
- Audit analytics and business intelligence specialists
- Governance, risk, and compliance managers
- Professionals responsible for continuous auditing and control monitoring

Target Competencies

Participants will develop competencies in:

- AI-enabled internal auditing
- Continuous auditing
- Automated control testing
- Audit data analytics
- Transaction anomaly detection
- Process mining
- Risk-based audit analytics
- Audit evidence validation
- Continuous assurance dashboards



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Target Competencies

• AI governance and audit quality

Course outline

Day 1: AI-Enabled Internal Auditing and Continuous Assurance

• Examining how artificial intelligence, machine learning, generative AI, and data analytics support risk-based internal audit activities

• Distinguishing continuous auditing, continuous controls monitoring, and conventional periodic audit engagements

• Identifying opportunities for AI-assisted assurance across financial reporting, procurement, payroll, inventory, and operational processes

• Mapping business risks to key controls, audit assertions, transaction data, and measurable control-testing criteria

• Evaluating data availability, system access, audit trails, data quality, and technology readiness for continuous auditing

• Practical exercise: Developing a continuous auditing use-case map linking audit risks, key controls, required datasets, and expected assurance outcomes

Day 2: Audit Data Preparation and Automated Control Testing

• Extracting and combining audit data from ERP applications, accounting systems, procurement records, payroll databases, and transaction logs

• Preparing audit datasets using SQL, Excel, and Power Query to address duplicates, missing values, inconsistent formats, and incomplete records

• Designing automated tests for approval limits, segregation of duties, duplicate payments, unauthorized transactions, and policy compliance

• Applying full-population testing, reconciliation procedures, rule-based analysis, and exception identification to financial and operational controls



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Course outline

• Establishing repeatable testing workflows with documented logic, data validation checks, and traceable audit evidence

• Practical workshop: Building automated control tests for accounts payable and procurement transactions, including exception identification and supporting evidence

Day 3: Machine Learning, Anomaly Detection and Process Mining

• Understanding supervised and unsupervised machine learning applications for audit risk identification and transaction analysis

• Applying statistical outlier detection, clustering concepts, and pattern analysis to identify unusual financial and operational activity

• Investigating duplicate vendors, abnormal payment behaviour, unusual journal entries, transaction splitting, and potential fraud indicators

• Using process mining concepts to analyze event logs, identify process deviations, and examine approval and authorization workflows

• Evaluating model outputs through false-positive analysis, explainability, validation, and professional assessment of potential control failures

• Case study: Analyzing a procurement transaction dataset to identify anomalies, investigate exceptions, and distinguish control weaknesses from legitimate business activity

Day 4: Continuous Auditing Dashboards and AI-Assisted Audit Workflows

• Designing continuous auditing routines with defined testing frequency, data refresh requirements, control thresholds, and exception escalation procedures

• Developing Power BI dashboards to monitor control exceptions, transaction anomalies, risk indicators, and remediation status

• Establishing risk-based alert thresholds and exception prioritization methods to reduce unnecessary investigations

• Applying generative AI to audit planning, risk-control matrix development, working-paper summaries, and draft audit observations



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• Integrating analytical results into audit management workflows while maintaining reviewer approval, evidence traceability, and appropriate access controls

• Practical workshop: Creating a continuous control-testing dashboard and exception management workflow for a selected financial or operational process

Day 5: AI Audit Governance, Assurance Quality and Implementation

• Assessing AI-related audit risks involving data confidentiality, access permissions, algorithmic bias, model reliability, and cybersecurity

• Establishing validation procedures for AI-generated findings, analytical models, automated tests, and supporting audit evidence

• Defining responsibilities between internal audit, IT, data owners, compliance teams, and management for continuous auditing operations

• Measuring continuous auditing effectiveness through control coverage, exception resolution time, testing efficiency, detection timeliness, and remediation performance

• Developing a phased implementation roadmap covering use-case selection, technology requirements, staff capabilities, pilot testing, governance, and operational deployment

• Capstone exercise: Designing and presenting an AI-Enabled Continuous Auditing and Control Testing Framework covering risk assessment, automated tests, anomaly detection, reporting dashboards, evidence validation, and implementation priorities



Seminar dates

Available seminar dates

Live dates and pricing for AI for Internal Audit: Continuous Auditing and Control Testing generated from the course details page.

Date	Location	Format	Fee
Dates on request	Venue on request	Classroom	**Contact us**

Live online option	Online delivery is available at €1,850.-.