

COURSE AGENDA

Blockchain

A professional training programme focused on blockchain technologies, decentralised systems, digital trust and responsible innovation

15 Hours Duration	eLearning Primary format	English Language
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Primary format	eLearning course delivered through the digital learning platform
Available on request	Live trainer-led online delivery or in-house classroom training
Contact us	Request a tailored quote for your organisation

About Us

This course is delivered by a team with strong expertise in cybersecurity, digital resilience, emerging technologies and secure digital transformation. Our work is grounded in internationally recognised standards, European regulatory requirements and practical experience supporting organisations operating in complex, regulated and technology-driven environments.

INFOSEC CENTER holds ISO/IEC 27001 certification for information security management and, reflecting a structured and responsible approach to cybersecurity, data protection, governance and AI-enabled technologies. The organisation is also recognised as an **EASA-approved** training provider for specialised aviation cybersecurity training, aligned with European aviation safety and information security requirements.

Our innovation capacity has been recognised through the **Impact Stars distinction** at the **Deloitte Technology Fast 50**, awarded for the innovation delivered by our Machine Learning platform. This reflects our commitment to practical, high-impact technology solutions that combine advanced digital capabilities with real business and societal value.

We are actively connected to European digital innovation networks, including the **European DIGITAL SME Alliance** and the **BSC AI Factory Incubation Program**, contributing to secure, competitive and responsible digital transformation across Europe.

Our broader innovation platform, **FACTORY X.0**, supports the secure transformation of industrial and digital ecosystems by integrating cybersecurity, automation, artificial intelligence, industrial digitalisation and advanced technology adoption, with a focus on resilience, compliance and sustainable innovation.

We support organisations in understanding cyber risk, strengthening digital infrastructure, improving governance, preparing for regulatory compliance and building a stronger security culture across aviation, industry, education, public services and digital business.

Why This Course Matters

Blockchain is often associated only with Bitcoin or other cryptocurrencies, but its relevance extends far beyond digital assets. At its core, blockchain is a technology for recording, validating and sharing information in a secure, transparent and tamper-resistant way. It enables new models of trust between organisations, individuals, systems and digital services.

For businesses and public organisations, blockchain can support transparency, traceability, process automation, data integrity and new forms of digital collaboration. It can be applied in finance, supply chain management, healthcare, real estate, digital identity, administrative processes and other environments where trust, auditability and secure information exchange are essential.

At the same time, blockchain adoption requires careful analysis. The technology introduces important questions related to scalability, security, privacy, governance, legal compliance, cost, operational complexity and business value. Implementing blockchain without a clear use case or without understanding its limitations can lead to unnecessary complexity and limited return on investment.

This course addresses blockchain from both a conceptual and practical perspective. It helps learners understand how blockchain works, how consensus mechanisms support trust, how smart contracts enable automation, how blockchain can be applied in different sectors and how organisations can evaluate whether blockchain is appropriate for a specific business challenge.

Participants will leave this course equipped to:

- Understand the core principles, architecture and terminology of blockchain technology
- Explain how blockchain supports secure, transparent and tamper-resistant digital records
- Compare key consensus mechanisms, including Proof of Work and Proof of Stake
- Understand the role of smart contracts and decentralised applications

- Identify practical blockchain applications across finance, supply chain, healthcare, real estate and digital identity

Course Overview

Course Title	Blockchain
Total Duration	15 Hours
Primary Delivery Format	eLearning course delivered through the digital learning platform
Optional Delivery Formats	Available on request as live trainer-led online delivery or in-house classroom training
Target Audience	Professionals seeking to understand, evaluate and support the adoption of blockchain technologies in organisational and business contexts
Prerequisites	No prior blockchain or programming experience required; basic digital literacy and general understanding of business processes are recommended
Language	English

Planning & Delivery Options

The standard version of this programme is structured as an eLearning course, allowing participants to progress through the agenda in a flexible and accessible format. This option is suitable for organisations that need scalable delivery, consistent learning materials and clear assessment through the digital platform.

At the client's request, the same course agenda can also be delivered with a live trainer, either online or in an in-house classroom format. These options are recommended when the organisation wants direct interaction with the trainer, applied discussions based on internal workflows or a more guided learning experience.

For organisational enrolment, adapted delivery or group implementation, please request a tailored quote.

Learning Approach

The learning approach is built on four pillars:

01 Conceptual Clarity

Each module introduces blockchain concepts in a clear and accessible way before moving into more advanced technical and business applications. Learners build a solid understanding of distributed ledgers, consensus, cryptographic security, smart contracts and decentralised systems before evaluating organisational use cases.

02 Applied Learning

Case studies, scenario-based exercises and sector examples help connect blockchain concepts to real organisational challenges. Learners explore blockchain applications in finance, supply chains, digital identity, healthcare, real estate, data integrity and process automation.

03 Security & Governance Integration

Cybersecurity considerations, compliance requirements and governance principles are embedded throughout the course. Blockchain is presented not only as a technology, but as a trust infrastructure that must be implemented responsibly and aligned with organisational objectives.

04 Progressive Assessment

Each module includes a knowledge check through the eLearning platform. A final comprehensive assessment consolidates learning across all modules and supports the validation of knowledge gained throughout the programme.

Detailed Course Agenda

Module 01 Blockchain Fundamentals, Security and Consensus

Learning Objectives

- Develop a clear understanding of blockchain technology, including distributed ledgers, blocks, transactions, nodes, cryptographic validation and network participation.
- Understand why blockchain is considered tamper-resistant and how it supports transparency, traceability and trust in digital environments.
- Explore the security mechanisms used in blockchain systems, including hashing algorithms, cryptographic signatures, transaction validation and data integrity controls.
- Compare Proof of Work and Proof of Stake as major consensus mechanisms and understand their respective strengths, limitations and operational implications.
- Explore alternative consensus mechanisms and understand how different blockchain systems make trade-offs between security, decentralisation, performance and energy efficiency.
- Identify the difference between public, private, permissioned and consortium blockchain models, and understand when each model may be suitable.

Tools & Methodology

eLearning modules, optional live trainer-led sessions.

Assessment: Knowledge test via the eLearning platform.

Module 02 Smart Contracts and Decentralised Applications

Learning Objectives

- Understand what smart contracts are and how they enable automated execution of agreements, rules or business logic on blockchain networks.
- Explore practical examples of smart contract use in financial transactions, supply chain processes, digital assets, administrative workflows and automated compliance checks.
- Understand the role of Solidity and similar programming approaches in the development of smart contracts.
- Examine the lifecycle of a smart contract, including design, development, testing, deployment, monitoring and maintenance.
- Understand common smart contract risks, including coding errors, logic vulnerabilities, inadequate testing, poor access control and irreversible execution.
- Explore the concept of decentralised applications and understand how they combine blockchain infrastructure, smart contracts and user-facing digital interfaces.

Tools & Methodology

eLearning modules, optional live trainer-led sessions, case studies.

Assessment: Knowledge test via the eLearning platform.

Module 03 Advanced Applications of Blockchain Technology

Learning Objectives

- Explore the use of blockchain in financial services, including cryptocurrencies, decentralised finance, tokenisation of assets and new models for digital transactions.
- Understand the concept of asset tokenisation and how blockchain can support the digital representation, transfer and management of value.
- Analyse the use of blockchain in supply chain management, including product provenance, traceability, transparency and verification of goods across multiple parties.

- Examine how smart contracts can support supply chain automation, including conditional payments, delivery verification, compliance checks and record synchronisation.
- Understand blockchain applications in healthcare, including secure data sharing, integrity of medical records, audit trails and controlled access to sensitive information.
- Explore blockchain use cases in real estate, including ownership records, transaction transparency, document verification and process simplification.
- Understand the role of blockchain in digital identity, including self-sovereign identity concepts, credential verification and secure identity management.

Tools & Methodology

eLearning modules, optional live trainer-led sessions, case studies.

Assessment: Knowledge test via the eLearning platform.

Module 04 Technical, Privacy and Legal Considerations

Learning Objectives

- Understand the main scalability challenges of blockchain systems, including transaction throughput, latency, network congestion and storage requirements.
- Evaluate the trade-offs involved in scalability solutions, including decentralisation, security, performance, complexity and user experience.
- Understand the difference between anonymity and pseudonymity in blockchain environments.
- Explore privacy-enhancing technologies such as zk-SNARKs and zk-STARKs and understand their role in supporting confidentiality and selective disclosure.
- Analyse the legal implications of anonymity, pseudonymity, transaction transparency and immutable records in blockchain-based systems.
- Understand how legal and regulatory requirements can influence blockchain adoption.

- Examine how organisations should assess legal risk, compliance obligations, data protection requirements and governance needs before implementing blockchain solutions.

Tools & Methodology

eLearning modules, optional live trainer-led sessions, case studies.

Assessment: Knowledge test via the eLearning platform.

Module 05 Blockchain Solutions for Business Innovation

Learning Objectives

- Understand how enterprises can use blockchain to improve operational efficiency, transparency, trust and data integrity.
- Explore how blockchain can support process automation through smart contracts, especially in workflows involving multiple parties, repeated validation or contractual conditions.
- Understand how blockchain can contribute to more efficient data management, improved auditability and stronger protection against unauthorised modification of records.
- Analyse how blockchain can support innovation by enabling new products, services, platforms, digital assets or market participation models.
- Explore the role of blockchain in the tokenised economy and understand how token-based models can create new opportunities for value exchange, access management or participation.
- Evaluate the technical and operational costs of blockchain implementation, including infrastructure, development, integration, maintenance, training and governance.
- Assess the potential benefits of blockchain implementation, including reduced friction, improved traceability, lower reconciliation effort, increased trust and stronger process transparency.

- Learn how to build a business case for blockchain by connecting the technology to a concrete organisational problem, measurable benefits and realistic implementation constraints.

Tools & Methodology

eLearning modules, optional live trainer-led sessions, case studies.

Assessment: Knowledge test via the eLearning platform.

Module 06 Course Closing & Consolidation

Learning Objectives

- Consolidate understanding across all previous modules through a structured review of blockchain concepts, security mechanisms, consensus models, smart contracts, sector applications and implementation considerations.
- Revisit the most important technical and business themes covered throughout the programme, including decentralisation, trust, transparency, scalability, privacy, governance and cost-benefit analysis.
- Prepare for the final assessment by reviewing key definitions, practical applications and decision-making criteria related to blockchain adoption.
- Reflect on how blockchain could be applied responsibly within the learner's own organisational or professional context.
- Receive personalised trainer feedback on learning progress and areas for further professional development when the course is delivered with trainer support.

Tools & Methodology

Final online assessment, optional trainer review session, individual feedback where applicable.

Assessment & Certification

Assessment in this course is continuous, formative and cumulative. Rather than relying on a single high-stakes examination, the programme uses a layered approach that supports learning throughout and ensures that the final certification reflects a genuine command of the material.

Assessment Type	Description
Module Knowledge Checks	Each content module is followed by a knowledge test delivered through the eLearning platform. These tests reinforce learning at the point of completion and allow learners to identify any gaps before progressing.
Final Assessment	A comprehensive online test covering all modules is completed at the end of the course. This assessment evaluates the learner's overall understanding and ability to apply key concepts across the programme.
Trainer Feedback	When trainer-led delivery is requested, live session interactions and final assessment performance can be reviewed by the course trainer, who provides structured feedback to support ongoing professional development.
Certificate of Completion	Participants who successfully complete the course and final assessment may receive a certificate of completion issued by INFOSEC CENTER, confirming participation and successful completion of the training programme.

Closing Note

Blockchain is not only a technical concept. It is a new way of thinking about trust, transparency, verification and collaboration between parties that may not fully know or control one another. When applied appropriately, blockchain can support stronger data integrity, more transparent processes, automated agreements and new forms of digital value exchange.

The organisations that benefit most from blockchain are those that approach it with a clear understanding of both its strengths and its limitations. Blockchain should not be adopted simply because it is innovative. It should be evaluated carefully, connected to real operational needs and implemented with attention to security, privacy, governance, legal requirements and measurable business value.

This course has been designed with that understanding at its core. It aims to prepare learners not only to understand blockchain terminology and mechanisms, but also to evaluate practical use cases, identify risks and contribute responsibly to blockchain-related initiatives within their organisations.

We hope this programme supports your development as a confident, capable and responsible professional in the field of emerging technologies. The perspective you build here will help you recognise where blockchain can create value and where careful judgement is required before implementation.

We wish you a productive and insightful learning experience.

Primary format: eLearning course

Live trainer-led and in-house delivery available on request



Request a quote: contact@edkore.com