CENTRAL BANK OF EGYPT
Egyptian Banking Institute

Blockchain Fundamentals for Bankers

Information Technology

8533

In-Class

8 hours

EGP 2,500

Course Description:

This one-day intensive course, Blockchain Fundamentals for Bankers, is designed to demystify blockchain technology and its transformative impact on the banking industry. Participants will gain a clear understanding of how blockchain works, its key features, and its practical applications in banking and finance. The course covers blockchain use cases such as payments, trade finance, anti-money laundering (AML), and asset tokenization, alongside addressing the risks, challenges, and future trends. Through interactive demonstrations and real-world examples, this course equips bankers with the knowledge to navigate the opportunities and challenges presented by blockchain technology.

Target Audience:

- **Banking Professionals:** Relationship managers, financial analysts, operations managers, and treasury staff looking to understand blockchain's impact on banking operations.
- **Senior Management:** Executives and decision-makers exploring blockchain for strategic implementation in banking.
- **Technology Teams in Banking:** IT leaders, project managers, and fintech specialists involved in integrating blockchain into banking systems.
- **Compliance Officers and Risk Managers:** Professionals assessing blockchain's implications for regulatory compliance and fraud prevention.
- **Finance Enthusiasts and Consultants:** Individuals seeking to understand blockchain's role in transforming financial services.

Course Objectives:

Understand Blockchain Fundamentals:

- Comprehend the core principles of blockchain technology, including decentralization, cryptography, and distributed ledger systems.

Explore Blockchain Architecture:

- Gain insights into blockchain components such as nodes, consensus mechanisms (e.g., Proof of Work, Proof of Stake), and smart contracts.

Develop Technical Proficiency:

- Learn to set up and interact with blockchain networks, including private and public blockchains like Ethereum, Hyperledger, or Bitcoin.

Build and Deploy Smart Contracts:

- Design, code, and deploy smart contracts using programming languages like Solidity.

Analyze Real-World Applications:

- Explore blockchain use cases across industries such as finance, supply chain, healthcare, and identity management.

Address Security and Scalability:

- Understand key challenges in blockchain, including scalability, interoperability, and security risks, and evaluate potential solutions.

Navigate Regulatory and Ethical Considerations:

- Gain awareness of legal, ethical, and compliance issues surrounding blockchain implementation.

Hands-On Project Development:

- Develop and present a blockchain-based project to apply learned concepts to real-world scenarios.

Course Outline:

Session 1: Introduction to Blockchain

- What is Blockchain?
  - Definition and key concepts
  - History and evolution of blockchain technology
- Why Does Blockchain Matter for Banking?
  - Differences from traditional banking systems
  - Opportunities and challenges
- Key Features
  - Decentralization
  - Transparency
  - Immutability

Session 2: How Blockchain Works

- Blockchain Structure
  - Blocks, transactions, and ledgers
  - Hash functions and cryptography

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- Consensus Mechanisms
  - Proof of Work (PoW)
  - Proof of Stake (PoS)
  - Other methods (e.g., Delegated PoS, Byzantine Fault Tolerance)
- Smart Contracts Overview
  - Definition and use cases

Session 3: Blockchain Use Cases in Banking

- Payments and Settlements
  - Faster cross-border payments
  - Reducing settlement times
- Trade Finance
  - Streamlining trade documentation
  - Reducing fraud
- Lending and Credit Scoring
  - Decentralized credit checks
- Anti-Money Laundering (AML) and Fraud Detection
  - Enhanced compliance through transparent ledgers
- Tokenization of Assets
  - Digital securities and asset-backed tokens

Session 4: Blockchain Ecosystem and Platforms

- Public vs Private Blockchains
  - Key differences and applications
- Overview of Major Platforms
  - Bitcoin
  - Ethereum
  - Hyperledger
  - Ripple (for banking applications)
- Regulatory Considerations
  - Legal and compliance challenges in banking

Session 5: Hands-On Demonstration

- Live Demo of Blockchain in Action
  - Viewing transactions on a blockchain explorer
  - Smart contract examples
- Interactive Activity
  - Simulating a simple blockchain transaction in groups

Session 6: Risks and Challenges

- Scalability and Performance Issues
- Energy Consumption Concerns
- Security Risks
  - 51% attacks
  - Privacy and data protection
- Resistance to Adoption
  - Integration with legacy systems
  - Cost considerations

Session 7: The Future of Blockchain in Banking

- Emerging Trends
  - Decentralized Finance (DeFi)
  - Central Bank Digital Currencies (CBDCs)
- Roadmap for Adoption
  - Building internal capacity
  - Partnering with fintechs

Assessment Strategy:

- Participants will be evaluated based on their participation in class discussions and individual exercises.
- Each Participant must achieve 80% attendance of the total in-class sessions

Course Language:

- Material: English
- Instruction and Explanation: Bilingual (EN <>AR)

Prerequisites:

No prerequisite for this workshop.