



**Enterprise Computing Solutions - Education Services**

## **TRAINING OFFERING**

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**You can reach us at:**

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CODE:	LENGTH:	PRICE:
AIC_BC-300	30 Hours	€425.00

## Description

### Defend Your Digital Wealth: Master Security Strategies

- **Cybersecurity Focus** Learn to secure Bitcoin networks and transactions
- **Best Practices:** Master the latest security protocols and risk mitigation
- **Specialized Training:** Ideal for those pursuing roles in cryptocurrency and blockchain security

### At a Glance: Course + Exam Overview

- **Included:** Self-paced course + Official exam + Digital badge
- **Delivery:** Projects & case studies
- **Outcome:** Industry-recognized credential + hands-on experience

### The following tools will be explored in this course:

- Blockchain API
- Bitcoin Core
- BIP32.ORG
- Blockchair

### What's Included (One-Year Subscription + All Updates):

- High-Quality Videos, E-book (PDF & Audio), and Podcasts
- AI Mentor for Personalized Guidance
- Quizzes, Assessments, and Course Resources
- Online Proctored Exam with One Free Retake
- Comprehensive Exam Study Guide
- Access for Tablet & Phone

## Objectives

- Understanding Bitcoin Fundamentals
- Blockchain Security Principles
- Consensus Mechanisms and Security
- Bitcoin Scripting and Transaction Security
- Bitcoin Network Security
- Analyzing Exploits and Vulnerabilities

## Audience

- **Cybersecurity Professionals:** Acquire specialized skills to protect Bitcoin networks and transactions from emerging cyber threats and attacks.
- **Digital Asset Managers:** Learn to secure Bitcoin holdings, manage wallet security, and implement strategies to protect

investments from hacking and fraud.

- **Security Engineers:** Gain expertise in deploying Bitcoin security protocols within corporate infrastructures, ensuring robust protection and data integrity.
- **Blockchain Developers:** Understand the security implications of Bitcoin technology, learning to design secure and scalable blockchain solutions.
- **IT and Technology Managers:** Equip yourself with advanced Bitcoin security knowledge to oversee and implement secure blockchain solutions.

## Prerequisites

- Basic understanding about Bitcoin, no technical knowledge required.
- An interest in learning about financial technologies, cryptocurrencies, and blockchain and their implementation in various aspects of business.
- A willingness to explore emerging technologies and use tools.

## Programme

### Course Introduction

#### Module 1 Introduction to Bitcoin and Cryptocurrencies

- 1.1 Overview of Bitcoin
- 1.2 Fundamentals of Cryptocurrencies
- 1.3 Key Cryptographic Concepts

#### Module 2 Bitcoin Blockchain Ledger Security

- 2.1 Integrity and Authentication in the Blockchain
- 2.2 Block Mining and Security Implications
- 2.3 Merkle Trees and Block Integrity

#### Module 3 Consensus Protocols and Security

- 3.1 Proof of Work (PoW) Mechanism
- 3.2 Security Benefits and Limitations of PoW
- 3.3 Alternative Consensus Mechanisms (Proof of Stake, Delegated Proof of Stake, etc.)
- 3.4 51% Attacks: Risks and Protections

#### Module 4 Bitcoin Scripting and Transaction Security

- 4.1 Introduction to Bitcoin Script
- 4.2 Script Types and Their Functions
- 4.3 Security Risks in Scripting
- 4.4 Advanced Scripting Techniques

#### Module 5 Bitcoin Network Protocol Security

- 5.1 Customized Treatment Solutions
- 5.2 Data Transmission Security (Encryption and Propagation)
- 5.3 Sybil Attacks and Defenses
- 5.4 The Role of Network Nodes in Security

#### Module 6 Bitcoin Wallet Security

- 6.1 Types of Wallets (Hot Wallets, Cold Storage)
- 6.2 Security Features of Wallets (Seed Phrases, Multi-factor Authentication)
- 6.3 Best Practices for Wallet Security
- 6.4 Hardware Wallets and Their Security Implications

#### Module 7 Known Exploits and Vulnerabilities

- 7.1 Double Spending
- 7.2 Race Attacks
- 7.3 Finney Attacks
- 7.4 Vector76 Attack
- 7.5 Analysis of Major Historical Exploits (e.g., The Mt. Gox Hack)

#### Module 8 Regulatory and Legal Security Considerations

- 8.1 Impact of Regulations on Bitcoin Security
- 8.2 KYC (Know Your Customer) and AML (Anti-Money Laundering) Compliance
- 8.3 Legal Challenges in Different Jurisdictions

## Module 9 Emerging Threats and Future Security Trends

- 9.1 Quantum Computing Threats to Cryptography
- 9.2 Potential Future Network Vulnerabilities
- 9.3 Innovations in Blockchain Security (Layer 2 Solutions, Sharding)
- 9.4 Impact of Global Regulatory Changes on Security

## Module 10 Best Practices and Security Strategies

- 10.1 Developing a Comprehensive Security Policy
- 10.2 Risk Assessment and Management in the Bitcoin Space
- 10.3 Security Auditing and Penetration Testing

## Module 11 Research and Innovations in Bitcoin Security

- 11.1 Ongoing Research in Cryptographic Techniques
- 11.2 Upcoming Bitcoin Protocol Upgrades
- 11.3 Case Studies of Recent Security Enhancements
- 11.4 The Role of Open Source in Security Improvements

## Follow on courses

### Recommended Certifications

- **Bitcoin+ Developer™** (BC-200) - Comprehensive program for developers covering Bitcoin scripting, Layer 2 scaling solutions, blockchain integration with SDKs/APIs, and security best practices.
- **Bitcoin+ Everyone™** (BC-900) - Accessible certification designed for beginners and professionals to understand
- **Bitcoin+ Executive™** (BC-100) - Empowering Executives with Bitcoin Innovation
- **Blockchain+ Developer™** (BL-200) - Build the Foundations of Tomorrow with Blockchain Developer

## Test and Certification

### Exam Format:

- 50 Multiple Choice Questions (MCQs)
- Duration: 90 minutes
- Online via proctored exam platform (flexible scheduling)
- 70% (35 out of 50 correct answers)

### Exam Blueprint (percentage weight per module):

- Introduction to Bitcoin and Cryptocurrencies – 6%
- Bitcoin Blockchain Ledger Security – 7%
- Consensus Protocols and Security – 7%
- Bitcoin Scripting and Transaction Security – 10%
- Bitcoin Network Protocol Security – 10%
- Bitcoin Wallet Security – 10%
- Known Exploits and Vulnerabilities – 10%
- Regulatory and Legal Security Considerations – 10%
- Emerging Threats and Future Security Trends – 10%
- Best Practices and Security Strategies – 10%
- Research and Innovations in Bitcoin Security – 10%

## Further Information

## Session Dates

Date	Location	Time Zone	Language	Type	Guaranteed	PRICE
01 Jan 0001			English	Self Paced Training		€425.00

**Additional Information**

This training is also available as onsite training. Please contact us to find out more.