Arrow ECS Finland Oy - Education Services

TRAINING OFFERING

You can reach us at:

Arrow ECS Finland Oy, Lars Sonckin kaari 16, 02600 Espoo, Finland

Email: education.ecs.fi@arrow.com
Phone: 0870 251 1000

Bitcoin+ Security™

CODE:	LENGTH:	PRICE:
AIC_BC-300	30 Hours	€449.00

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		€449.00

Additional Information

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