Enterprise Computing Solutions - Education Services

# TRAINING OFFERING

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Email: training.ecs.dk@arrow.com
Phone: +45 7025 4500

# Blockchain+ Developer™

| CODE: | LENGTH: | PRICE: |
|---|---|---|
| AIC_BL-200 | 30 Hours | kr 3,650.00 |

## Description

**Build the Foundations of Tomorrow with Blockchain Developer**

- **Career-Focused:** Build expertise in blockchain and Bitcoin development
- **Hands-On Skills**: Tackle practical development work with future-oriented learning
- **Innovation-Driven:** Learn strategies for digital transformation and decentralized innovation

**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:**

- Etherscan
- Remix IDE
- Hyperledger Fabric
- Hardhat

**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

- Tokenization and ICO Management
- Blockchain Analytics and Visualization Tools
- Blockchain Interoperability and Cross-Chain Solutions
- Distributed Ledger Technology (DLT)
- Blockchain Performance Optimization

## Audience

- Blockchain Developers: Gain the technical expertise needed to build and implement blockchain-based applications and solutions for diverse industries.
- Software Engineers: Learn how to integrate blockchain technology into software development to enhance security, scalability, and efficiency.
- Tech Innovators: Dive deep into blockchain development to stay at the forefront of technological advancements.
- Fintech Developers: Explore blockchain's role in transforming financial services, from digital wallets to decentralized finance

(DeFi) applications.
- Enterprise IT Professionals: Understand how to leverage blockchain to improve operational efficiencies, data integrity, and transparency within large organizations.

## Prerequisites

- Familiarity with general programming concepts like data structures, algorithms and networks.
- Understanding of at least one legacy programming stack (e.g. Python, JavaScript, Java or similar).
- Fundamental knowledge to use command line consoles on any operating system.
- Ability to understand developer concepts like SDKs, APIs, application development tools etc.
- Experience with building end to end tiered applications.

## Programme

**Course Introduction**

**Module 1: Introduction to Blockchain and Smart Contracts**
1.1 Origin of Blockchain
1.2 What is Blockchain?
1.3 Consensus Mechanisms
1.4 What are Smart Contracts?
1.5 Bitcoin Blockchains

**Module 2: Ethereum Virtual (EVM) and Solidity Basics**
2.1 What is an EVM and Ethereum?
2.2 Wallets Introduction and Creation
2.3 Introduction to Remix Editor with Metamask
2.4 Smart Contract Basic Structure
2.5 Variables, If/Else, Strings, Loops, Arrays, Test Tokens

**Module 3: Advanced Solidity and Structures**
3.1 Libraries, Interfaces, Modifiers
3.2 Structures, Enums, ABI, Calldata, Events, and Transfers
3.3 Contract-to-Contract Calls
3.4 Address and Address Payable
3.5 Receive and Fallback Functions
3.6 Upgradeable Contracts
3.7 Openzepplin Libraries

**Module 4: Tokenization and NFTs**
4.1 ERC20 Token Creation
4.2 NFT, NFT Minting, IPFS, Security, and Pinata Cloud

**Module 5: Development Tools and Techniques**
5.1 Truffle, Ganache, and Hardhat
5.2 Metamask Wallet
5.3 Remix Development Environment
5.4 Localnet and Testnet Deployment

**Module 6: DApp Integration and Testing**
6.1 Web3.0 Integration with JS
6.2 Wallet Creation and Sending Transactions

**Module 7: Introduction to Private Blockchains - Hyperledger Fabric**
7.1 Public Vs Private vs. Consortium Blockchain Frameworks
7.2 Introduction to the Hyperledger Fabric
7.3 Hyperledger Projects

**Module 8: Deep Dive into Hyperledger Fabric**
8.1 Basic Concepts of HLF
8.2 Docker Introduction
8.3 Commands and Setup

**Module 9: Golang Programming for Hyperledger Fabric**

9.1 Installation and Path Setup
9.2 VS Code Plugin Setup, Variables, Strings, Conditional Statements, and Loops
9.3 Basics of the Language

**Module 10: Chaincode Structure and Error Handling**
10.1 Chain code Explanation using Fabric Samples and Test-network Explanation using Linux Scripting
10.2 Error Handling
10.3 Error Codes and Messages
10.4 Logging Errors
10.5 Handling Panics

**Module 11: Custom Chaincode**
11.1 Extending the Default Chaincode
11.2 Chaincode Deployment
11.3 REST API Integration with Front End

**Module 12: Smart Contract Auditing and Tools, Hyperledger Fabconnect, and Firefly**
12.1 Why Smart Contract Audits are Necessary
12.2 Introduction to Firefly, Fabconnect, and Blockchain Explorer

## Follow on courses

**Recommended Certifications:**
Bitcoin+ Everyone™ (BC-900) - Demystify Bitcoin: Simple, Accessible, Essential for All
Bitcoin+ Executive™ (BC-100) - Empowering Executives with Bitcoin Innovation
Blockchain+ Executive™ (BL-100) - Lead confidently in the Blockchain executive sphere
Bitcoin+ Developer™ (BC-200) - Navigate the depth of development with Bitcoin
Bitcoin+ Security™ (BC-300) - Defend Your Digital Wealth: Master Security Strategies

## Test and Certification

**Exam Details**

- Duration: 90 minutes
- Passing Score: 70%
- Format: 50 multiple-choice/multiple-response questions
- Delivery Method: Online via proctored exam platform (flexible scheduling)

**Exam Blueprint:**

- Introduction to Blockchain and Smart Contracts - 5%
- Ethereum Virtual (EVM) and Solidity Basics - 5%
- Advanced Solidity and Structures - 10%
- Tokenization and NFTs - 10%
- Development Tools and Techniques - 5%
- DApp Integration and Testing - 5%
- Introduction to Private Blockchains -Hyperledger Fabric - 10%
- Deep Dive into Hyperledger Fabric - 10%
- Golang Programming for Hyperledger Fabric - 10%
- Chaincode Structure and Error Handling - 5%
- Custom Chaincode - 10%
- Smart Contract Auditing and Tools Hyperledger Fabconnect, and Firefly - 5%

## Session Dates

| Date | Location | Time Zone | Language | Type | Guaranteed | PRICE |
|---|---|---|---|---|---|---|
| 01 Jan 0001 | | | English | Self Paced Training | | kr 3,650.00 |

## Yderligere Information

Denne træning er også tilgængelig som træning på stedet. Kontakt os for at finde ud af mere.