Enterprise Computing Solutions - Education Services

TRAINING OFFERING

You can reach us at:

Arrow Enterprise Computing Solutions Ltd, Part 1st Floor, Suite 1D/1, Central House, Otley Road, Harrogate, HG3 1UG

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

Blockchain+ Developer™

CODE:	LENGTH:	PRICE:
AIC_BL-200	30 Hours	€249.00

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		€249.00

Additional Information

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