

# BLOCK CHAIN MODULE 01

## Fundamental Blockchain

Arcitura®  
CERTIFIED  
Blockchain Architect

### OVERVIEW

This course provides a clear, end-to-end understanding of how blockchain works. It breaks down blockchain technology and architecture in easy-to-understand concepts, terms and building blocks. Industry drivers and impacts of blockchain are explained, followed by plain English descriptions of each primary part of a blockchain system and step-by-step descriptions of how these parts work together.

The following primary topics are covered:

- Benefits and Challenges of Blockchain
- Blockchain Business Drivers and Technology Drivers
- Understanding Blockchain's Decentralized Model
- Blockchain Value Propositions
- How Blockchain Can be Used for Different Industries
- Blockchain Applications, Networks and the Distributed Ledger
- How the Distributed Ledger Can Relate to Relational Database
- Fundamental Components of a Blockchain Architecture
- Transactions, Records and Pools
- Blocks, Chains and Block Headers
- Blockchain Users, Full Nodes and Partial Nodes
- Step-by-Step Understanding of the Record and Block Lifecycle
- Step-by-Step Understanding of How the Merkle Tree Works
- Step-by-Step Understanding of How Consensus Works
- Consensus Algorithms (PoW, PoS, PoA, DPoS, LPoS, PoI, PoET, PoC, PoB, Round Robin)
- Public vs. Private / Permissionless vs. Permissioned Blockchains
- Coins, Tokens, Smart Contracts
- Basics of Crypto Hashing and Cryptography
- On-Chain, Off-Chain and Cross-Chain Activity
- Understanding Soft Forks and Hard Forks
- Common Blockchain Metrics

Duration: 1 Day

### TRAINING + CERTIFICATION

This course is part of a training and accreditation program through which official certification can be achieved and for which official training and certification badges can be issued.



[www.arcitura.com/blockchain](http://www.arcitura.com/blockchain)

### eLEARNING + PRINTED STUDY KITS

This course is available as part of a study kit that includes course materials and supplemental self-study materials. The study kit is available in full-color printed format and eLearning format. Both types of study kits include the contents listed below.

- Workbook (1 of 3)
- Exam Preparation Guide (1 of 3)
- Mind Map Poster
- Blockchain Models Poster
- Consensus Types Poster
- Symbol Legend Poster
- Flashcards
- Audio Tutor Recording



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## Fundamental Blockchain

Certified  
DevOps  
Specialist

Certified  
Blockchain  
Architect

Certified  
IoT  
Architect

Certified  
Containerization  
Architect

Certified  
Machine  
Learning  
Specialist

Certified  
Artificial  
Intelligence  
Specialist

MODULE 01 Fundamental DevOps



MODULE 02 DevOps in Practice



MODULE 03 DevOps Lab



MODULE 01 Fundamental Blockchain



MODULE 02 Blockchain Technology & Architecture



MODULE 03 Blockchain Technology & Architecture Lab



MODULE 01 Fundamental IoT



MODULE 02 IoT Technology & Architecture



MODULE 03 IoT Technology & Architecture Lab



MODULE 01 Fundamental Containerization



MODULE 02 Containerization Technology & Architecture



MODULE 03 Containerization Technology & Architecture Lab



MODULE 01 Fundamental Machine Learning



MODULE 02 Advanced Machine Learning



MODULE 03 Machine Learning Lab



MODULE 01 Fundamental Artificial Intelligence



MODULE 02 Advanced Artificial Intelligence



MODULE 03 Artificial Intelligence Lab



Arcitura Next-Gen IT Academy ([www.arcitura.com/nextgen](http://www.arcitura.com/nextgen))