



**KIDS & TEENS FREELANCING TRAINING INSTITUTE**

# Blockchain Development Course Outline

## Module 1: What is Blockchain?

- What does "Blockchain" mean in simple words?
  - Real-life example: passing notes in class that no one can secretly change
  - Why blockchain is important: safety, trust, and no middleman
  - How blocks and chains work together to store information
  - Main features: decentralized, secure, transparent
  - Fun comparison: Blockchain vs. traditional record-keeping
  - Activity: draw a block and connect it to others to form a chain
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## Module 2: How Data Works in Blockchain

- What is a block? What does it store?
  - What is a hash? (explained like a fingerprint for each block)
  - Real-life example: LEGO blocks that lock only in one exact spot
  - How blocks are linked and why they can't be changed
  - Activity: simulate a fake chain and see how a small change breaks the chain
  - Why trust in blockchain comes from the technology itself
  - Introduction to consensus (how everyone agrees on data)
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## Module 3: Smart Contracts – Rules Written in Code

- What is a smart contract?
  - Real-life example: a vending machine that gives you a snack only if you pay
  - Why smart contracts are better than paper agreements
  - Introduction to Solidity (the coding language for Ethereum)
  - Activity: write a simple smart contract that gives out points
  - How smart contracts are used in games, apps, and more
  - Benefits: no need for third parties, less fraud, automatic rules
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## **Module 4: Building with Ethereum – A Popular Blockchain**

- What is Ethereum and how is it different from Bitcoin?
  - Real-life example: Ethereum is like a giant computer everyone can use
  - How apps (called DApps) are built on Ethereum
  - Introduction to Ether (ETH): Ethereum's currency
  - Activity: explore a real DApp or blockchain game
  - Understanding wallets and how users connect to apps
  - How Ethereum helps build a new internet (Web3)
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## **Module 5: Creating DApps – Decentralized Apps**

- What are DApps and how are they different from regular apps?
  - Real-life example: group project where no one is the "boss"
  - How frontend (React) connects to the blockchain backend
  - Introduction to tools like MetaMask, Hardhat, Remix, and Ethers.js
  - Activity: create a simple DApp that sends a message to the blockchain
  - What is Web3 and how it makes the internet more user-owned
  - Fun comparison: Traditional apps vs. DApps
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## **Module 6: NFTs & Tokens – Digital Stuff You Can Own**

- What are NFTs (Non-Fungible Tokens)?
  - Real-life example: owning a rare Pokémon card online
  - What are tokens and how they're used in apps and games
  - How NFTs prove digital ownership
  - Activity: design and mint your own mock NFT
  - Understanding ERC-20 and ERC-721 standards
  - How tokens and NFTs power new economies
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## **Module 7: Security & Gas – Making Blockchain Work Right**

- What is gas in blockchain? (cost to run actions)
- Why blockchain needs energy to process things
- Real-life example: paying a tiny toll to send a message
- What is a private key? Why keeping it safe is super important
- Activity: simulate sending ETH and paying gas
- How blockchain keeps data secure from hackers
- Why secure coding matters in smart contracts

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## **Module 8: Blockchain in Real Life & Your Future**

- Where blockchain is used: games, banking, voting, art
- Real-life examples: Axie Infinity, OpenSea, decentralized finance (DeFi)
- Blockchain careers: smart contract developer, DApp creator, Web3 engineer
- Skills you can learn now: Solidity, JavaScript, security basics
- Fun drawing: design your dream blockchain game or app
- How blockchain helps create a more open and fair internet
- Future of blockchain: more power to creators, users, and communities

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### **Bonus Materials:**

- Interactive quizzes and coding mini-games
- Beginner tools: Remix IDE, MetaMask, CryptoZombies
- Printable Blockchain Glossary for Kids
- Group project: Build a basic DApp with friends
- Official Certificate of Completion