

Blockchain Study Plan: Beginner to Advanced (12 Weeks)

Phase 1: Fundamentals (Week 1-2)

- What is Blockchain?
- Cryptography basics (hashing, digital signatures)
- Blocks, transactions, consensus
- Distributed vs. centralized ledgers
- NIST Blockchain Overview PDF
- Simplilearn Blockchain Full Course

Phase 2: Hands-On Beginner Dev (Week 3-4)

- Ethereum basics, MetaMask
- Writing first Solidity contract
- Ganache & Truffle setup
- FreeCodeCamp Solidity Full Course
- Remix IDE, Solidity by Example

Phase 3: Intermediate Smart Contracts + Web3.js (Week 5-6)

- Web3.js / Ethers.js basics
- Contract deployment
- Wallet connection
- Token creation (ERC20)
- Web3.js Docs, Alchemy Docs

Phase 4: Advanced Blockchain (Week 7-8)

- PoS vs PoW
- Ethereum, Solana, Polygon, zkRollups
- IPFS, Chainlink oracles
- Comparative Blockchain Paper

Phase 5: Projects + Real-World Use Cases (Week 9-12)

- ERC20/NFT Tokens
- Voting DApp
- Decentralized ToDo List
- DApp University, GitHub Resources

Optional Extensions

- Hyperledger
- Rust + Solana
- IPFS + Filecoin
- Blockchain + AI use cases