

Course Name: Certificate in Blockchain Development Technology

Course Objective

The objective of this course is to provide the candidate with the ability to understand how blockchain systems (mainly Bitcoin and Ethereum) work, to securely interact with them, Design, build, and deploy smart contracts and distributed applications and Integrate ideas from blockchain technology into their own projects.

Course Prerequisite

Education: Any Engineering & Science Graduate (10+2+3/10+2+4) OR higher qualification

Experience: This is an introductory level course to Blockchain; hence no prior experience is required. It assumes that you have never used the technology before and this is your first experience with Blockchain.

Course Outcome

These candidates will be provided an in-depth understanding of Bitcoin, Ethereum, consensus and smart contracts. After completion of this course, you will be ready to apply the newly acquired skills to design, build, and deploy a distributed application. The understanding will drive better business strategic decisions for your business.

Course Duration:160 Hrs (4 hours/ day for 8 Weeks)

Course Outline:

S. No.	Course Modules	Duration (Hrs)
1	Introduction to Blockchain and Bitcoin	40
2	Blockchain Cryptology	30
3	Blockchain Consensus	30
4	Ethereum & Smart Contracts	40
5	Projects	20
	Total	160

Detailed Course Content

1. Introduction to Blockchain and Bitcoin

- Introduction to Blockchain and How Ledgers Work
- Introduction to Bitcoin
- Blockchain and Hashing
- Blockchain Terminology
- The Blockchain operation and Mining

2. Blockchain Cryptology

- Encryption

- Double Key or Key Pair Encryption
- PKI for Blockchain

3. Blockchain Consensus

- Proof-Of-Work Consensus
- Proof-of-Stake Consensus
- Alternative Consensus Algorithms

4. Ethereum & Smart Contracts

- First and Second Generation Blockchains
- Essentials of Smart Contracts
- Working with Ethereum

5. Projects