Total Duration **45 DAYS**	Ideal Audience Engineering Students, Faculty Members & Industry Professionals	Delivery Format Lectures, Labs, Projects, Quizzes, Case Studies

Blockchain Foundations

Objective: Build conceptual clarity for beginners

⇨ Introduction to Blockchain
⇨ History: Bitcoin Whitepaper & Evolution
⇨ Core Concepts: Blocks, Chains, Nodes, Hashing
⇨ Types of Blockchain: Public, Private, Consortium
⇨ Consensus Algorithms: PoW, PoS, DPoS, PBFT
⇨ Hands-on: Remix IDE Basics

Cryptography & Security

Objective: Understand secure transaction processing.

⇨ Cryptographic Hash Functions (SHA-256, Keccak256)
⇨ Merkle Trees
⇨ Digital Signatures & Public Key Infrastructure
⇨ Wallets & Key Management
⇨ Demo: Creating wallets, signing & verifying transactions

Smart Contracts with Ethereum

Objective: Develop and deploy smart contracts.

⇨ Ethereum Overview & EVM
⇨ Solidity Language Essentials
⇨ Contract Structure, Data Types, Functions, Events
⇨ Remix IDE + MetaMask Setup
⇨ Smart Contract Deployment (Testnet)
⇨ Error Handling & Debugging
⇨ Security Best Practices (Reentrancy, Overflow, etc.)
⇨ Hands-on: Simple voting or
   crowdfunding contract(Homework)

DApps Development

Objective: Connect smart contracts with web apps.

⇨ Web3.js / Ethers.js Integration
⇨ Connecting Frontend with Ethereum Smart Contracts
⇨ MetaMask Transactions
⇨ Building a Basic DApp: Token wallet or NFT Viewer
⇨ Hosting DApps on IPFS or Fleek

Advanced Blockchain Concepts

Objective: Cover advanced topics for experienced learners.

⇨ Layer 1 vs Layer 2
⇨ Rollups: ZK & Optimistic
⇨ Polkadot, Cosmos
⇨ Oracle Networks: Chainlink
⇨ Zero Knowledge Proofs (ZKPs)
⇨ Hands-on: Layer 2 Deployment (e.g., Polygon, Arbitrum)

Blockchain Use Cases & Platforms

Objective: Explore real-world applications

⇨ Supply Chain & Provenance
⇨ DeFi: Lending, DEXs, Staking
⇨ NFTs & Metaverse
⇨ Real Estate Tokenization (From MetaWeb3 use-case!)
⇨ Healthcare, Voting, Identity Management
⇨ Hyperledger Fabric vs Corda

Token Standards & Tokenomics

Objective: Understand tokens and economy design

⇨ ERC Standards: ERC-20, ERC-721, ERC-1155
⇨ Fungible vs Non-Fungible Tokens
⇨ Token Creation, Minting & Burning
⇨ Token Economics: Utility, Governance, Security Tokens
⇨ Hands-on: Launch a token on testnet
⇨ Intro to DAO (Decentralized Autonomous Organization)

Industry Projects & Case Studies

Objective: Apply concepts in real projects

⇨ Mini Projects:
  a. NFT Marketplace
  b. Real Estate Tokenization Platform (MetaWeb3)
  c. DAO for Student Governance
⇨ Industry Case Studies: Uniswap, Aave, OpenSea, Helium
⇨ Capstone Project Kick-off
⇨ Version Control with Git + GitHub (for Blockchain projects)
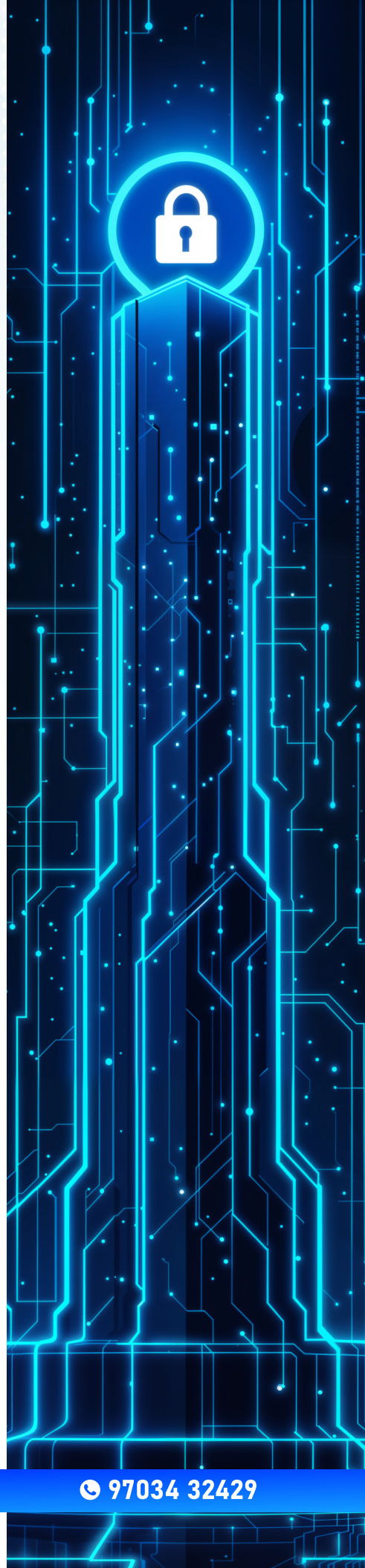
Tools, DevOps & Career Pathways

Objective: Get industry-ready

⇨ Hardhat
⇨ Alchemy/Infura Setup
⇨ CI/CD for Smart Contracts
⇨ Security Audits & Tools
  (MythX, Slither, OpenZeppelin)
⇨ Career Roles: Blockchain Architect,
   Smart Contract Dev, Auditor
⇨ Resume + LinkedIn Tips for Web3 Jobs

Final Capstone Presentations & Evaluation

Objective: Validate knowledge through demos

⇨ Group Capstone Demos
⇨ Viva/Presentation
⇨ Assessment (MCQ, Hands-on)
⇨ Certification Distribution
⇨ Feedback & Future Roadmap Discussion

Our Students Are Placed In

tcs TATA CONSULTANCY SERVICES	Capgemini	LTIMindtree	accenture
CLOUD9	CloudCover	Coforge	CGI	CISCO	Cloud4C TIER 4 CLOUD	amazon
databricks	dataflex	DXC TECHNOLOGY	Cognizant	Convergytics	CSS CORP	Medtronic
genpact	HCL	HSBC	Deloitte.	EMIDS	Foray	STIC Soft When you need the results
Infosys	Legato	MINDGRAPH	Mindtree	motivitylabs Innovation as a Service	photon	meslova
pwc	quantiphi	RENAULT Passion for life	SIGMASOFT® Virtual Molding	SOFTILITY	syren cloud	splashBI
TIGER ANALYTICS	wipro	ENVISION	virtusa	ValueLabs	zensor.	SOLIX Empowering Data Management
JRD SYSTEMS	ValueLabs	archents	magnasoft	Innominds Powering the Digital Next	techforce.ai	{↗} techolution