



Decentralized Finance (DeFi) Training Course: Protocols and Markets

4 – 8 January 2027
Cape Town (South Africa)





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Decentralized Finance DeFi Training Course: Protocols and Markets is a 5-day intermediate course on analyzing decentralized protocols, evaluating automated market makers, and managing smart contract exposure. It is designed for treasury professionals, risk analysts, asset managers, and compliance specialists entering decentralized liquidity pools and yield platforms. You will complete and take back the DeFi Protocol Risk and Market Evaluation Matrix. The course is delivered by Mercury Training Center.

About This Course

Institutional exposure to digital market protocols requires evaluating decentralized liquidity, liquidation rules, and code transparency without traditional intermediaries. To follow this course, you should already understand balance sheet fundamentals, market liquidity concepts, and digital wallet operation. You practice by stress-testing automated pricing curves, reviewing contract access controls, and diagnosing oracle vulnerabilities step by step.

Who It Is For

- Treasury staff responsible for exploring alternate collateral, automated money markets, and yield strategies
- Risk officers responsible for monitoring market volatility, collateral liquidations, and protocol vulnerabilities
- Compliance officers responsible for examining decentralized asset transactions and tracing unhosted wallet fund flows
- Investment analysts responsible for appraising liquidity pools, tokenized real-world assets, and automated trading platforms
- Fintech product managers responsible for designing institutional connections to decentralized settlement networks

This course is not for software engineers seeking deep smart contract coding tutorials, who are better served by a specialized protocol development course, nor for absolute beginners needing basic personal banking concepts, who are better served by an introductory financial literacy course.

Competencies You Will Build

- Protocol Architecture Analysis: you evaluate decentralized protocol layers to determine operational dependency and governance concentration
- Automated Market Pricing: you calculate trade slippage and capital efficiency across constant product formulas and concentrated liquidity pools
- Decentralized Lending Appraisal: you evaluate collateralized debt positions, liquidation loan-to-value triggers, and interest rate model mechanics
- Oracle Integrity Verification: you assess data feeds, reporting latency, and pricing sources to protect transactions against price manipulation
- On-Chain Transaction Tracing: you track transaction flows across public ledgers to identify mixing patterns and transaction structuring
- Protocol Exposure Governance: you establish risk appetite boundaries, smart contract audit standards, and contingency pause procedures

What You Will Be Able to Do

By the end of the course you will be able to:

- From a protocol technical specification, diagram the flow of collateral, governance rights, and liquidation triggers
- Using pool reserve data, compute price impact and impermanent loss across constant product invariant curves
- Given historical price volatility records, model liquidation risks and solvency margins for over-collateralized borrowing protocols
- From decentralized oracle transaction logs, identify deviation thresholds and stale price updates before protocol liquidation triggers execute
- Using block explorer transaction trees, trace asset transfers across Layer-2 scaling networks to verify beneficiary wallet paths
- From an institutional risk policy document, compile protocol onboarding criteria that balance yield targets with counterparty exposure limits

Course Content

Day 1: Decentralized Infrastructure and Core Protocol Architecture

- Decentralized Settlement Layers and Layer-2 Execution Networks
- Smart Contract Execution Logic and Composable Architecture Patterns
- Decentralized Governance Systems and Voting Influence Concentration
- Decentralized Identifiers and Unhosted Wallet Operational Controls
- Protocol Custody Models Versus Centralized Exchange Asset Holding

Day 2: Automated Market Makers and Liquidity Mechanisms

- Constant Product Invariant Formulas in Decentralized Exchange Pools
- Concentrated Liquidity Allocation and Dynamic Capital Efficiency Models
- Impermanent Loss Calculation and LP Fee Offset Quantification
- Flash Loans and Arbitrage Rebalancing Across Competing Market Venues
- Maximal Extractable Value Detection and Transaction Ordering Effects

Day 3: Decentralized Lending, Stablecoins, and Real-World Assets

- Collateralized Debt Positions and Automated Loan-to-Value Liquidation Triggers
- Algorithmic and Asset-Backed Stablecoin Solvency Stress Testing
- Decentralized Oracle Networks and Price Feed Manipulation Vectors
- Real-World Asset Tokenization Structures for Institutional Debt Instruments
- Staking Mechanisms and Algorithmic Yield Aggregation Protocols

Day 4: On-Chain Compliance, Monitoring, and Protocol Risk

- On-Chain Transaction Monitoring Frameworks for Unhosted Wallet Transfers
- Structuring and Chain-Hopping Pattern Recognition on Public Ledgers
- Smart Contract Audit Review and Static Analysis Verification
- Decentralized Autonomous Organization Legal Wrapper Models
- Cross-Chain Bridge Vulnerabilities and Collateral Locking Risks

Day 5: Applied Protocol Analysis and Framework Finalization

- Exercise Modeling Slippage and Pool Depletion Under Heavy Market Volatility
- Exercise Auditing Decentralized Lending Collateral Solvency During Extreme Drawdowns
- Exercise Tracing Suspicious Transaction Routes Across Decentralized Bridges
- Protocol Emergency Incident Response and Governance Action Simulation
- Completing and Presenting the DeFi Protocol Risk and Market Evaluation Matrix

Case Studies and Exercises

The following are suggested activities used during the course.

- Case study: an investment fund evaluating decentralized liquidity pools; you calculate impermanent loss, examine slippage under volume spikes, and determine capital deployment parameters.
- Case study: a commercial lending institution exploring real-world asset tokenization; you design over-collateralized loan parameters, define liquidation oracle feeds, and set loan-to-value triggers.
- Exercise: a cross-border corporate payments treasury; you trace transaction paths through decentralized liquidity pools, verify transaction confirmations, and flag suspicious structuring.
- Exercise: a decentralized lending market experiencing rapid collateral depreciation; you simulate automated liquidation executions, compute shortfall risk, and initiate emergency pause protocols.



What You Take Back

You return with the DeFi Protocol Risk and Market Evaluation Matrix to review protocol deployments across your organization. In your first month back, you use it to evaluate counterparty exposure, screen automated liquidity pools, and benchmark protocol safety parameters against institutional operational criteria.

- Quantitative automated market maker slippage and impermanent loss calculation templates
- Decentralized lending risk scorecard with liquidation thresholds and oracle verification checklists
- On-chain compliance tracing matrix for transaction route analysis and counterparty screening
- Institutional protocol onboarding policy guide covering smart contract audit verification

Quick Answers FAQ

What should I know before Decentralized Finance DeFi training?

You should understand basic balance sheet mechanics, financial liquidity, and digital asset wallets. Familiarity with market volatility concepts and basic transaction execution will help you follow the mathematical modeling and architectural analysis.

How does Decentralized Finance DeFi training differ from general blockchain training?

General blockchain training focuses on distributed ledger fundamentals, hashing, and consensus protocols. This course concentrates directly on financial market infrastructure, pricing formulas, lending mechanisms, decentralized risk management, and institutional protocol analysis.

Why do financial institutions evaluate decentralized protocols and automated markets?

Institutions evaluate decentralized protocols to access round-the-clock liquidity, automate collateralized lending without intermediaries, and tokenize real-world assets. Evaluating these markets ensures organizations identify smart contract risks, oracle dependencies, and compliance requirements before committing institutional assets.

What work product do I take back from Decentralized Finance DeFi training?

You take back the DeFi Protocol Risk and Market Evaluation Matrix, which includes quantitative liquidity templates, lending solvency checklists, oracle verification matrices, and protocol onboarding guidelines for your organization.



For Your Manager

After completing this course, your team member will be able to assess decentralized liquidity protocols, evaluate automated lending risks, and identify oracle and compliance vulnerabilities across decentralized markets. They return with the DeFi Protocol Risk and Market Evaluation Matrix, which they will immediately apply to establish protocol evaluation criteria, benchmark liquidity risks, and safeguard institutional digital asset initiatives.