



Market Khiadi Training Institute

Advanced Algo Trading Program

Course Fees- 15,000

Duration- 6 Weeks

CURRICULUM

Module 1: Introduction to Financial Markets and Algorithmic Trading

- Understanding Financial Markets
- Basics of Trading and Investment
- Evolution of Algorithmic Trading
- Significance of Algo Trading in the Financial Industry

Module 2: Quantitative Analysis and Statistical Concepts

- Introduction to Quantitative Analysis
- Time Series Analysis
- Probability and Statistics for Algo Traders
- Risk and Return Metrics

Module 3: Programming Fundamentals for Algorithmic Trading

- Introduction to Programming Languages (Python, R, etc.)
- Basics of Data Structures and Algorithms
- Web Scraping and Data Extraction
- API Integration for Market Data

Module 4: Market Microstructure and Order Execution

- Market Participants and Structure
- Order Types and Execution Strategies
- Impact of Market Microstructure on Trading
- Best Execution Practices

Module 5: Algorithmic Trading Strategies

- Trend Following Strategies
- Mean Reversion Strategies
- Momentum Strategies
- Statistical Arbitrage
- Pairs Trading

Module 6: Backtesting and Optimization

- Importance of Backtesting
- Building a Backtesting Framework
- Performance Metrics and Analysis
- Optimization Techniques

Module 7: Risk Management in Algo Trading

- Understanding and Managing Risk
- Position Sizing and Portfolio Management
- Stress Testing and Scenario Analysis
- Contingency Planning

Module 8: High-Frequency Trading (HFT) and Machine Learning in Algo Trading

- Overview of High-Frequency Trading
- Machine Learning in Finance
- Applying Machine Learning to Algo Trading
- Challenges and Opportunities in HFT

Module 9: Regulatory and Ethical Considerations

- Regulatory Framework for Algorithmic Trading
- Compliance and Reporting
- Ethical Considerations in Algo Trading
- Case Studies of Regulatory Issues

Module 10: Practical Implementation and Real-Time Trading

- **Setting up a Trading Environment**
- **Implementing Algo Trading Strategies**
- **Monitoring and Adjusting Strategies in Real Time**
- **Infrastructure and Connectivity**

Note: This course content provides a comprehensive outline for an Algo Trading program. The depth and complexity of each module can be adjusted based on the target audience and the intended level of expertise. Additionally, incorporating hands-on exercises, case studies, and guest lectures from industry experts can enhance the learning experience.