

MARKET: 21%

Theory and History: 9%

- History of financial markets (historical market events, bubbles, crashes)*
- History of technical analysis*
- Modern Portfolio Theory*
- Dow theory*
- Behavioral finance*

Markets: 5%

- Historical market data (non-trading days/hours, characteristics of various markets)*
- Traditional asset classes (equities, fixed income, commodities)*
- Alternative asset classes (derivatives, private equity, managed futures, real estate)*
- Currencies*
- Non-US markets*
- Market indices*
- Exchanges*

Markets Indicators: 7%

- Breadth indicators (A/D, up/down, volume)*
- Index construction*
- Government/Fed reports (treasury data, monetary policy, Fed holdings, CPI)*
- Private money flows (mutual fund holdings, corporate liquidity holdings)*
- Sentiment measures (put-call ratio, investor polls)*
- Volatility (VIX, historical, implied)*

CHART DEVELOPMENT & ANALYSIS: 47%

Constructing Charts: 5%

- Scaling methods (arithmetic, logarithmic, semi-log)*
- Line charts*
- Bar charts*
- Candlestick charts*
- Point and figure charts*
- Volume*

Trend Analysis: 16%

- Trendlines*
- Regression analysis*
- Moving averages*

Chart and Pattern Analysis: 23%

- Classic pattern recognition*
- Candlestick pattern recognition*
- Elliot Wave principal*
- Fibonacci price analysis*
- Support and resistance*
- Relative strength index (RSI)*
- Moving average convergence/divergence (MACD)*
- Bollinger bands*
- Stochastics*

Confirmation: 3%

- Open interest and volume*

TECHNICAL INVESTMENT STRATEGIES: 18%

Cycles: 5%

- Business cycles*

Selection and Decision: 13%

- Relative strength*
- Forecasting techniques (pattern and trend recognition)*

SYSTEM TESTING: 5%

System Testing: 5%

- Backtesting*
- Order execution and slippage*

STATISTICAL ANALYSIS: 6%

Statistical Analysis: 6%

- Descriptive statistics (mean, median, mode)*
- Fundamentals of probability*

ETHICS AND STANDARDS OF PRACTICE: 3%

MARKET: 13%

Theory and History: 5%

Behavioral finance
Adaptive Market Hypothesis

Market Indicators: 8%

Breadth indicators (A/D, up/down volume)
Index construction
Sentiment measures (put-call ratio, investor polls)
Volatility (VIX, historical, implied)

CHART DEVELOPMENT & ANALYSIS: 39%

Constructing Charts: 3%

Volume

Trend Analysis: 15%

Trendlines
Multiple time frame analysis
Breakouts (from channels or chart patterns)
Moving averages
Trend strength indicators (DMI, ADX, etc.)

Chart and Pattern Analysis: 15%

Gap analysis
Support and resistance

Confirmation: 6%

Oscillators and divergence
Sector rotation
Intermarket signals

TECHNICAL INVESTMENT STRATEGIES: 13%

Cycles: 3%

Seasonal cycle

Selection and Decision: 10%

Non-correlated assets
Relative strength
Forecasting technique (pattern and trend recognition)

RISK MANAGEMENT: 15%

Risk Management: 15%

Absolute and relative risk (total risk v. risk compared to benchmark)
Risk modeling
Value at risk
Volatility risk
Liquidity risk
Diversification
Stops v. hedging
Leverage risk
Portfolio risk management (market neutral, hedging strategies)
Measures of risk (maximum cumulative drawdown, net profit to drawdown, maximum consecutive losses, largest losses, longest flat time, time to recovery, maximum favorable and adverse excursions)
Risk-based performance measures

SYSTEM TESTING: 10%

System Testing

Algorithmic development
Optimizing entry and exit rules
Equity curve analysis
Position size rules (Tharp's methods, Kelly criterion, Optimal f)
Profit measures (profit factor, outlier-adjusted profit to loss, percentage of winning trades, annualized rate of return, payoff ratio, length of average winning trade, efficiency factor)

STATISTICAL ANALYSIS: 7%

Statistical Analysis

Inferential statistics (correlation, regression, t-test)

ETHICS AND STANDARDS OF PRACTICE: 3%

RISK MANAGEMENT: 21%

Risk Management

Risk management (basics of probability & statistics, modeling risk factors, number of assets and impact on portfolio, managing risk through correlation, VAR, performance and risk metrics, market volatility and fat-tailed distributions, correlation and diversification, managing individual trade risk, managing risk for an entire portfolio)

Position sizing

Quantitative and Statistical analysis

System development and testing

ASSET RELATIONSHIPS: 18%

Asset Relationships

Intermarket analysis

Relative strength

Sector rotation

PORTFOLIO MANAGEMENT: 18%

Portfolio Management

Portfolio management (performance measurement, portfolio allocation, asset correlation, asset allocation, alternative investments, risk management with alternatives)

CLASSICAL METHODS: 21%

Classical Methods

Sentiment

Market breadth

Market forecasting

Price patterns

Volume study and analysis

Candlestick analysis

Oscillators or various technical studies

BEHAVIORAL FINANCE: 10%

Behavioral Finance

Behavioral finance

VOLATILITY ANALYSIS: 7%

Volatility Analysis

Volatility Analysis

ETHICS AND STANDARDS OF PRACTICE: 5%