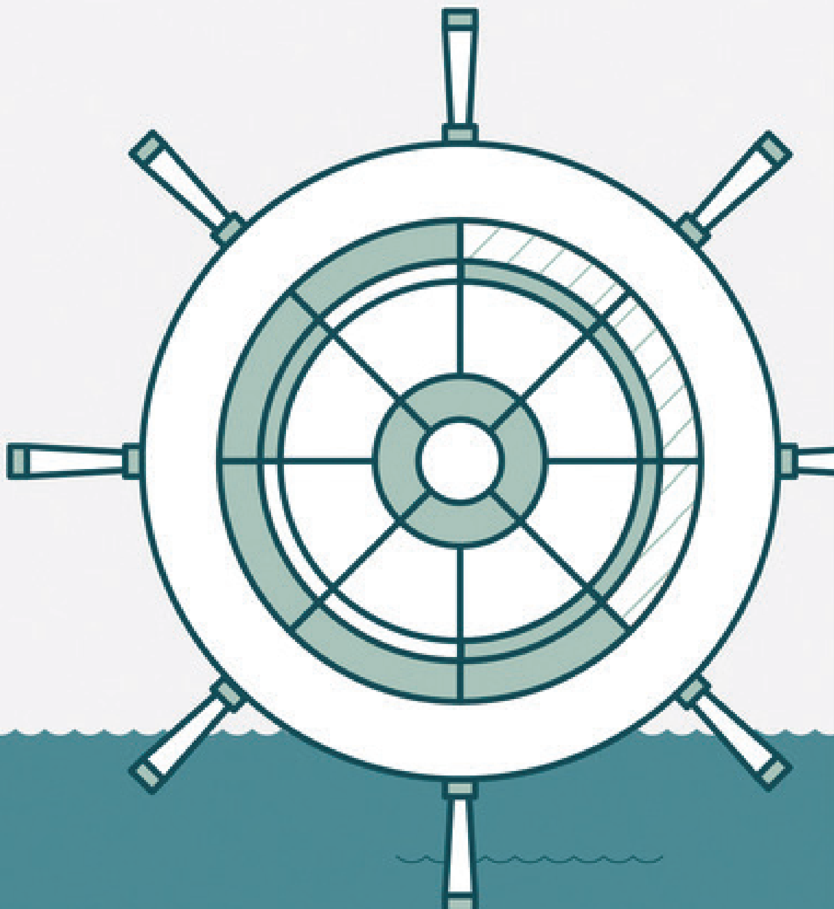
CMT ASSOCIATION

CMT LEVEL III CURRICULUM

2021

CHARTERED MARKET TECHNICIAN EXAM

THE INTEGRATION OF
TECHNICAL ANALYSIS



WILEY

CMT® Level III 2021 Curriculum

Section I: Risk Management

1. System Design and Testing

Assess the value and challenges of using a system for trading or investing

Compare and analyze differences between discretionary and nondiscretionary systems

Evaluate the mind-set and discipline required to develop and trade with a system

Organize the basic procedures for designing a system

Inventory types of technical trading systems

Defend the necessity of risk management protocols in a trading system

Examine critical aspects of performing system tests

Compare and evaluate standard measures of system profitability and risk

Differentiate between various methods of optimization

2. Money and Portfolio Risk Management

Distinguish between trading strategies and money-management strategies

Evaluate the significance of the theory of runs and a martingale strategy

Model position size using risk of ruin and optimal f methods

Differentiate between diversifiable and correlated risk

Compare and analyze the various types of stops used to manage risk

Assess the minimum capital needed for trading a system

3. System Evaluation and Testing

Choose factors for system testing including objectives, parameters and test data

Assess the use of in-sample and out-of-sample data

Evaluate optimized test results for continuity and significance using a variety of visualization methods

Explain the basics of using genetic algorithms

Illustrate the concept of robustness in a trading system

Critique the use of performance and risk metrics based on a given objective

Section I: Risk Management

4. Practical Considerations

Plan for system development and testing: data, techniques, and initial evaluation of results

Assess the potential impact of price shocks and formulate plans for managing them

Assess the impact of runs and martingales on a trading system

Evaluate the trade-offs between trend-following and mean-reverting systems

5. Risk Control

Compare risk and performance metrics derived from the following: Sharpe Ratio, Information Ratio, Treynor Ratio, Calmar Ratio, Sortino Ratio

Interpret calculations of Value at Risk (VaR)

Compare various methods for setting stops and profit targets

Model position size using various capital and volatility approaches in this chapter

Compare approaches to compounding positions

Calculate the risk of ruin

Calculate optimal f

6. Statistical Analysis

Assess random and nonrandom trends in trading system performance

Examine sampling and sample statistics in trading

Calculate relative frequency

Organize six elements of a statistical inference problem

Differentiate between theoretical and empirical probabilities

Derive a sampling distribution

7. Hypothesis Tests and Confidence Intervals

Differentiate between necessary and sufficient conditions

Compare the assertions of the null and alternative hypotheses

Defend why the null hypothesis should be framed as the target of a test

Section II: Asset Relationships

8. Regression

Assess values generated by regression, multiple regression and tolerance calculations

Select meaningful predictor variables for multiple regression studies

9. International Indices and Commodities

Assess values generated by regression, multiple regression and tolerance calculations

Select meaningful predictor variables for multiple regression studies

10. The S&P 500

Compare general correlations among the S&P 500, international indexes and other markets discussed

11. European Indices

Compare general correlations among international indexes, stocks and other markets discussed

12. Gold

Compare general correlations among gold, dollar, stocks and indexes

13. Intraday Correlations

Evaluate correlation characteristics in various timeframes among the index futures discussed

14. Intermarket Indicators

Construct relative strength studies and evaluate the results

Compare intermarket indicators described in this chapter

Prepare recommendations based on asset correlation data

15. A Unique Way to Visualize Relative Strength

Evaluate the trend and momentum of relative strength using Relative Rotation Graphs (RRG)

Assess relative strength using the indicators derived from the RRG concept

Section III: Portfolio Management

16. Fact, Fiction, and Momentum Investing

Defend the use of momentum strategies using historical data

Argue against common myths about momentum strategies

17. Analyzing the Macro-Finance Environment

Assess the business cycle, the financial cycle and their relationship

Manage a sector rotation model based on the business and financial cycles

Use leading, coincident and lagging indicators of economic activity

18. Portfolio Risk and Performance Attribution

Assess the statement “total risk = volatility = standard deviation of returns”

Compare the three formulations of total risk

Defend the assertion that “diversification reduces only firm-specific risk”

Defend beta and its role in assessing portfolio risk

Employ the Sharpe and Treynor ratios for individual stocks and portfolios

Section IV: Behavioral Finance

19. Behavioral Biases

Distinguish between two types of biases: cognitive and emotional

Formulate plans to counter behavioral biases in making investment decisions

Propose methods to capitalize on the behavioral biases of other market participants

Examine the specific behavioral biases in each of those categories

20. Investor Psychology

Inventory general behavioral aspects that impact price action

Evaluate behavioral elements that contribute to the development of chart patterns

Evaluate behavioral elements that contribute to the persistence of trends

Evaluate behavioral elements that contribute to periods of consolidation

Evaluate behavioral elements that contribute to trend reversals

21. Are Two Heads Better than One?

Assess the negative consequences of group/committee decision making

Organize approaches to mitigating the effects of group biases

22. The Anatomy of a Bubble

Diagram the five stages of a bubble

Assess the characteristics of each of the five stages

Assess hypothetical market environments to identify what stage they indicate

23. De-Bubbling: Alpha Generation

Assess the three cross-section strategies that should benefit from a de-bubbling/deflationary period

24. Behavioral Techniques

Evaluate market reactions to events: planned news releases versus price shocks

Estimate reactions to events using the volatility ratio

Assemble a COT Index and a COT Sentiment Index from Commitments of Traders (COT) data

Section V: Volatility Analysis

25. The VIX as a Stock Market Indicator

Compare movement in the VIX and the S&P 500

Evaluate VIX and VIX futures price relationships for signals

Formulate market forecasts that include volatility as an input

26. Hedging with VIX Derivatives

Defend the rationale behind hedging with VIX products

Propose hedge strategies using VIX options and futures

27. Advanced Techniques

Assess market reactions to events: planned news releases versus price shocks

Compare several measures of volatility

Calculate profit targets and stop-loss levels using volatility

Evaluate methods for filtering a system's signals based on volatility

Assess how fractal, chaos and entropy concepts may be applied to trading

Explain the basics of using neural networks

Explain the basics of using genetic algorithms

Section VI: Classical Methods

28. Pattern Recognition

Compare and evaluate pivot points and DeMark's calculations for price ranges

Examine intraday data for idiosyncratic patterns in varios markets

Assess the use of opening gaps as trading signals

29. Multiple Time Frames

Evaluate chart data using Elder's, Krausz's and Pring's multiple time-frame methods

Defend Krausz's six rules for multiple time frames

30. Candlestick Analysis

Evaluate the strengths and weaknesses of candlestick charts

Categorize reversal and continuation candlestick patterns

Interpret the nine important price action guidelines

Assess the significance of various Japanese candlestick patterns to pinpoint reversals and breakouts

Integrate candlestick charts with other technical studies

31. Progressive Charting

Evaluate candle patterns as they develop in a chart

Compose responses to the four questions posed at the outset of the chapter

32. Bringing It All Together: Real-World Charts

Predict likely price action based on candlestick patterns and the overall context of the price action

Propose entry and exit points based on patterns, price action and risk

Assess trend persistence based on candlestick patterns and the overall context of the price action

32. Conclusions

Assess the validity of the 12 major conclusions about technical indicators the authors present

Defend the use of technical indicators when properly employed in a variety of market environments