Domain/Chapters	Topics Included
Risk Management/1–9	System Development and Management, Risk Control, Behavioral Techniques, Multiple Time Frames
Asset Relationships/10–17	Regression, Asset Indices and Measures, Intraday Correlations, Intermarket Indicators, Visualizing Asset Relationships
Portfolio Management/18–21	Analyzing Macro Environments, Business Cycles, Portfolio Risk, Performance Measures, Statistical Analysis, System Validation
Behavioral Finance/22–27	Causality and Statistics, Illusions, Biases, Protecting against Bubble Behavior
Volatility/28–29	Historical and Implied Volatility, the VIX Index, Hedging with VIX Options, Forecasting with the VIX Index and Futures
Classical Methods/30–57	Candlestick Patterns, Price Patterns, Statistics of Pattern Performance, Momentum Investing, Technical Indicator Performance

Level III Learning Objectives by chapter

1.	System Design and Testing

- Explain the importance of using a system for trading or investing
- Compare and analyze differences between a discretionary and nondiscretionary
- system
- Describe the mind-set and discipline required to develop and trade with a system
- Explain the basic procedures for designing a system
- Describe the role that risk management plays in system design
- Identify and evaluate various ways to test a system
- Compare and analyze standard measures of system profitability and risk

2.	Money and Portfolio Risk Management

- Calculate and measure risk as it relates to money management
- Describe the significance of a martingale betting strategy to trading applications
- Differentiate between diversifiable versus correlated risk
- Compare and analyze the various types of stops used to manage risk
- Describe how to calculate the minimum capital needed for trading a system
- Determine an appropriate percentage of capital to allocate toward one system

3.	Behavioral Techniques

- Identify the three major time frames in which the American media could be viewed as providing trading signals
- Using the Volatility Ratio, compare the volatility of an event day in a stock to most other days in the same stock
- Summarize the results of event studies referenced in this chapter
- Apply the guidelines for reading the Commitment of Traders reports into a rule for a trading system or investing methodology

4.	Pattern Recognition

- Analyze potential patterns in price data and describe why they may be valid as a trading signal
- Analyze potential trading opportunities based on gaps in price data
- Distinguish those signals based on gaps that are likely to be worthwhile trading signals from those which are not likely to be worthwhile

5.	Multiple Time Frames

- Demonstrate that you can evaluate price and chart data using one of the three multiple time frame methods described in this chapter
- Explain two benefits for using Multiple Time Frames in trading

6.	Advanced Techniques

- Analyze the relationship between a system's entry signals and changes in market volatility
- Distinguish whether a system's entry signal should be filtered based on liquidity
- Calculate the expected move of an index or security based on volatility measures
- Explain the basics of using Fractal Efficiency, Chaos Theory or genetic algorithms in trading
- Explain the basics of using Neural Network (Machine Learning) programming to trade with market data

7.	System Testing

- Critique the use of performance and risk metrics based on a given objective
- Interpret data from a system test to determine lack of randomness in the results
- Explain the differences of various performance metrics and why one is more suitable than another for a given objective
- Interpret the Sharpe ratio for trading systems, portfolios, and individual securities

8.	Practical Considerations

- Explain what checks can be made to verify the validity of daily data
- Differentiate between general problems encountered when testing a system with deeper issues such as the assumptions of the developer
- Construct a rule to take advantage of combining the Theory of Runs with the direction of a trend

9.	Risk Control

- Explain how to measure probability of price change and returns over a given time frame
- Explain how to measure risk factors such as news, volatility, etc.
- Interpret calculations of VaR
- Compare VaR calculation to confirm selection of stop placement
- Calculate the amount of money at risk in a portfolio based on a specified scenario
- Differentiate between risk and performance metrics derived from one of the following: Sharpe ratio, Information Ratio, Treynor Ratio, Calmar Ratio, Sortino Ratio

10.	Regression

- Identify the assumptions of regression
- Differentiate between data from a linear regression and data from a multiple regression

11.	International Indices and Commodities

- Describe the different international indexes and commodities

12.	The S&P 500

- Describe general correlations noticed between the S&P 500 and International Indices

13.	European Indices

- Describe general correlations noticed between the European Indices and other indices or commodities

14.	Gold

- Describe general correlations noticed between the Gold and other indices

15.	Intraday Correlations

- Identify the strongest correlations in various timeframes between the listed index futures in this chapter

16.	Intermarket Indicators

- Analyze and interpret relative strength of different assets
- Analyze and interpret Bollinger Band Divergence signals
- Interpret data from multiple regression divergence signals to predict a target market
- Prepare a recommendation or other response based on asset correlation data

17.	Everything is Relative; Strength is Everything
▪ Interpret Relative Rotation Graphs ▪ Explain how Relative Rotation Graphs are an example of a novel approach to visualizing relative strength	

18.	Analyzing the Macro-Finance Environment
▪ Forecast possible progression of a business cycle model ▪ Explain the relationship between the business and financial cycles ▪ Identify leading, coincident and lagging indicators of economic activity	

19.	Portfolio Risk and Performance Attribution
▪ Explain the differences of various performance metrics and why one is more suitable than another for a given objective ▪ Interpret the Sharpe and Treynor ratios for individual stocks and portfolios ▪ Explain the characteristics of different alternative investment types and why a portfolio manager might consider using them	

20.	Statistical Analysis
▪ Differentiate between random and nonrandom trends in data from system performance. ▪ Analyze fat-tailed distributions among returns data ▪ Explain how to measure probability of price change and returns over a given time frame ▪ Explain how to calculate relative frequency ▪ Derive a sampling distribution	

21.	Hypothesis Tests and Confidence Intervals
▪ Explain why the null hypothesis should be the target of any system developer's research ▪ Interpret data used for statistical inference	

22.	Causality and Statistics
▪ Explain why most people make the error of drawing conclusions from data and identify the kinds of errors they are likely to make	

23.	Illusions
▪ Describe and Identify the more common cognitive illusions that investors are prone to make	

24.	The Story is the Thing (the allure of Growth)
	▪ Describe some common misconceptions investors make by looking for evidence of growth globally.

25.	Are Two Heads Better Than One?
	▪ Explain three possible means for reducing group biases

26.	The Anatomy of a Bubble
	▪ Explain and recognize evidence for the five stages of a bubble

27.	De-Bubbling: Alpha
	▪ Identify and explain the three cross-section strategies that should benefit from a de-bubbling/deflationary period.

28.	The VIX as a Stock Market Indicator
	▪ Contrast different measures of volatility Interpret changes in volatility as a signal useful for forecasting ▪ Explain how volatility can be an integral part of a market forecast

29.	Hedging with VIX Derivatives
	▪ Identify the subcomponents of portfolio volatility ▪ Explain how portfolio volatility may be affected by diversification

30.	Introduction to Candlestick Charts
	▪ Identify and interpret candlestick patterns ▪ Validate a forecast with candlestick patterns

31.	Findings
	▪ Point out one or more of the 18 findings in this chapter as supporting evidence for a forecast or other technical observation based on given chart data

32.	Statistics Summary
	▪ Identify the top three performing candle patterns (with more than 100 samples) in each of the categories listed in this chapter

33 to 46.	Various Candle and Price Patterns

- Interpret potential price moves based on the patterns described in these chapters
- Calculate potential price targets
- Evaluate price levels for potential support or resistance
- Identify and Interpret signals from various oscillators and technical studies

47 to 55.	Event-Based Patterns

- Interpret potential price moves based on the patterns described in these chapters
- Calculate potential price targets
- Evaluate price levels for potential support or resistance
- Identify and Interpret signals from various oscillators and technical studies in conjunction with the event-based patterns listed in these chapters

56.	Fact, Fiction and Momentum Investing

- Explain valid reasons for establishing strategies based on momentum investing styles and momentum-based price patterns

57.	Conclusions

- Explain why each of the observations listed in this chapter are applicable as general guidelines of validity to most systems of trading or investment that are based on technical analysis
- Validate a trading system by comparing it to the observations stated in this chapter