

COURSE SYLLABUS FOR FULL-TIME UNDERGRADUATE PROGRAMS

(Issued under Decision No.1380/QĐ-DHKTQĐ on 15/8/2016 by the University President)

1. COURSE NAME: Technical Analysis in Finance

Code: TOTC1103

Number of Credits: 02

2. DEPARTMENT IN CHARGE OF INSTRUCTION:

Department of Mathematical Finance

Office: Faculty of Economic Mathematics

Office Hours: Working hours, the working day

Office Telephone: (84) 04 3628 3007

3. PRE-REQUISITES:

Computer Skill, Microeconomics 1, Macroeconomics 1, Statistic.

4. COURSE DESCRIPTION:

Technical Analysis in Finance is an elective content for the third and fourth year students majoring in applied mathematical economics.

Technical analysis employs mathematical models (charts, domain transformations, probability and statistics, ...) based on the past and present market data price in order to show the market state at a specific time, and predict market movements (prices go up, go down or hover), or evaluate the relationship between the price increase and price decrease. Technical analysis analyzes historical data of stocks about price, volume,... not the financial index, development, or data about markets and companies.

Technical analysis is widely used among traders and financial professionals and is very often used by active day traders, market makers and pit traders. As the validation tool, technical methods are combined with non-technical methods to forecast the trend of price. By these combinations, investors can give accurate and optimal conclusions.

As the prediction tool, technical analysis is used to predict future prices. However, in fact, technical analysis cannot forecast the future, it only describes the past market state with a lag. So investors must take into account the safe probability and accept prediction risk. Thanks to technical analysis, investors can increase profitable trading decisions and reduce unprofitable ones.

5. COURSE OBJECTIVES:

Briefly, the course's objectives are to help students:

- ✓ Understand technical analysis theories, chart patterns, indicators in Technical Analysis field.
- ✓ Apply technical analysis theories, tools and use softwares in order to analyse Vietnamese and global financial market.

6. COURSE OBJECTIVES:

TENTATIVE SCHEDULE

| <i>No.</i> | <i>Topics</i> | <i>Number of teaching periods</i> | <i>In details</i> | | <i>Note</i> |
|------------|---------------|-----------------------------------|-------------------|---|---|
| | | | <i>Theory</i> | <i>Exercises, discussion, examination</i> | |
| 1 | Chapter 1 | 10 | 6 | 4 | Practising on the computer and group presentation |
| 2 | Chapter 2 | 14 | 8 | 6 | |
| 3 | Chapter 3 | 6 | 3 | 3 | |
| | Total | 30 | 17 | 13 | |

CHAPTER 1 – OVERVIEW OF TECHNICAL ANALYSIS

Technical analysis is a method of predicting price movements and market trends by analyzing the price statistics generated by market activity, such as past prices and volume. Technical analysts do not attempt to measure a security's intrinsic value, but use charts and other tools to identify patterns that can suggest future activities.

Technical analysis is a forecasting method of market trend through the study of the past market data, psychology, probability rules. Technical analysis assumes that, at any given time, a stock's price reflects things that affect or could affect the market - including fundamental factors, political events, natural disasters, psychological factors,... In other words, these factors are all quickly reflected into price movements.

This chapter will describe the basic concepts in technical analysis. This chapter includes the following topics:

- 1.1. Basic concepts in technical analysis
- 1.2. Chart Types
- 1.3. Trend Lines
- 1.4. Dow Theory
- 1.5. Chart Patterns
 - 1.5.1. “Head and shoulders”
 - 1.5.2. “Triangles”
 - 1.5.3. “Cup and Handle”

1.5.4. “Flag”

1.5.5. Other chart patterns

References:

- 1) Pham Thi Nga, handouts of lectures
- 2) Murphy, John J. (1999), *Technical Analysis of the Financial Markets*, New York Institute of Finance.
- 3) Robert D. Edwards, John Magee (2001), *Technical Analysis of Stock Trends*, 8th edition, University Francisco.

CHAPTER 2 – TECHNICAL INDICATORS

In technical analysis, a technical indicator is a mathematical calculation based on historical price and/ or volume from which analyze the price action. The goals in using indicators is better identifying current and emerging trends, and the reversal trend points, in order to increase profitable investing and trading decisions and decrease unprofitable ones. Technical indicators are used mainly by short-term traders. With the long-term investors, indicators are used effectively to establish when trends exist and to find entry/exit points. This chapter describes the most common technical indicators and provides examples of how they can be used effectively in measuring aspects of market trends.

- 2.1. Moving Averages: MA, SMA, EMA
- 2.2. MACD
- 2.3. RSI
- 2.4. Bollinger bands
- 2.5. Other indicators: MFI, CCI, OBV, Momentum, Stochartic, ADX, Parabolic, ...

References:

- 1) Pham Thi Nga, handouts of lectures
- 2) Murphy, John J. (1999), *Technical Analysis of the Financial Markets*, New York Institute of Finance.
- 3) Robert D. Edwards, John Magee (2001), *Technical Analysis of Stock Trends*, 8th edition, University Francisco.

CHAPTER 3 – EXPANDING ISSUES

Elliott wave theory is used to analyze the financial market cycles and forecast market trends by identifying investors' reactions to outside influences, or predominant psychology of the masses at the time. This chapter covers the details of Elliott wave theory and some additional issues.

- 3.1. Elliott Wave Theory
- 3.2. Combining technical analysis indicators
- 3.3. ICHIMOKU theory

References:

- 1) Pham Thi Nga, handouts of lectures
- 2) Steve Nison (1991), *Japanese Candlestick Charting Techniques: A Contemporary Guide to the Ancient Investment Techniques of the Far East*, New York Institute of Finance.

7. REQUIRED TEXTBOOKS & COURSE MATERIALS:

- 1) Pham Thi Nga, handouts of lectures

8. RECOMMENDED TEXTS & OTHER READINGS:

- 1) Murphy, John J. (1999), *Technical Analysis of the Financial Markets*, New York Institute of Finance.
- 2) Robert D. Edwards, John Magee (2001), *Technical Analysis of Stock Trends*, 8th edition, University Francisco.
- 3) Steve Nison (1991), *Japanese Candlestick Charting Techniques: A Contemporary Guide to the Ancient Investment Techniques of the Far East*, New York Institute of Finance.

9. ASSESSMENT & GRADING POLICY:

| <i>Assessment task</i> | <i>Weighting</i> |
|--|------------------|
| Mandatory attendance of 80% of the total hours + Homework assignments + Discussion | 10% |
| Presentation | 30% |
| Final examination | 60% |

Hanoi, 2016

HEAD OF DEPARTMENT

PRESIDENT

(signed)

(signed)

PhD. Hoang Duc Manh

Prof.Dr. Tran Tho Dat