

# ECON 3140B Financial Data Analysis Spring 2023

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Office Hours: Mon 2:30 pm – 4:00 pm or by appointment

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Lecture Time: Mon 12:30 noon – 1:15 pm, CK TSE  
Thu 8:30 am – 10:15 am, CK TSE

## Course Objectives and Learning Outcomes

This course aims to introduce contemporary approaches to technical analysis. Technical analysis involves the use of historical stock prices, volume, and other related data to forecast future price movements. Its objective is to identify trend changes at an early stage based on information available.

On completion of this course, students should be able to analyze financial data by using mainstream technical analysis techniques, evaluate the performance of different technical trading rules in different markets, and write a research paper on technical analysis.

## References

Reading materials of this course will be mainly based on the lecture handouts, which will be uploaded regularly at the Blackboard: <https://blackboard.cuhk.edu.hk>

Murphy (1999), [Technical Analysis of the Financial Markets](#), New York Institute of Finance

Pring (2014), [Technical Analysis Explained](#), McGraw-Hill

Soros (1994, 2003), [The Alchemy of Finance](#), John Wiley & Sons

There are many studies in the literature on technical analysis. You may go to the Library homepage, use the search engine "[EconLit](#)", type "trading rules" or "technical analysis" to search for those journal articles.

Useful websites:

<http://www.hkex.com.hk>  
<http://www.etnet.com.hk>  
<http://www.aastocks.com>

<http://www.google.com.hk/finance>  
<http://hk.finance.yahoo.com>  
<http://www.bloomberg.com>

## Assessment

**Term Paper = 25%                      Deadline: April 24**

- Each group should have no more than 4 members. The project is a 2000-word paper studying the profitability of trading rules. Data can be obtained from [Refinitiv Workspace \(DataStream\)](#) in the University Library website. Span of the time series data used in the project should be at least 10 years.
- All student groups must upload the electronic copy of their term papers to the plagiarism detection engine, VeriGuide. Term papers that without the VeriGuide receipt will not be graded.

**Mid-term Exam = 30%                      In-Class, March 16**

**Final Exam = 45%                      University Centralized Exam Period: April 26 to May 13**

- **Make-up exam will never be provided. Absence must lead to zero point.**

## **Teaching Schedule**

### Part 1. Brief Introduction to the Stock Market of Hong Kong and other Equity Markets

- The History of Hong Kong Stock market
- The Calculation of Hang Seng Index
- The Hang Seng Futures
- Commodity Market
- Forex Market

### Part 2. Chart Construction

- Type of Charts Available
- Construction of the Daily Bar Chart
- Weekly and Monthly Bar Charts
- Candlesticks

### Part 3. Chart Pattern Analysis

- Support, Resistance
- Trendlines, Channels, Trend Channels
- One-day Reversal, Two-day Reversal
- Blowoffs and Selling Climaxes
- V Formation and the Extended V Formation
- Double Bottoms and Double Tops
- Triple Tops and Bottoms
- Saucer Top or Rounding Top
- Saucer Bottom or Round Bottom
- Head-and-Shoulders Top
- Head-and-Shoulders Bottom
- Complex Head-and-Shoulders Pattern
- Head-and-Shoulders Consolidation
- Inverted Triangle, Symmetrical Triangle, Ascending Triangle, Descending Triangle
- Rising Wedge, Falling Wedge
- Rectangle
- Flag, Pennant
- Scallops, Fan Principle
- Gaps, The Island Reversal

### Part 4. Moving Average

- Simple Moving Average
- Weighted Moving Average
- Exponential Moving Average
- Moving-Average Channels
- Bollinger Bands

### Part 5. Oscillators Analysis

- Oscillators, Momentum
- Relative Strength Index
- Stochastics
- MACD
- DMI
- OBV

### Part 6. Warrants

- Covered and Noncovered Warrants
- American and European Warrants
- Premiums
- Gearings
- Profit-Loss diagram

### Part 7. The Elliott Wave Theory

- Corrective Waves
- The Rule of Alternation
- Channeling
- Fibonacci Numbers as the Basis of the Wave Principle
- Fibonacci Ratios and Retracements
- Using Fibonacci and Other Number Series to Establish Price and Time Targets

## **Academic Honesty**

The University adopts a zero-tolerance policy on cheating and plagiarism. Any related offence will lead to disciplinary action including termination of studies at the University. Details can be found at: <http://www.cuhk.edu.hk/policy/academichonesty>