

NATIONAL UNIVERSITY OF SINGAPORE
NUS Business School
Department of Finance

FIN3102C/FIN3702C INVESTMENT ANALYSIS & PORTFOLIO MANAGEMENT

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Course Objective

This is an introductory course in investments. It provides a comprehensive coverage of basic concepts, theories, applications and decision-making rules in financial investment.

Topics to be covered include fundamental security analysis on stocks, bonds, options and futures as well as modern portfolio management.

On completion, candidates should be conversant in investment management in preparation for careers in financial analysis and financial planning, investment banking, and corporate finance. Candidates should also be equipped to write the Chartered Financial Analysts (CFA) Level I examinations in quantitative analysis, equity securities analysis and portfolio management.

Basic Textbook

RBL: Reilly, Frank K., Brown, Keith C. and Leeds, Sanford J., *Investment Analysis and Portfolio Management*, Eleventh Edition, 2019, Cengage Learning, Inc.

Supplementary Readings

Students are expected to read financial news in *The Straits Times*. Students are encouraged to read *The Business Times*, *The Wall Street Journal*, *Financial Times*, and other financial periodicals like *The Economist* as well. Continual assessment will also be based on the student's understanding and analysis of market issues.

Prerequisite

Only students who have completed FIN2004 can enrol. A strong foundation in Statistics and Finance is required to do well in this course. Students should already be familiar with the following topics:

1. Risk, Portfolio Theory & CAPM **RBL#6, 7**
2. Discounted Cash Flow & Ratio Analysis **RBL#8**

Course Content

1. Introduction to investments
 - a. The process of portfolio management
 - b. Profiling the investor
2. Investment in stocks
 - a. Fundamental analysis
 - i. Stock market analysis
 - ii. Industry analysis
 - iii. Company analysis and stock selection
 - b. Technical analysis
 - i. Assumptions of technical analysis
 - ii. Advantages of and challenges to technical analysis
 - iii. Technical rules and indicators
 - c. Efficient market hypotheses
 - i. Forms of market efficiency
 - ii. Tests of market efficiency
 - iii. Implications of efficient capital markets
 - d. Challenges from behavioural finance
3. Investment in bonds
 - a. Bond fundamentals
 - i. Bond features and characteristics
 - ii. Bond yields
 - b. Bond analysis and valuation
 - i. Determinants of interest rates
 - ii. Term structure theories
 - c. Bond volatility measures
 - i. What determines bond price volatility?
 - ii. Duration measures
 - iii. Determinants of convexity
 - d. Bond portfolio management strategies
 - i. Passive portfolio strategies
 - ii. Active portfolio strategies
 - iii. Matched-funding techniques
 - iv. Contingent procedures
4. Investment in options and futures
 - a. Payoff diagrams of forwards, futures and options
 - b. Hedging with forwards, futures and options
 - c. Pricing of options
5. Asset allocation
 - a. Active versus passive asset allocation
 - b. Mutual funds, hedge funds and alternative investments
 - c. Environmental, Social and Governance considerations of an investment
6. Performance evaluation
 - a. What is required of a fund manager?
 - b. Composite portfolio performance measures
 - c. Style analysis
7. Ethical and professional conduct
 - a. CFA Code Of Ethics And Standards Of Professional Conduct
 - b. Illustrations from CFA Standards Of Practice Handbook

Assessment Components

1. Quizzes I & II	30%) 50% individual credit
2. Term paper	20%)
3. Group written report of stock valuation project	30%] 50% group credit
4. Group in-class presentation of research paper	20%]

Assessment Approach

Students will be tested on their understanding of the prescribed body of knowledge as well as their analytical skills. The prescribed textbooks and readings are basic requirements for the body of knowledge for this course. Students who have a good understanding of the prescribed readings should be able to pass the course. Students who aspire for an A grade would need to be able to interpret financial reports, analyse issues and offer a view of the market.

Quizzes (30%)

Quiz I (5%) is on CFA Ethics and will be conducted on LumiNUS in a CFA ethics component administered by Dr Lee Hon Sing.

Quiz II (25%) will be held in class on week 13. Details of Quiz II will be provided at a later time.

Term Paper (20%)

Each student is required to write a term paper. This paper shall be about 1000 words in length. There is penalty for submitting a paper exceeding 1100 words.

Students are to state, explore and defend a position in a contemporary investments-related debate. Examples of such debates are: (a) behavioural finance; (b) retail investor protection; (c) crypto assets; (d) active vs. passive investment; (e) technical analysis; (f) efficient market hypotheses; (g) ESG investing; (h) alternative investments. Students can learn more about such debates from financial newspapers and research papers.

Students earn credit by writing clearly and concisely about their opinions of their chosen topics. Good command of the language is as critical as the substance of their arguments. Plagiarism will result in zero marks. Turnitin score should be <<10%. The term paper is due by week 14.

Group Assignments (50%)

Students are to organize themselves into groups of 6 or 7 members each and appoint a group coordinator who will communicate with the instructor on behalf of the group.

There are 2 group assignments:

1. Written report of stock valuation project (30%)

The goal in this component is to practise fundamental analysis in valuing a small-cap stock in SGX/Catalist. Each group must submit a stock proposal to the instructor for approval by week 4. The final report shall be about 20 double-spaced pages, including cover page and appendices. Plagiarism will result in zero marks. Turnitin score should be <<10%. The final report is due by week 8.

2. In-class presentation of research paper (20%)

This component will be evaluated on the amount of team learning, besides clarity of presentation and the ability to motivate the class to learn together with the team. Therefore, having one student dominating the entire delivery is not encouraged. Splitting the research paper into segments and having each student focusing only on one segment is not an indication of team learning as well. There is generally more team learning when the rest of the class participates in interactive learning.

The research papers are:

- 1a. *An introduction to technical analysis (The Reuters financial training series)*. (1999). Singapore: J. Wiley & Sons (Asia).
- 1b. Scott, G., Carr, M., & Cremonie, M. (2016). *Technical analysis: Modern perspectives*. CFA Institute Research Foundation.
2. Statman, M. (2018). Behavioral finance lessons for asset managers. *Journal of Portfolio Management*, (Summer), 135-147.
3. Brown, S. J. (2020). The efficient market hypothesis, the Financial Analysts Journal, and the professional status of investment management. *Financial Analysts Journal*, 76(2), 5-14.
4. Elton, E. J., Gruber, M. J., & de Souza, A. (2019). Are passive funds really superior investments? An investor perspective. *Financial Analysts Journal*, 75(3), 7-19.
5. Jayaraman, A., Kuhnert, M., Gubler, J., & Myers, R. (2017). To hedge or not to hedge: Factor dependence and skill among hedge funds. *Journal of Alternative Investments*, (Summer), 43-60.
- 6a. Alfieri, E., Burlacu, R., & Enjolras, G. (2019). On the nature and financial performance of Bitcoin. *Journal of Risk Finance*, 20(2), 114-137.
- 6b. Edwards, F. R., Hanley, K., Litan, R., & Weil, R. L. (2019). Crypto assets require better regulation: Statement of the Financial Economists Roundtable on crypto assets. *Financial Analysts Journal*, 75(2), 14-19.
7. Khan, M. (2019). Corporate governance, ESG, and stock returns around the world. *Financial Analysts Journal*, 75(4), 103-123.

COURSE SCHEDULE			
Subject	Description	Reference	Group Activity
WEEK 1 [January 12]			
Asset Allocation	Asset Allocation <ul style="list-style-type: none"> • Investor Life Cycle • Portfolio Management Process 	RBL#2	Form groups of 6 and email names to instructor
Fundamental Analysis	Fundamental Analysis <ul style="list-style-type: none"> • Stock Market Analysis • Industry Analysis 	RBL#9	
WEEK 2 [January 19]			
Fundamental Analysis	Fundamental Analysis <ul style="list-style-type: none"> • Company Analysis and Stock Selection 	RBL#8	
Technical Analysis	Technical Analysis <ul style="list-style-type: none"> • Assumptions • Advantages and Challenges • Technical Rules and Indicators 	RBL#5	
WEEK 3 [January 26]			
Efficient Market Hypotheses	Efficient Market Hypotheses <ul style="list-style-type: none"> • Forms of Market Efficiency • Tests of Market Efficiency • Implications of Efficient Capital Markets 	RBL#5	
Behavioural Finance	Behavioural Finance <ul style="list-style-type: none"> • Forms of Biases • Criticisms of Behavioural Finance 	RBL#5	
WEEK 4 [February 2]			
Ethics and Standards	CFA Code of Ethics and Standards of Professional Conduct	CFA Handbook RBL#17.5	Tutorial 1 All groups submit to LumiNUS by 2359hrs All groups email proposed company name and its listing year to instructor
Equity Portfolio Management Strategies	Equity Portfolio Management <ul style="list-style-type: none"> • Passive Strategies • Active Strategies • Style Investing 	RBL#11	
Tutorial 1			
Stock Proposal Due			
WEEK 5 [February 9]			
Bond Valuation & Term Structure of Interest Rates	Bond Fundamentals <ul style="list-style-type: none"> • Bond Yields • Bond Valuations • Determinants of Interest Rates • Term Structure Theories 	RBL#12	Group 1 presents Research Paper 1 Tutorial 2 All groups submit to LumiNUS by 2359hrs
Research Paper 1		Research Paper 1. Technical Analysis	
Tutorial 2			
WEEK 6 [February 16]			
Bond Volatility Measures	Bond Volatility <ul style="list-style-type: none"> • What Determines Bond Price Volatility? • Duration measures • Convexity measures 	RBL#13	Group 2 presents Research Paper 2 Tutorial 3 All groups submit to LumiNUS by 2359hrs
Research Paper 2		Research Paper 2. Behavioural Finance	
Tutorial 3			

Subject	Description	Reference	Group Activity
RECESS			
WEEK 7 [March 2]			
Bond Portfolio Management	Bond Portfolio Management <ul style="list-style-type: none"> • Passive Portfolio Strategies • Active Portfolio Strategies • Contingent Procedures 	RBL#13	
Research Paper 3		Research Paper 3. Efficient Market Hypotheses	Group 3 presents Research Paper 3
Tutorial 4			Tutorial 4 All groups submit to LumiNUS by 2359hrs
WEEK 8 [March 9]			
Forward, Futures & Options	Hedging with Forwards and Futures	RBL#14, 15	
	Option Fundamentals	RBL#16	
Research Paper 4		Research Paper 4. Active vs Passive	Group 4 presents Research Paper 4
Valuation Report Due			All groups submit to LumiNUS by 2359hrs <ul style="list-style-type: none"> • 20 pages, double-spaced • MS Word file, no password • Plagiarism zero marks
WEEK 9 [March 16]			
Options	Option Payoff Diagrams	RBL#16	
	Option Pricing <ul style="list-style-type: none"> • Black-Scholes Valuation Model 		
Research Paper 5		Research Paper 5. Hedge Funds	Group 5 presents Research Paper 5
WEEK 10 [March 23]			
Option Pricing	Option Pricing <ul style="list-style-type: none"> • Binomial Option Pricing Model 	RBL#16	
Research Paper 6		Research Paper 6. Crypto Currency	Group 6 presents Research Paper 6
Tutorial 5			Tutorial 5 All groups submit to LumiNUS by 2359hrs
WEEK 11 [March 30]			
Evaluation of Portfolio Performance	Portfolio Performance <ul style="list-style-type: none"> • Composite Performance Measures 	RBL#18	
Research Paper 7		Research Paper 7. Environmental, Social and Governance	Group 7 presents Research Paper 7
Tutorial 6			Tutorial 6 All groups submit to LumiNUS by 2359hrs
WEEK 12 [April 6]			
Investment Policy Statement	Wrapping Up: <ul style="list-style-type: none"> • What is Required of a Fund Manager? • What is an IPS? 	RBL#2.3-2.5	
Review	Stocks, Bonds, Derivatives, Performance		
Tutorial 7			Tutorial 7 All groups submit to LumiNUS by 2359hrs

Subject	Description	Reference	Group Activity
WEEK 13 [April 13]			
Quiz			<ul style="list-style-type: none"> • In class • 2 hrs • Details TBA
READING WEEK 14 [April 20]			
Term Paper Due			<p>All students submit to LumiNUS by 2359 hrs</p> <ul style="list-style-type: none"> • 1000 words • MS Word file, no password • Plagiarism zero marks