

NATIONAL UNIVERSITY OF SINGAPORE
NUS BUSINESS SCHOOL

BBA Program
Semester 1, AY 2015-2016

FIN3102: INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT

Section A1, Tuesday, 8:00-11:00, SR@LT19
Section A2, Tuesday, 14:00-17:00, SR@LT19

1. Contact Information:

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- Office Hours: Fridays, 14:00-16:00

2. Course Objectives:

The objective of this course is to develop key concepts in investment theory from the perspective of a portfolio manager, and to apply such concepts using real financial data. Topics to be covered include portfolio optimization and asset pricing theories, as well as their applications to problems in modern financial practice. This course also explores the application of various financial instruments in investment management and introduces the basic techniques of portfolio performance evaluation.

The course material is biased toward equity markets since there are separate courses that cover fixed income and derivatives markets.

3. Prerequisites and Expectations:

- Finance: You must have a basic understanding of the fundamental concepts in finance: the time-value of money; the relation between risk and return; the basic features and valuation of stocks and bonds. These topics are covered in **FIN 2004** (a prerequisite course). I expect you to review the material from FIN 2004 as necessary.

- Math and Statistics: The study of investments is inherently quantitative. Knowledge of **basic statistics** (mean, covariance, multiple regression, etc.) is indispensable and used repeatedly throughout the semester. Such material is covered in **BZ1008/ST1131A**. I expect you to spend the time necessary to refresh your statistics knowledge. In addition, you should be very comfortable with **basic algebra and calculus**.

- Computers/Software/ Calculators: Many of the examples in lectures and problem sets require Microsoft **Excel** (or a similar product). You will need access to a computer and familiarity with Excel. I will assume that you know how to use spreadsheets to perform some basic analysis. Students are also expected to bring a **financial calculator** to every class section and to all examinations.

4. Grading Criteria, Exams and Course Policy:

Your overall course score will be calculated using the following scheme:

Test 1	30%
Test 2	20%
Assignments	35% (20% Case Study, 15% StockTrak)
Class Participation	10%
CFA Ethics Test	5%

Test Dates:

Test 1:	TBA
Test 2:	TBA
CFA Ethics Test:	TBA by Prof. Lee Hon Sing

- This course will function on a **continuous assessment** basis.

- **Case Studies and Stock Trading Simulation:** You will form a group of 4-6 students, and will submit to me by Week 2 a form with the name of your group, and the names, matric numbers, photos, and other information pertaining to each of the group members (a template of the group form will be posted on IVLE under “Assignments”). If you are not assigned to any team by Week 2, please get in touch with me and I will assign you to one of the already formed groups. The groups will be responsible for the presentation or the discussion/critique of a case study, as well as the presentation of the Stock Trading Simulation project. The assignment of groups to case studies will be done using a random selector in class on Week 3. These case studies **can be covered in the examinations**. The **Stock Trading Simulation Project** consists in the use of an online trading platform where you will ‘paper trade’ on a number of exchanges using a variety of instruments. You are expected to set out targets for the construction of your portfolio, and interpret and evaluate the investment results in the context of the material covered in class during the semester.

- **Tests: Tests are closed book.** You will be provided with a **formula sheet for the examinations**. You will need a calculator that can raise numbers to arbitrary powers. Laptop computers and calculators with word processing features are not permitted. **There will be no make-up tests.** By enrolling in this course you are committing to take the tests on the scheduled dates. Throughout the semester, I will be posting **practice problems** on IVLE, which you should use when preparing for the examinations. Information on the **CFA Ethics Test** will be sent to you by Prof. Lee Hon Sing. The CFA Ethics Test counts as 5% of your final grade. Prof. Lee Hon Sing, or someone assigned by him, will be responding to all your questions regarding this CFA Test. We will not be covering CFA Ethics in class.

5. Textbook and Readings:

- Required Readings

. **Bodie, Kane, Marcus, and Jain, *Investments*, Asia Global Edition (2013), McGraw-Hill** (referred to as **BKMJ** hereafter)

. **Assigned Readings**

. **Lecture Notes**

- Suggested: Regular reading of *The Wall Street Journal* (or *The Financial Times*).

Lecture Notes, articles and practice problems will *not* be handed out in class. They will be available on IVLE as PDF documents (<https://ivle.nus.edu.sg>). You are responsible for timely downloads of the materials. It is always beneficial to do the required reading before class. Also, lecture notes are not a complete record of what I say in class, so attending lectures, taking notes and asking questions will be required to successfully complete the course.

6. Academic honesty and plagiarism

Academic integrity and honesty are essential for the pursuit and acquisition of knowledge. The University and School expect every student to uphold academic integrity and honesty at all times. Academic dishonesty is any misrepresentation with the intent to deceive, or failure to acknowledge the source, or falsification of information, or inaccuracy of statements, or cheating at examinations/tests, or inappropriate use of resources.

Plagiarism is 'the practice of taking someone else's work or ideas and passing them off as one's own' (The New Oxford Dictionary of English). The University and School will not condone plagiarism. Students should adopt this rule - You have the obligation to make clear to the assessor which is your own work, and which is the work of others. Otherwise, your assessor is entitled to assume that everything being presented for assessment is being presented as entirely your own work. This is a minimum standard. In case of any doubts, you should consult your instructor.

Additional guidance is available at:

<http://www.nus.edu.sg/registrar/adminpolicy/acceptance.html#NUSCodeofStudentConduct>

Online module on plagiarism:

<http://emodule.nus.edu.sg/ac/>

7. Course Plan (*Subject to Change*):

Week	Subject	Description	
Week 1	Syllabus Introduction	<ul style="list-style-type: none"> • course introduction and syllabus • capital markets and securities trading • delegated portfolio management, mutual funds and hedge funds 	BKMJ Chapters: 2, 3, 4
Week 2	Quantitative Review	<ul style="list-style-type: none"> • returns on assets and portfolios • statistics: means, variances, covariances, prob. distributions • regression analysis 	BKMJ Chapter: 5 Submit Team Compositions
Week 3 and Week 4	Investing in a Single Risky Asset and in Multiple Risky Assets Risk Aversion and Optimal Portfolios	<ul style="list-style-type: none"> • utility maximization theory • risk and return • efficient frontier of risky assets • diversifiable vs. non-diversifiable risk • optimal investment portfolios 	BKMJ Chapter: 6, 7

Week 5	CAPM, Fama-French, and APT	<ul style="list-style-type: none"> • estimation risk and the single factor model • markets in equilibrium, the capital asset pricing model (CAPM) • tests of the CAPM • the value and size anomalies • the FF 3 factor model • the APT model 	BKMJ Chapters: 8, 9, 10
Week 6	Market Efficiency and Behavioral Finance Case Study Presentations	<ul style="list-style-type: none"> • the efficient market hypothesis • technical and fundamental analysis • event studies • behavioral finance • risky arbitrage 	BKMJ Chapters: 11, 12
Recess Week			
Week 7	Test 1 Review Session	<ul style="list-style-type: none"> • course review • sample problems and sample midterm test solution 	
Test 1			
Week 8	Portfolio Performance Evaluation	<ul style="list-style-type: none"> • performance evaluation and attribution • portfolio management: active vs. passive • facts on mutual funds • measures of abnormal performance • style benchmarks • survivorship bias 	BKMJ Chapter: 24
Week 9	Case Study Presentations		

Week 10	Fixed Income	<ul style="list-style-type: none"> • pricing • the relationship between prices, interest rates, and yields • the expectations hypothesis and liquidity premium hypothesis • duration and immunization 	BKMJ Chapters: 14, 15, 16
Week 11	Options	<ul style="list-style-type: none"> • binomial trees and risk-neutral valuation • black-scholes-merton model • portfolio insurance 	BKMJ Chapters: 20, 21
Week 12	Test 2 Review Session	<ul style="list-style-type: none"> • test details • solution to sample questions 	
Test 2			
Week 13	Final Project Presentations		