

FIN3702: Investment Analysis and Portfolio Management

Emirhan İlhan

Spring, 2024

E-mail: ilhan@nus.edu.sg

Office Hours: 4-6pm every Friday

Office: BIZ1 #07-77B

Group	Time	Venue
S01	Th 12 noon - 3pm	BIZ1 0301
S02	Th 3pm - 6pm	BIZ1 0301

1 Course Description

This course is designed to provide a sound foundation for the fundamental concepts in investments. Students who master the course material will acquire the analytical tools and financial theory necessary for making investment decisions and understanding the paradigms by which financial securities are valued. The course is *highly quantitative* and relies heavily on analytical tools and economic theory developed throughout.

We will cover key concepts that include, but not limited to:

- Risk and return in financial markets;
- Portfolio Choice;
- Capital Asset Pricing Model and Arbitrage Pricing Theory;
- Efficient market hypothesis and performance evaluation;
- Term structure of interest rates;
- Pricing of bonds, futures, and options.

This class, on the other hand, is not about the *fine “art”* of stock picking. It will not provide you with foolproof ways of making money in the stock market.¹ The detailed analysis of individual firms and their balance sheets is also out of the scope of this course.

¹In fact, we are going to discuss why that’s easier said than done.

2 Prerequisites

The course content revolves around asset pricing theories and portfolio optimization and naturally, it is more on the quantitative side. As a result, students should be comfortable with **probability**, **statistics**, and **regression analysis**. Use of a spreadsheet package such as **Excel** will be vital for assessments and aiding in understanding the material. The use of **calculus** and **matrix algebra** will also be required.

We will go over certain concepts as reminders throughout the class, but you should have already taken classes such as FIN2704 - Finance, ACC1702 - Financial Accounting, and BZ1008 - Statistics before FIN3702.

3 Assessment

The components of assessments will be as follows:

Problem Sets	$4 \times 6.25\% = 25\%$
Test I	30%
Test II	30%
Class Participation	10%
Ethics	5%
Total	100%

3.1 Problem Sets (6.25% Each)

- There will be **four problem sets** on Canvas with a one week deadline from the time they are published. Each problem set will primarily consist of numerical problems as well as multiple choice questions.
- These problem sets serve the purpose of ensuring that you keep up with the materials covered in the class. We will go over these questions in the beginning of the first class after the deadline, but you will not have access to your submissions after the deadline.
- These are assignments to be completed individually and you will only have once chance to submit your answers.²

²If you do not submit your answers by this deadline, there will not be an opportunity for a make-up.

3.2 Tests I and II (30% each)

- **Dates and Times:** To be determined.
- **Test I Format:** Test I will be a closed-book test held on Examplify in person, including questions from the topics “Risk and Return”, “Portfolio Theory”, “Equilibrium Asset Pricing Models”, and “Efficient Market Hypothesis”. The test will consist of numerical problems as well as multiple choice questions and potentially essay type questions.
- **Test II Format:** Test II will be closed-book test held on Examplify in person, including questions from the topics that were not covered in the test. The topics covered in Test I may still show up as they relate to topics we cover in the second part of the course. The test may include numerical problems as well as multiple choice questions and potentially essay type questions.
- **What you are allowed to bring to the tests:** two calculators and a two-sided A4-sized cheat sheet to aid you.
- **Make-up:** If you miss a test because of health related reasons, you are required to contact me before the test date and submit a Medical Certificate, showing that you are unfit to take the test. In this case, a make-up test will take place **at most** a couple of days later than the actual test as it is important to conduct the make-up test as soon as possible. The format of the make-up test may not necessarily reflect that of the structure stated above.

3.3 Class Participation (10%)

Class participation, from clarifying questions to insightful comments, is greatly encouraged. Your active participation will transform this class into a great learning experience for everyone, including myself. Your class participation grade will be affected by your attendance, attention you pay in the class, questions you ask and answer in the class, visits in my office and the like.

3.4 Ethics (5%)

There will be online materials for study of Ethics and a quiz on the materials. This is in compliance to NUS being a CFA affiliated institution.

4 Course Structure

4.1 Course Materials

- The reference textbook will be [Bodie, Kane and Marcus \(2021\)](#) (henceforth, BKM). The slides I use will closely follow the textbook, but the slides will still be all-encompassing as far as the assessments are concerned.
- I will share practice questions and solutions in a timely manner throughout the semester.
- All other course materials will be posted on Canvas and therefore, you are expected to regularly check any updates and files on Canvas.

4.2 Course Content

Throughout the lectures, we will cover the following topics (subject of change).

Topic	Chapters (BKM)
Asset Classes, Risk, and Return	1, 2, 3, 4, 5
Portfolio Theory	6, 7
Equilibrium Asset Pricing Models	8, 9, 10
Market Efficiency, Anomalies, and Behavioral Biases	11, 12
Portfolio Performance Evaluation	24
Fixed Income	14, 15, 16
Options & Futures	20, 21, 22, 23

5 Academic Honesty & Plagiarism

Academic integrity and honesty is essential for the pursuit and acquisition of knowledge. The University and School expect every student to uphold academic integrity & 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.

It is also important to highlight that the lecture materials, including any sort of assessments provided to students and the University takes a strict view of violation of intellectual property and copyright laws as stated in the NUS Student Code of Conduct. Any student found in violation of such misconduct may be subject to disciplinary action by the University.

Additional guidance is available at: [Acceptance Record](#) and [NUS Student Code of Conduct](#).

References

Bodie, Zvi, Alex Kane, and Alan J. Marcus. 2021. Investments 12th Edition. McGraw-Hill.