
COURSE BAFI 511: Investment Theory and Asset Pricing

Program: PTMBA Class of 2020

Course Outline

COURSE INFORMATION

Division: Finance

Instructor: Ali Lazrak

Email: lazrak@sauder.ubc.ca

Phone: 604 822 9481

Office hours: *By appointment*

Section number: 301

Course duration: Sep 9 to Oct 14, 2018

Pre-requisites: N/A

Course website: www.connect.ubc.ca

Term/period: 2018 Term 2

Teaching Assistant: TBA

Email: lazrak@sauder.ubc.ca

Phone: N/A

Office hours: N/A

Class meeting times: Sep 9, Sep 23 and Oct 14: 830am-5.30pm

Classroom location: HA133

Tutorials / labs: N/A

COURSE GOALS

The course familiarizes students with the workings of asset markets and the tradeoff between risk and return. Students are introduced to the fundamental tools of portfolio choice and asset valuation. The course also introduces derivatives and make use of the principle of no arbitrage to price derivatives. For each topic students are exposed to practical examples where the theoretical concepts of asset pricing help understand financial markets prices and quantities.

LEARNING OBJECTIVES

Understand the empirical relationship between risk and return.

Be able to form efficient portfolios of financial assets.

Be able to price securities through the capital asset pricing model

Understand how derivative securities are traded

Know payoffs and usage of financial options

Know how to use the principle of no arbitrage to price options

ASSESSMENT SUMMARY

Course grade will be a weighted average of five marks with the maximum of the two following weights:

<i>Assignment 1</i>	<i>15%</i>
<i>Assignment 2</i>	<i>15%</i>
<i>Portfolio project</i>	<i>15%</i>
<i>Final Exam</i>	<i>40%</i>
<i>Reading report</i>	<i>10%</i>
<i>Participation</i>	<i>5%</i>

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BRIEF COURSE DESCRIPTION

The starting point of the course is to present some stylized empirical facts on the historical relationship between risk and return in different markets. We will then formalize the trade-off between risk and return in the context of portfolio theory. We will examine how risk is priced in equilibrium, via the Capital Asset Pricing Model (CAPM) and multi-factor models. While covering asset pricing models, we will also examine the models' implications for stock valuation, security selection. Finally, we will cover derivatives, especially futures and options. After an overview of the derivatives' main uses and trading mechanisms, we will cover valuation methods. Using the no-arbitrage principle, we use the binomial and the Black-Scholes models to price derivative securities.

COURSE MATERIALS & REQUIREMENTS

Lecture notes:

*Self-contained lecture notes will be posted on the course **Canvas** website before the class starts. The lecture notes are the most important study material. You should bring a hard copy of the notes with you to the lectures. This will reduce the need to take your own notes, and give you more time to understand the concepts. After the lectures, you should go over the notes again. I will occasionally update the notes, mostly to (i) refine the arguments based on the discussion in class, (ii) clarify questions from class, (iii) give additional references, and (iv) provide up-to-date examples or data.*

Required textbook:

Berk, DeMarzo and Stangeland, 2015, Corporate Finance, Third Canadian Edition plus NEW MyFinanceLab with Pearson etext---Access Card Package, ISBN: 9780133552683. From now on we refer to the textbook as "BDS textbook". There are two purchase options:

- 1) Buy the regular hardcopy textbook with acces to the full e-text*
- 2) Buy only the full e-text through MyFinanceLab. For this option go to www.pearsonmylabandmastering.com and use the following MyfinanceLab Course ID: lazrak48898*

Required reading (prior to first class):

"A Random Walk Down Wall Street: The Time-Tested Strategy for Successful Investing" by Burton Malkiel (11th edition, 2015, WW. Norton). Required reading: Chapters 8 and 9. A book reading report on chapters 8 and 9 is due on the first class (see more details below). Recommended reading: Chapter 2 on bubbles in financial markets and chapter 10 on behavioral finance.

Other Learning Resources:

*Complementary material in the form of Excel spreadsheets and in class exercises will be available on the course **Canvas** website. These files contain the details of calculations presented in lectures and the in class exercises that we discussed.*

Recommended background reading -The Economist, Financial Times. How are the financial markets doing right now? Sometimes, you find fascinating facts and stories there that are related to our course.

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ASSESSMENT

Exams

There will be a closed book final exam (November 4th, 2018). You will be provided with a formula sheet (posted in advance in the course connect website).

Marked Portfolio Optimization Project

The project is based on a case study that covers a strategic asset allocation problem of Harvard Management Company (Viceira: “The Harvard Management Company and Inflation-Protected Bonds”). It will be a group based assignment (2/3 persons per group, one submission per group). You will use Excel to solve a portfolio optimization problem and submit a report to show you calculation and reasoning. You will receive a project handout with instructions and an Excel template file for performing the calculations. The case can be purchased at <http://cb.hbsp.harvard.edu/cbmp/access/56700068>. The case is due on **September 30** (email a single PDF file per group before September 30 at midnight Vancouver time). Due dates will be strictly enforced.

Marked Homework Assignments

There will be two homework assignments in this class. I encourage you to work on them in groups of 2/3 people (**one submission per group**) but individual submissions are accepted. They serve the purpose of helping you prepare for the exam and helping you better understand the material.

As additional exercises, you will find the problems in the BDS textbook and online tools quite handy.

Due dates for the homework assignment will be discussed in the first day of class. Due dates will be strictly enforced. In no case can an assignment be accepted after solutions have been made available online.

Participation

Please make every effort to come well-prepared to every lecture. It is highly recommended that you go over the relevant lecture notes prior to each lecture. Feel free to ask questions or contribute to lecture discussions at any time. In particular, I will be very interested if you can bring stories from the news that we can relate to the course material and use to understand the concepts that we discussed in class. I also encourage you to provide feedback about how to improve the course. The report is due on **Sep 9th** (during the class). You are asked to summarize in two pages the main ideas that you learned from reading the chapters 8, 9 of the Malkiel's book. You are also asked to explain in one page the ideas that were challenging to understand and/or deliver some personal opinion about the topic of the two chapters. The report (3 pages in total) should be typed. I will adhere to the “academic Integrity” policy of the Sauder School of Business. I will also respect and follow “Academic Misconduct Policy & Procedures” of UBC.

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SCHEDULE

Prior to each sessions, students read the lecture notes and the relevant chapter(s) of the BDS textbook.

Class#	CLASS TOPICS	ACTIVITIES / READINGS	WHAT'S DUE
Class 1 (Sep 9)	Capital Markets and the pricing of risk	<i>Investments, flow of funds in the economy, financial instruments, financial intermediaries, risk-return tradeoff. (BDS textbook Chapter 10)</i>	<i>The report on the Malkiel's book</i>
Class 1 (Sep 9)	Optimal Portfolio Choice	<i>Mean and variance of a portfolio, diversification. (BDS textbook Chapters 11.1 through 11.6)</i>	
Class 2 (Sep 23)	The Capital Asset Pricing Model (CAPM)	<i>Derivation and meaning of the CAPM, beta, CML and SML, uses of the CAPM. (BDS textbook Chapters 11.7 and 11.8)</i>	
Class 2 & class 3 (Sep 23 & Oct 14)	Forwards, Futures	<i>Examples of derivatives, trading strategies involving derivatives, uses of derivatives, prices of forwards and futures. (BDS textbook chapters 3.4; 14 and 30.2)</i>	
Class 3 (Oct 14)	Options	<i>Put-call parity, binomial option pricing model, applications of option pricing theory, introduction to the Black-Scholes pricing model. (BDS textbook Chapter 15).</i>	

TEACHING & LEARNING ACTIVITIES

The objective of the lectures is to help you absorb the information contained in the lecture notes. The lectures notes contain important and advanced theories and economic insights that are applicable to financial markets. The students will spend some time reading the lecture notes and the textbook at home prior to the first lecture (the precise chapters are given in the above table). In class, we will go through the lecture notes step by step and do multiple in class exercises for each chapter. After this second pass, the student will go over, for the third time, the lecture notes at home in order to do the homework and prepare themselves for the final exam. The students are expected to interact with the instructor during the lectures and fully engage in the in class exercises.

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COURSE AND INSTITUTIONAL POLICIES

Attendance: As per RHL policy on Professionalism, Attendance and Behaviour, students are expected to attend 100% of their scheduled classes. Students missing more than 20% of scheduled classes for reasons other than illness will be withdrawn from the course. Withdrawals, depending on timing, could result in a “W” or an “F” standing on a student’s transcript. Students must notify their instructors at the earliest opportunity if they are expected to miss a class due to illness. A medical note from a licensed, local doctor is required if more than 20% of scheduled classes for a course are missed due to illness. Students are required to notify the Student Experience Manager if they are absent from two or more classes due to illness.

Tardiness: As per RHL policy on Professionalism, Attendance and Behaviour, students are expected to arrive for classes and activities on time and fully prepared. Late arrivals may be refused entry at the discretion of the instructor or activity lead. Students arriving halfway through a scheduled class, or later, will be treated as absent for that class.

Electronic Devices: As per RHL policy on Professionalism, Attendance and Behaviour, laptops and other electronic devices (cellphones, tablets, personal technology, etc.) are not permitted in class unless required by the instructor for specific in-class activities or exercises. Cellphones and other personal electronic devices must be turned off during class and placed away from the desktop. Students who fail to abide by the RHL “lids down” policy will be asked to leave the room for the remainder of the class. Research has shown that multi-tasking on laptops in class has negative implications for the learning environment, including reducing student academic performance and the performance of those sitting around them.

ACADEMIC INTEGRITY

All UBC students are expected to behave as honest and responsible members of an academic community. Failure to follow appropriate policies, principles, rules and guidelines with respect to academic honesty at UBC may result in disciplinary action.

It is the student’s responsibility to review and uphold applicable standards of academic honesty. Instances of academic misconduct, such as cheating, plagiarism, resubmitting the same assignment, impersonating a candidate, or falsifying documents, will be strongly dealt with according to UBC’s procedures for Academic Misconduct. In addition to UBC’s Academic Misconduct procedures, students are responsible for reviewing and abiding by RHL’s policy on Academic Integrity.

LATE ASSIGNMENTS

Late submissions will not be accepted and will receive a zero.