Department of Economics
Dalhousie University
ECON 3800/MATH 3800
Financial Economics
CRN: 14946/18119
Fall 2017/2018

Instructor: Prof. Kuan Xu
Lecture Time & Location: Tuesday and Thursday: 10:05AM-11:25AM, Studley LSC-COMMON AREA C338
Office Location: 6220 University Ave. C-23
Office Hours: 3:00PM–4:30PM on Tuesday and Thursday, 6220 University Ave. C-23; or by appointment
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Course Description

This course is an introduction to decision making by investors under uncertainty, portfolio theory, asset pricing, financial markets, and instruments. The course covers both the theoretical and practical aspects of investment, surveys the techniques available for economists, and emphasizes hands-on learning using Canadian and international case studies.

Course Prerequisites

ECON 2200.03 or ECON 2210.03 or ECON 2220.03, ECON 2201.03

Course Objectives/Learning Outcomes

This course, as a continuation of Money and Banking, is designed to introduce to students the fundamental concepts, principles, and issues of financial economics in today's increasingly interrelated and complex financial markets.

This course will cover theories on consumer's investment behaviours, capital market structure, portfolio theory, asset pricing, bonds analysis, and equity research. In addition, this course will examine common practices and emerging new ideas in financial industry and community.

How to combine the latest financial theories with the best practices has been a perennial challenge in finance/financial economics. In this course, the instructor attempts to address the topics with this challenge in mind. Students will not only study theories but also apply them to their research projects.

This course advocates the idea that the financial side of economic activities is a mirror image of the real side of these activities and that fundamental analysis on economic activities is indispensable to finance/financial economics.

Course Materials

1. David G. Luenberger, Investment Science, 2nd Edition, Oxford University Press, 2014. ISBN 978-0-19-974008-6.

   This is the primary textbook for this course. The exercises in the book will be assigned to students, who should have a copy of, or have convenient access to, this book.

2. Kuan Xu, Lecture Notes on Financial Economics, 2017

   This is an ebook containing the lecture notes and review questions. Please print a hard copy of your own on which you may add your own notes and comments.

Other Recommended Readings

William F. Sharpe, Gordon J. Alexander, Jeffery V. Bailey, David J. Fowler, and Dale L. Domian, Investments, 3rd Canadian Edition, Prentice Hall Canada, 2000, ISBN 0-13-011445-6.

In 1990, William F. Sharpe shared the Nobel Prize in Economics with Harry M. Markowitz and Merton H. Miller for their contributions in financial economics. This is a good but less technical reference.

Frank K. Reilly and Keith C. Brown, Investment Analysis and Portfolio Management, 8th Edition, Thomson/South-Western, 2006, ISBN 0-324-28903-0.

This is a book used for the Chartered Financial Analyst (CFA) training. Some chapters (Ch. 10, 12, 13, and 14) are relevant to equity analysis. These chapters will be made available at Brightspace.

Readings (book chapters and research papers) will be posted at Brightspace.

Course Assessment

The student performance is evaluated by

- Two In-class Tests 20% (October 3 & November 14, 2017) [1]
- Research Project 20% (Due date: December 5, 2017)[2]
- Class Participation 10% (Every Class)[3]
- Final Exam 50% (TBA)[4]
- **Note**: In order to pass this course, a student **must** pass the final exam. If a student has failed the final exam, he or she will fail the course.

The grading scheme in this course is given in Table 1.

Table 1: Dalhousie University Grade Conversion Table

A+	:	greater than or equal to 90	Excellent
A	:	greater than or equal to 85 and less than 90	
A-	:	greater than or equal to 80 and less than 85	
B+	:	greater than or equal to 77 and less than 80	Good
B	:	greater than or equal to 73 and less than 77	
B-	:	greater than or equal to 70 and less than 73	
C+	:	greater than or equal to 65 and less than 70	Satisfactory
C	:	greater than or equal to 60 and less than 65	
C-	:	greater than or equal to 55 and less than 60	
D	:	greater than or equal to 50 and less than 55	Marginal Pass
F	:	less than 50	Inadequate

[1] These are closed book tests.

[2] There will be no class on October 19, 2017. This date is reserved for research activities. Please read the notes for Lecture 6 Equity Analysis and assigned readings.

[3] In each class, students will be randomly selected. The participation will be recorded over time.

[4] Please check `http://www.registrar.dal.ca/` for time and location information.

Course Policy

Please note that the following rules apply in the course:

1. Please read relevant parts of Lecture Notes before each class.

2. Please study relevant review questions at the end of each chapter in Lecture Notes and do assigned exercises after each class. Doing these exercises is essential for preparing for the in-class tests and the final exam.

3. Each test will be 40 minute long from 8:35AM to 9:15AM and then class will resume at 9:20AM during the class time.

4. If a student misses any test for a justifiable reason, the missed 10% will be automatically added to the final exam. No make-up test will be given.

5. Additional exercises and answer keys will be distributed to students but your work on these exercises will not be graded.

6. All students in this course will do a group project on equity research (Microsoft Corporation, MSFT). The instructor will post related reading materials, sample projects, and evaluation criteria at Brightspace to ensure that students can read these materials throughout the term.

7. Each group should have 2-3 students. When a group is formed, please elect a group coordinator who should send the names of group members to kuan.xu@dal.ca no later than September 12, 2017.

8. The group members shall contribute about equally to their group project. In a group of two students, each student should contribute a share of 50%. In a group of three students, each students should contribute a share of 33.33%. If student F does not contribute sufficiently to the group project, he or she can be evaluated by the other student in a group of two, or by other two students in a group of three. The contribution share evaluations must be submitted to the instructor. The instructor then uses these evaluations of the contribution share to determine the share of contribution of student F. For example, if the other student in the group of two believes that student F only contributes a share of 10% to the group project and the group project has received

90%, student F will receive only $\frac{10}{100/2} = 20\%$ of that 90%, or only 18% for the project while the other student will receive 90%. For example, if, on average, other two group members in the group of three believe that student F only contributes a share of 10% to the group project and the group project has received 90%, student F will receive only $\frac{10}{100/3} = 30\%$ of that 90%, or only 27% for the project while other two students will receive 90% each.

9. For the group project, students should be aware of the services available at the Writing Centre and must finish Academic Integrity Module at

   `https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html`

10. Please note that final report on the research project (both hard copies and electronic files) will not be returned. Students should keep their own files.

11. To discourage late submission of the final reports, this course imposes a penalty scheme on late submissions—a 25% deduction from the total marks for one day delay in submission.

12. The final exam will be 2 hour long and cumulative covering the materials for the entire course.

Course Content[5]

Lecture 1: Saving, Wealth, and Investment (Week 1)
Readings: Textbook Ch. 1 and 11 and Lecture Notes Ch. 1.
Advanced Readings: Friedman and Savage (1948), Kahneman and Tversky (1979), Tversky and Kahneman (1992), Gordon and St-Amour (2000), Bleichrodt, Pinto and Wakker (2001), Hot and Laury (2002), List (2004), Xu and Fisher (2006), Levitt and List (2007), DellaVigna (2009), Attanasio and Weber (2010), Cronqvist and Siegel (2013)

1. Utility functions
2. Intertemporal savings behavior
3. Finite future states
4. Expected utility and risk aversion
5. The determinants of intertemporal behavior
6. Three consumption/saving theories
7. Investments

Lecture 2: Financial Markets and Trading of Securities (Weeks 2–3)
Readings: Textbook Ch. 18.1-18.2 and Lecture Notes Ch. 2
Advanced Readings: Kelly (1956), Rotando and Thorp (1992), Varian (1993), Lo, Mamayski, and Wang (2000), Lerman and Larson (2007), Hautsch (2012, Chapter 2), MacLean, Thorp and Ziemba (2010), Starr (2011),

1. Brokerage firms, brokers, trading and commissions
2. Types of orders
3. Margin transactions
4. Short sales
5. Call markets and continuous markets

[5]Advanced readings are optional. The schedule is subject to changes.

6. Organization of the stock exchanges

7. Transaction costs

8. Kelly's criterion

Lecture 3: Portfolio Theory (Weeks 3–4)
Readings: Textbook Ch. 6 and 9 and Lecture Notes Ch. 3.
Advanced Readings: Tobin (1958), Markowitz (1952, 1991), Roy (1952), Luenberger (1993), Ibbotson and Kaplan (2000), Hill et al. (2006), Hill (2006), Sotomayor and Cadenillas (2009), and Ang et al. (2014)

1. Evaluation of risky securities

2. Portfolio returns

3. Efficient frontier

4. Preferences

5. Optimal portfolios

6. The market model

Lecture 4: Asset Pricing Models (Weeks 4–6)
Readings: Textbook Ch. 7-8 and Lecture Notes Ch. 4.
Advanced Readings: Sharpe (1964), Lintner (1965), Mossin (1966), Black (1972), Black, Jensen, and Scholes (1972), French (2003), Ross (1976a), Gilles and LeRoy (1991), Roll and Ross (1995), Fama and French (1992, 1993, 1996, 1998, 2004, 2016), Liu, Zhao and Xu (2011), Perold (2004), Huang, Lou, and Polk (2014), Frazzini, Kabiller, and Pedersen (2013), Frazzini and Pedersen (2014), Berk and van Binsbergen (2016)

1. The Capital Market Line

2. Components of risk

3. The Security Market Line

4. Beta and the market model revisited

5. Factor models

6. Arbitrage Pricing Theory

Lecture 5: Bond Analysis (Weeks 7-8)
Readings: Textbook Ch. 2–4 and Lecture Notes Ch. 5.
Advanced Readings: Weil (1973), Bierwag (1977), Faulhaber and Baumo (1988), Bierwag et al. (1992), Altman (1968), Altman and Saunders (1998), Livingston and Zhou (2005)

1. Money market instruments
2. Government bonds
3. Corporate bonds
4. Debt instruments trading
5. Valuation of riskless securities
6. Risk premium and term premium
7. The term structure of interest rates
8. Bond attributes and determinations of yield spreads
9. Bond market efficiency
10. Bond-pricing theorems
11. Convexity
12. Duration
13. Immunization
14. Active management

Lecture 6: Equity Analysis (Weeks 9–12)
Readings: Textbook Ch 5.6, Lecture Notes Ch. 6-7, and Reilly and Brown (2006, Ch. 10, 12, 13, and 14)

1. The corporate form
2. Cash dividends

3. Preemptive rights
4. Common stock betas
5. Growth versus value
6. Capitalization-of-income method of valuation
7. The zero-growth model
8. The constant-growth model
9. The multiple-growth model
10. Valuation based on a finite holding period
11. Model based on price-earning ratios
12. Sources of earning growth
13. Stock valuation based on earnings
14. Determinants of dividends
15. The information content of dividends
16. Accounting earnings versus economic earnings
17. Price-earning ratios
18. Analysis of financial statements
19. Analysis of economic conditions

DALHOUSIE UNIVERSITY

Faculty of Science Course Syllabus (Section B)
ECON 3800 Financial Economics

University Policies and Statements

This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate

Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.
Information: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia).
Information: https://www.dal.ca/campus_life/academic-support/accessibility.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.
Code: https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness
Statement: http://www.dal.ca/cultureofrespect.html)

Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit or e-mail the Indigenous Student Centre (1321 Edward St) (elders@dal.ca).
Information: https://www.dal.ca/campus_life/communities/indigenous.html

Important Dates in the Academic Year (including add/drop dates)
https://www.dal.ca/academics/important_dates.html

University Grading Practices
https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html

DEPARTMENT OF ECONOMICS STATEMENT ON ACADEMIC INTEGRITY

At Dalhousie University, we respect the values of academic integrity: honesty, trust, fairness, responsibility, and respect. As a student, adherence to the values of academic integrity and related policies is a requirement of being part of the academic community at Dalhousie University.

What does academic integrity mean?
Academic integrity means being honest in the fulfillment of your academic responsibilities, thus establishing mutual trust. Fairness is essential to the interactions of the academic community and is achieved through respect for the opinions and ideas of others. "Violations of intellectual honesty are offensive to the entire academic community, not just to the individual faculty member and students in whose class an offence occurs." (http://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=1&chapterid=89&topicgroupid=381&loaduseredits=False)

How can you achieve academic integrity?

- Make sure you understand Dalhousie's policies on academic integrity.
- While discussion with your fellow students is valuable, do not submit an assignment or essay that is essentially identical to an assignment or essay submitted by another individual or group.
- In assignments or essays, use an approved method of citation for any material taken directly from an existing source or any material that is a paraphrase of an existing source.
- Do not download the work of another from the Internet and submit it as your own.
- Do not submit work that has been completed through collaboration or previously submitted for another assignment without permission from your instructor.
- Do not have someone else write a test for you, or write a test for someone else.
- During a test, do not talk with other students and do not try to copy the work of another student.

What will happen if an allegation of an academic offence is made against you?
Instructors are required to report any suspected offence. The full process is outlined in the Discipline flow chart (found at http://academicintegrity.dal.ca) and includes the following:

- Each Faculty has an Academic Integrity Officer (AIO) who receives allegations from instructors.
- The AIO decides whether to proceed with the allegation and you will be notified of the process.
- If the case proceeds, you will receive a PENDING grade until the matter is resolved.
- If you are found guilty of an academic offence, a penalty will be assigned ranging from a warning to suspension or expulsion from the University and can include a notation on your transcript, failure of the assignment, or failure of the course. All penalties are academic in nature.

Where can you turn for help?

- If you are ever unsure about ANYTHING, contact your instructor.
- See http://academicintegrity.dal.ca for links to policies, definitions, online tutorials, and tips on citing and paraphrasing.
- See http://writingcentre.dal.ca for assistance with proofreading, writing styles, and citations.
- See http://libraries.dal.ca/research.html for a set of research tools including Subject Guides, Assignment Calculator, and RefWorks.
- See http://studentservices.dal.ca for assistance with appeals and discipline procedures.
- See http://senate.dal.ca for a list of Academic Integrity Officers, a discipline flow chart, and the Senate Discipline Committee.

The Policy on Student Submission of Assignments & Use of Originality Checking Software states that "any instructor may require student assignments to be submitted in both written and electronic (computer-readable) form, e.g., a text file or as an email attachment, as defined by the instructor. Use of third-party originality checking software does not preclude instructor use of alternate means to identify lapses in originality and attribution. The results of such assessment may be used as evidence in any disciplinary action taken by the Senate."