

Econ 372/572: Intermediate Finance

Fall 2017

MW 10.05-11.20

Social Sciences 139

Instructor: Prof. Aino Levonmaa

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Office hours: Mondays 2-3.30pm and by appointment

Content: The course is a rigorous, quantitative introduction to financial market structure and financial asset valuation. The main topics of the course are the time value of money, portfolio selection, capital asset pricing model (CAPM), equity valuation, fixed income securities and derivatives.

You are expected to understand valuation formulas and be able to apply them to new problems. The appropriate tools necessary for solving these problems will be developed at each stage and practiced in the homework assignments. The models we will cover have immediate applications and implications for real-world financial decisions.

Teaching Assistants: The TA for this class is Gregory Vuong (gregory.vuong@duke.edu). Times and location of office hours will be posted on the course website and announced in class.

Class Times: The class meets twice a week on Monday (M) and Wednesday (W) from 10.05am to 11.20am in Social Sciences 139.

The first class is on Monday 8/28 and the last class is on Wednesday 12/6. There is no class during Fall Break week (M 10/9) and Thanksgiving break (W 11/22). **The midterm is on Wednesday 10/4, in class.**

The final exam is scheduled by the University: **Friday December 15, 7-10pm**. The exact date, time and location can be found at <https://registrar.duke.edu/exam-schedules/exam-schedule-fall-2017>. **You must take all exams at the scheduled time.**

Classroom civility: Respect your classmates. Each lecture starts and ends on time. I understand your busy schedules, but try not to arrive late. Turn off cellphones and other audible devices before entering class. Do not engage in side conversations.

Reading materials: The main class material is contained in the PowerPoint slides that I use in class, posted on Duke Sakai, in the homework assignments and in any other material I may distribute. Be sure to take notes during class.

The textbook for the course is

"Essentials of Investments" by Zvi Bodie, Alex Kane, Alan J. Marcus, 10th edition ("BKM");

Most of the class material is covered in BKM. If you have an earlier, but recent edition of BKM you are fine, there are only minor changes between recent editions. However, page and chapter numbers may vary. If you use an older edition, it is your responsibility to find out the differences with the latest edition.

Reading the textbook is a great way to review the material. BKM is often very good and tightly linked to what we will cover; you will likely find it useful to prepare before class and to go over the material after class. While it is possible to succeed in this class without relying on the textbook, I recommend purchasing it.

Calculator: You need a calculator for this class. Make sure your calculator can handle logarithms and exponentials. It is an advantage to have a financial calculator, but not a requirement. If you plan to take other finance classes, you will get good use out of a financial calculator. Please bring your calculator to class.

You are expected to learn how to operate the calculator on your own. Standard financial calculators include the HP 12C (costs about \$60), the HP 10B--II (costs about \$25) and the TI BA--II Plus (costs about \$30). Also, every student is expected to be comfortable with EXCEL.

Communication: The class website is on Duke Sakai (<https://sakai.duke.edu/>). This is the central location containing all teaching materials. Class announcements will be posted here. Solutions to each homework assignment will be posted after the due date; solutions will not be distributed in class.

Course requirements: Students are required to submit all pieces of assessment by their due dates and to sit for any examinations that are scheduled (see below for details). Students are also expected to attend all lectures and to work consistently through the homework assignments. (Leaving them until the last minute will reveal itself to be a bad strategy.)

Grades: Grades will be based on the final exam (40%), the midterm exam (30%), and homework assignments (30%).

Homework assignment due dates in class (30%):

Homework 1 due in class Wednesday 9/13
Homework 2 due in class Monday 10/2
Homework 3 due in class Monday 11/13
Homework 4 due in class Wednesday 11/29

Midterm exam (30%): in class, Wednesday October 4

Final exam (40%): held in exam week, scheduled by the University. Currently scheduled for Friday December 15, 7-10pm as shown on the Duke Examination Schedule Calendar <https://registrar.duke.edu/exam-schedules/exam-schedule-fall-2017>

Academic Integrity: Note that you are expected to understand and uphold Duke's Community Standard, also known as the Honor Code:

<https://studentaffairs.duke.edu/conduct/about-us/duke-community-standard>

Exams: The midterm and final exams test your understanding of the key concepts in the class. They do not test your ability to memorize or to use your calculator. Note that the final exam is cumulative.

You will be allowed one double-sided page of notes for the midterm exam and two double-sided pages of notes for the final exam. The sheets must be no larger than 8.5 inches by 11 inches. Remember to bring your calculator.

You are not allowed to take the exam questions home, and no written answers will be provided. Once graded, you can review your midterm in my office during office hours, or by appointment. The same rules apply to the final.

Homework assignments: There will be 4 homework assignments over the course of the semester. You are required to hand in a physical copy on the due date in class. Most homeworks contain an Excel question, emphasizing a practical implementation of a concept from class. **Late homeworks are not accepted under any circumstances. If you are away on the due date then the homework must be submitted early.** I understand that there may be exceptional circumstances relating to illness, family emergency, etc. that may prevent you from being able to hand-in a problem set. For this reason, I will drop the lowest problem set score for each student before calculating final grades for the class.

You are encouraged to work in groups on the problems, but you **must** hand in your own completed version. The homework questions are in the spirit of the exam questions; they are meant to help you begin to apply the tools developed in class.

Regrading Policy: I will only accept requests to regrade a homework assignment if you believe that your true grade is more than 4% higher than your written grade on that homework. That is, I actively discourage “grade grubbing”. You should also be aware that if you submit a homework assignment for a regrade, I will regrade the entire homework, and that this has potential to result in a reduction of the homework grade, if I think that the grader has been too generous in any of the marks awarded.

The same regrade policy applies to the exam; that is: only submit an exam for a regrade if you believe that there is a grading error (I’ll permit requests to check errors of 2% or more for exams); and assume that I’ll regrade the entire exam and may remove marks as well as adding them. Any regrades should be requested within 5 days of the homework (or exam) grade assignment.

Course outline:

Main readings are marked "MR" and suggested readings are marked "SR". **Note the homework due dates**

Introduction to Financial Instruments and Markets

Financial instruments:

MR: BKM 1.1-4.

SR: BKM 1.5-1.7, Chapter 2.

Financial Markets:

MR: BKM 3.1-3

SR: BKM 3.4-3.9.

Performance of Securities

Present and future value, annuities, perpetuities. Compounding and measuring returns.

MR: BKM 5.1-3

Homework 1 due in class Wednesday 9/13

Portfolio Choice

Statistics Review, portfolio choice and portfolio returns; efficient portfolios with two risky securities. Optimal portfolios and investor preferences. Efficient and optimal portfolios with a riskless asset.

MR: BKM 5.3, 5.5-6, 6.1-5

SR: BKM 6.6

Capital Asset Pricing Model

Introduction to the Capital Asset Pricing Model. Applications of the CAPM. Beyond the CAPM.

MR: BKM 7.1-2, 7.4

SR: BKM 7.3

Homework 2 due in class Monday 10/2

Midterm: Wednesday 10/4 in class

Market Efficiency

Return anomalies and market efficiency.

MR: BKM 8

Equity Valuation

Dividend discount models and valuation ratios

MR: BKM 13.1-4

SR: BKM 13.5-6.

Arbitrage

Arbitrage and the Law of One Price.

Fixed Income Securities

Bond prices and yields. Bond returns, forward rates, and the yield curve. Duration, convexity and immunization

MR: BKM 10.1-4, 10.6, 11.1-3

SR: BKM 10.5.

Homework 3 due in class Monday 11/13

Derivatives

Option basics and strategies. The Black-Scholes-Merton option pricing formula.
Futures and swaps.

MR: BKM 15.1-2, 16.1, 17.1, 17.3-6

SR: BKM 15.3-4, 17.2

Homework 4 due in class Monday 11/29

Monday 12/04 Exam review

Wednesday 12/06 Final lecture, exam review

Final Exam: Friday December 15, 7-10pm

As shown on the Duke Examination Schedule Calendar <https://registrar.duke.edu/exam-schedules/exam-schedule-fall-2017>