

**FINANCE 238/738: CAPITAL MARKETS**  
**Spring 2015**

**Prof. Jakub W. Jurek**

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Office hours: TBD.

## **COURSE DESCRIPTION:**

The objective of this course is to give you a broad understanding of the instruments traded in modern financial markets, the mechanisms that facilitate their trading and issuance, as well as, the motivations of issuers and investors across different asset classes. The course will balance functional and institutional perspectives by highlighting the problems capital markets participants are seeking to solve, as well as, the existing assets and markets which have arisen to accomplish these goals. We will consider design, issuance, and pricing of financial instruments, the arbitrage strategies which keep their prices in-line with one another, and the associated economic and financial stability issues. The course is taught in lecture format, and illustrates key concepts by drawing on a collection of case studies and visits from industry experts.

## **CLASS HOURS** (*unless otherwise noted on Canvas*):

FNCE 238 01	TTh 9:00 am – 10:20 am, JMHH 265
FNCE 738 01	TTh 10:30 am – 11:50 am, JMHH 265
FNCE 738 02	TTh 1:30 pm – 2:50 pm, JMHH 250

**LOCATION** (*unless otherwise noted on Canvas*): See above. On days with guest speakers there will be no course lecture, and the instead the course will meet in a single, joint session at a time and place that will be posted on Canvas.

## **COURSE MATERIALS:**

- PowerPoint slides for all of the class sessions will be made available on Canvas.
- A course bulkpack containing supplementary material (e.g. articles, cases) will be made available via Study.Net. The bulkpack readings are for background; you are responsible for their content only to the extent that we discuss it in class, or it appears on homework assignments.
- There is no textbook for the course, though you may find textbooks from prior coursework in finance (Corporate Finance, Fixed Income, Derivatives) a useful reference.

## **GRADING**

Your final course grade will be based on:

- 60% on the top 5 of the six quizzes
- 40% on the top 5 of the six homework assignments

There will be no tests other than the six quizzes. **There will be no midterm or final exam.** Grades are determined using a class-wide (i.e. across all of the sections) curve that respects any constraints imposed by the University or Wharton. Thus it is your score relative to other students, and not the raw score, which determines your final grade. Class participation may be used to determine grades at the margin.

## DUE DATES:

There will be approximately one deliverable each week, either a quiz or a homework assignment.

- Quizzes will take place in-class on **2/3, 2/17, 3/3, 3/26, 4/7, 4/23.**
- Homework assignments are due on **1/27, 2/10, 2/24, 3/19, 4/9, 4/28.**

## COURSE POLICIES:

- **QUIZZES: There will be six quizzes, roughly every two weeks.** They will be in-class, taking approximately the first 30 minutes. In order to account for illnesses, emergencies, interviews and other events that might take you from the classroom, I will count only the top 5 of your 6 scores. There will be no makeups.
- **REGRADES: Students have exactly one week to request a regrade.** The request must be attached to the quiz and clearly state the reason(s) for the regrade. If the regrade request is accepted, the quiz will be regarded in its entirety. As a result, the revised score may go up, down, or stay the same.
- **HOMEWORKS: Late assignments will not be accepted under any circumstances.** All assignments must be submitted at the dates/time that they are due as specified on Canvas (before class). A late *or* missing case assignment will result in a zero grade. Homeworks are to be completed individually.
- **ATTENDANCE: Students are expected to attend all classes.** Please sit in the same location for the duration of the semester and display your name card. As a courtesy to other students, phones, laptops and other electronic devices should be turned off.

## GUEST SPEAKERS

There will be six guest speakers over the course of the semester. **On a day with a guest speaker, their talk is the only class of the day.** It is very important to the Wharton School that you attend these presentations. The guest speakers for the class this semester are:

<b>Tobias Adrian</b> (February 10, TBD)	Senior Vice President of the Federal Reserve Bank of New York Head of Capital Markets Function
<b>Howard Marks</b> (February 26, 4.30pm)	Co-Chairman, Oaktree Capital Management, LP
<b>Andy Rachleff</b> (March 19, 1.30pm)	Co-Founder and Executive Chairman of Wealthfront Inc. Co-Founder and General Partner of Benchmark Capital (until 2004)
<b>Christopher Ricciardi</b> (March 24, TBD)	Principal and Co-Founder, Mead Park Management
<b>John J. Brennan</b> (April 9, 1.30pm)	Chairman and CEO of The Vanguard Group (until 2008)
<b>Ronen Israel</b> (April 21, TBD)	Principal, AQR Capital Management, LLC

## TEACHING ASSISTANTS AND OFFICE HOURS

TAs can help you with your questions about the course material or structure. Each TA will address questions in office hours and by e-mail *according to the following schedule*:

Stephanie Li	<a href="mailto:stephli@wharton.upenn.edu">stephli@wharton.upenn.edu</a>	Location/time: <b>SHDH 2305, Desk B, W 3:00-4:00PM.</b>
Tanya Paul	<a href="mailto:paultan@wharton.upenn.edu">paultan@wharton.upenn.edu</a>	Location/time: <b>TBD</b>
James Zhou	<a href="mailto:jamesz@wharton.upenn.edu">jamesz@wharton.upenn.edu</a>	Location/time: <b>SHDH 2305, Desk C, M 4:30-5:30PM.</b>

## FACULTY MEALS

If you are interested in getting lunch, please sign up on Canvas. I have allocated a number of days during the semester. The Student-Faculty Meals program is for both undergraduate and graduate students. Full details on the policy can be found [here](#).

## ETHICS AND USE OF PRIOR MATERIALS

Students are expected to respect the [University of Pennsylvania's Code of Academic Integrity](#) and to behave with integrity in all aspects of the course. Students are encouraged to discuss the cases and other content of the course with MBA students in their own section and in other sections. **However, students should not discuss the content related to the current day's class discussion or exam during the time period between sections to avoid giving later sections an unfair advantage.** Violations of the honor code will be immediately reported to the administration.

## COMMUNICATING WITH ME

The best way to contact me outside of the classroom is via email. Please put "FNCE238" or "FNCE738" in the subject line to minimize the chances of your e-mail being mishandled. Please do not ask me long, detailed questions about the course, or questions that (may) require a long, detailed response. I am happy to meet with students outside the classroom so email me to schedule an appointment.

Please let me know of any difficulties you may be having with the course as soon as possible. These difficulties may arise from the course itself, or external forces (e.g., other courses, personal issues). Regardless of the source, let me know as soon as possible so we can work together to avoid larger problems later on. Wharton and the University offer a wide range of support services that are geared towards helping students.

**COURSE OUTLINE**  
*Preliminary and Subject to Change*

**1. Introduction**

**2. Treasury Bonds**

- a. Basic coupon bond
- b. Pricing conventions: accrued interest, ytm
- c. Floating and trading Treasuries; on vs. off-the run
- d. Simple arbitrage relations
- e. Swaps
- f. Short-term risk of long-term arbitrage
- g. Duration / convexity

**3. Repo Markets**

- a. Basic repurchase agreement
- b. Margin, pricing and collateral
- c. Run on Repo
- d. Shadow banking
- e. Tri-Party Repo and recent developments
- f. Shorting with Repo; Securities Lending
- g. Monetary policy and open-market operations
- h. Case Studies:
  - i. Arbitrage in the Government Bond Market?
  - ii. Deutsche Bank: Finding Relative Value Trades
  - iii. Fixed-Income Arbitrage in a Financial Crisis

**4. Money Market Funds and Commercial Paper**

- a. Common instruments
- b. Asset-backed commercial paper (ABCP)
- c. Money Market Funds; Stable NAV and runs
- d. Bank runs – Diamond/Dybvig Model
- e. Defending against bank runs (deposit insurance, suspension of convertibility, lender of last resort)
- f. Case Study:
  - i. Breaking the Buck

**5. Credit Risk**

- a. Structural model of debt
- b. Put/call parity
- c. One-period binomial option pricing
- d. Multi-period binomial option pricing
- e. Valuing default risk as put on firm value
- f. Leverage and enterprise vs. shareholder value (underinvestment and debt overhang)

**6. Bond Defaults and Credit Rating Agencies**

- a. Role of bond ratings
- b. Events of default: Financial vs. technical
- c. Financial distress and corporate restructuring

**7. Credit Default Swaps**

- a. Market Structure
- b. Valuation (roughly)

- c. Settlement after credit event
- d. Sovereign CDS

## 8. Alternatives to Straight Debt

- a. Convertibles
- b. Preferred Equity: Taxable, Non-Taxable
- c. Floating Rate
- d. Auction-Rate; Death Spiral; other dormant/extinct security designs
- e. Case Study:
  - i. UBS and Auction-Rate Securities

## 9. Structured Finance

- a. Asset-backed securities
- b. Risk-mitigation (reserve accounts, subordination, excess spread)
- c. Pooling and tranching
- d. Default risk and correlation
- e. CDOs/CLOs/SIVs
- f. Case Study:
  - i. AIG Blame for the Bailout
  - ii. A Tale of Two Hedge Funds: Magnetar and Peloton

## 10. Mortgage Backed Securities

- a. Consumer finance (mortgages, car loans and other installment loans)
- b. Fannie & Freddie; basic mechanics
- c. Prepayment risk
- d. Sequential tranching
- e. IO/PO; Floaters & Inverse Floaters; PACs & Support bonds

## 11. Raising Capital in Equity Markets

- a. Structure of rights offerings
- b. SEOs: traditional / shelf offerings / bought deals
- c. IPOs: mechanism and underpricing
- d. Venture capital
- e. Case Study:
  - i. Preparing for the Google IPO

## 12. Equity Market Mechanics

- a. Bid-ask spread
- b. Limit order book
- c. Order types
- d. Price pressure
- e. Dark pools and HFT
- f. Securities lending and short selling

## 13. Mutual Funds

- a. Open-End Funds
- b. Closed-End Funds
- c. ETFs/ETNs
- d. Performance
- e. Case Studies:
  - i. Securities Lending After the Crisis
  - ii. Exchange-Traded Funds at Vanguard

## 14. Hedge Funds

- a. Incentive fees and high-water marks
- b. Performance
- c. Stale pricing and true betas
- d. UCITS
- e. Liquid alternatives and HF replication
- f. Limits to arbitrage
- g. Case Study:
  - i. AQR's DELTA Strategy