



# **VENTURE CAPITAL AND THE FINANCE OF INNOVATION**

## **FNCE 250**

**SPRING SEMESTER 2016**

Pavel Zryumov, Assistant Professor of Finance

Email: [pzryumov@wharton.upenn.edu](mailto:pzryumov@wharton.upenn.edu)

Office: 2452 SHDH

Lectures: Tuesday/Thursday, 10:30am and 12:00pm

Office Hours: TBD

### **PREREQUISITES**

FNCE 100 and FNCE 101 are both prerequisites. FNCE 101 may be taken concurrently with FNCE 250.

### **SUMMARY**

The course covers the finance of technological innovation, with an emphasis on the quantitative methods useful for venture capital investing. We will cover all the stages of investment in early stage high-growth companies, from the seed funding of a novel idea to venture capital rounds to a successful exit, be it an IPO or through M&A. This is first and foremost a finance course, so we will not cover the management, strategy, legal, marketing and other non-financial topics that are also important in VC investing. The primary audience for this course is finance majors interested in careers in venture capital, entrepreneurship, or R&D-intensive companies (e.g., pharma, tech). There are five in-class quizzes and one team project with four deliverables throughout the semester.

### **GOALS FOR THIS COURSE**

The course's goals, from most to least important, are

1. Help students gain a deeper understanding of finance
2. Provide students with a framework for making investment decisions about high-technology projects
3. Provide students with institutional background, specialized vocabulary, and important facts about the venture capital industry
4. Expose students to several promising new companies

## HOW DOES THIS COURSE COMPARE TO OTHERS?

The course complements several entrepreneurship courses offered in various Wharton departments. The most closely related course is MGMT 264, Venture Capital and Entrepreneurial Management. There will be some overlapping topics in the first half of the course, when we learn the basics of the VC industry, but virtually no overlap in the second half, when we build on the basics.

## MATERIALS AND READINGS

### REQUIRED

- PRIMARY TEXTBOOK: *Venture Capital & the Finance of Innovation (VCFI)* (John Wiley and Sons), available in the bookstore. Make sure you buy the 2<sup>nd</sup> edition, which has a dark brown cover.
- CASES: There will be five cases, which will be posted online.
- OTHER: A number of recent articles from the popular press and academic literature will be posted online. Some of them will be discussed in class and may appear on the quizzes.

### OPTIONAL

- REVIEW QUESTIONS AND SOLUTIONS: Practice problems and review questions will be posted online together with the solutions.
- SOLUTIONS TO TEXTBOOK EXERCISES: Posted on Canvas in the “Exercises from the textbook” folder.
- OTHER: Additional interesting and relevant materials will be posted online in the “Optional readings” folder. They are not required and will not appear on quizzes.

## GRADING

There are three components to the course grade, for a total of 100 points:

- QUIZZES (40 points)
- TEAM PROJECT (40 points)
- CLASSROOM PARTICIPATION (20 points)

## **QUIZZES**

- Best 4 out of 5 count towards the final grade.
- **FORMAT:** in-class, closed book, 20-25 minutes long.
- **SCOPE:** The quizzes will cover only required material which may include material outside of lectures.
- **NO MAKE-UP QUIZZES.** Since I drop your lowest quiz grade, it is no problem to miss one quiz for any reason, including a job interview, a vacation, or a bad hair day.
- **RE-GRADE POLICY:** Written appeals are accepted within one week of the assignment return date. Please hand the typed appeal to the receptionist in the finance department on the second floor of SHDH. The entire assignment/exam will be regraded, as a result your score may go up or down. Parts of quizzes written in pencil will not be re-graded.

## **TEAM PROJECT**

### **TEAMS**

Every team should have three or four members. All members of the team will receive the same grade. Switching teams mid-semester is not allowed

### **PROJECT**

Your team will take on the role of VCs evaluating a hypothetical investment in a real company of your choosing. There will be four deliverables spaced throughout the semester:

- **SOURCING THE DEAL (5 points):** Find a company to analyze and submit a short memo describing the company and the investment opportunity. The main requirements are that the company be privately owned (i.e., pre-IPO), less than 10 years old, and in one of the typical industries VC invest in. Most importantly, your team should choose a company that you're excited to learn about.
- **TOTAL VALUATION (15 points):** Perform a detailed DCF valuation of the company, including an in-depth analysis of addressable market size.
- **PARTIAL VALUATION, TERM SHEET, AND NEGOTIATION STRATEGY (15 points):** Write a term sheet that describes the terms of the deal, including security type, number of shares, amount invested, and protective covenants. You will also write an internal memo to the senior VC partners describing your negotiation strategy.
- **IN-CLASS PRESENTATION (5 points):** Each team will give a short presentation on the company and deal in front of the class. These will happen at the end of the semester.

## **FREE LUNCH**

I look forward to taking small groups of students out to lunch. You can sign up for these on Canvas. I will post an announcement on Canvas each time I schedule a new lunch.

## **COURSE TOPICS AND SCHEDULE**

The list of topics below is approximate and incomplete. Some topics will take more than one lecture, others less.

In addition, there will be at least three guest speaker talks that may happen outside of scheduled class time.

1. Overview of the VC industry
2. Structure of VC firms and funds
3. VC fund performance
4. VC investment process and due diligence
5. Term sheets
6. Preferred stock
7. Dilution and anti-dilution protection
8. Evaluating high-growth opportunities: VC Method, DCF and Multiples
9. Valuing preferred stock: Series A and later rounds
10. Angel financing and convertible debt
11. Exit: IPOs and M&As