

# Venture Capital and the Finance of Innovation

FNCE 750

Fall 2013

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Luke Taylor, Assistant Professor of Finance

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

Office: 2429 SHDH

Office hours with Luke: Tuesdays, 4:30-6pm and by appointment

Office hours with Jose (head TA): Wednesdays, 3-4:30pm, SHDH Finance Department, Desk B

Course website on Canvas: <https://wharton.instructure.com/courses/1163453>

Lectures: Monday/Wednesday, 1:30-2:50pm, Vance Hall Room B-11

## PREREQUISITES

FNCE 601 and FNCE 602 are both prerequisites. FNCE 602 may be taken concurrently with FNCE 750.

## SUMMARY

The course covers the finance of technological innovation, with an emphasis on the quantitative methods useful for venture capital investing. The primary audience for this course is finance majors interested in careers in venture capital or in R&D-intensive companies in health care or information technology. There is one in-class test and four team projects.

## GOALS FOR THIS COURSE

We will use venture capital as a vehicle for studying several advanced topics in finance. The benefit of this approach is that course will be useful for students pursuing a wide range of careers in finance, not just in VC. The downside is that the course will cover some topics that are not useful to practicing VCs (but are useful in other finance jobs). The course's goals, from most to least important, are

1. Help students gain a deeper understanding of finance
2. Provide 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

## TEACHING ASSISTANTS

Head TA: Jose Escobedo, MBA class of '14

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

I (Luke) am the one responsible for making sure you understand the course's content. However, if you have questions about **study questions, practice exams, or team projects**, please direct them to Jose in his weekly office hours (Wednesdays 3-4:30pm, SHDH Finance Department, Desk B). You can also email these questions to Jose ([jesco@wharton.upenn.edu](mailto:jesco@wharton.upenn.edu)), but it will be easiest to communicate in office hours. Direct any other questions to me at office hours or by

emailing [luket@wharton.upenn.edu](mailto:luket@wharton.upenn.edu). Jose and I promise an email response within 24 hours on weekdays. We will not be able to answer emails sent less than 24 hours of due dates or tests.

### **HOW DOES THE COURSE COMPARE TO OTHERS?**

The course complements several entrepreneurship courses offered in various Wharton departments. The most closely related course is MGMT 804, Venture Capital and Entrepreneurial Management. There will be some overlapped materials in the first half (where we learn the basics of the venture capital industry), but virtually no overlap in the second half of the semester (where we build on the basics).

### **READINGS**

- **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. Two will be on the course website, three will be on study.net.
- **Other required readings:** I will occasionally email you articles from the popular press and academic literature. These are required reading. We will sometimes discuss them in class, and they may appear on the exam. In addition to emailing you the articles directly, I will also store all these articles on Canvas in the “Required reading” folder. If you find an article you think your classmates may like, please email it to me.
- **Other optional readings:** I’ll occasionally post on Canvas articles that are interesting but not required. These are in the “Optional readings” folder.
- **Review questions and solutions:** Details on these below.
- **Solutions to textbook exercises:** Posted on Canvas in folder “Exercises from the textbook.”

### **GRADING**

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

- Group projects (55 points)
  1. Portfolio analysis (5 points)
  2. Total valuation (15 points)
  3. Partial valuation (5 points)
  4. Final project: Zenkars (30 points)
- In-class test on December 4th (30 points)
- Classroom participation (15 points)

A few other notes:

- The **in-class test** will cover lectures, study questions, and readings. The test will not cover guest speakers.
- The test and projects may cover **material from outside of lectures**. I do this because I don’t have enough time in lecture to teach you everything you need to learn, and I have faith in your ability to learn some material on your own. Of course, Jose and I will be there to help you if you get stuck on this additional material.

- **Classroom participation** is based on the quality of participation, not just the quantity. You must use a name card to get credit for classroom participation. I won't post videos of regular lectures, except in special circumstances like religious holidays.
- **Re-grade policy:** You have one week from the date on which the assignment or test is handed back to submit a written appeal that clearly identifies your section. Please hand the typed appeal to the receptionist in the finance department on the second floor of SHDH. We will then re-grade the entire assignment/exam, and as a result your score may go up or down. We will not re-grade parts of exams that are written in pencil.
- You can see what **past tests** looked like by going to Canvas → "Tests" folder.
- **Cheating.** By enrolling in this course, you are explicitly agreeing to abide by the Student Code of Conduct. If there is any doubt as to whether or not your actions constitute cheating, please contact me.
- **Missing the test.** If you know you will not be able to take the in-class test on December 4th, you should drop the class. I follow Wharton's official examination policy, which you can find here: <http://www.wharton.upenn.edu/mbaresource/misc/academic-policies.cfm>. Here is an excerpt from that website: "If you have documentable special circumstances such as time conflicts between multiple exams, illness, or grave personal difficulties such as a death in the family, you should petition the MBA Program Office, which will work with the faculty in appropriate cases to find a resolution. The MBA Program Office will require documentation of your conflict as a matter of course... You should never approach your instructors with requests to reschedule exams or to make special accommodations."
- **Closed-book policy.** The test is closed book. The only notes allowed during the in-class test are two pieces of 8½" – 11" paper containing typed or hand-written notes on both sides of the paper.

## GROUP PROJECTS

- The **final project** integrates the material from the semester and asks you to apply it to a real business scenario. Your team will analyze a hypothetical VC investment in Zenkars, the company that won last year's Wharton Business Plan Competition. I will give you Zenkars' business plan and financials. You will then value the company, draft a Series A term sheet for the VCs to give Zenkars, and prepare a negotiation strategy for the VC partners.
- **Groups.** Projects can be done individually or in teams of up to four members. Working in teams is strongly encouraged but is not required. All members of the team will receive the same grade. It is okay to switch teams during the semester. You do not need to create your groups on Canvas.
- **Comparing answers with other groups** is cheating.
- **Projects turned in late** will not be accepted, since I will post solutions immediately after the project is due. In the event of an illness or family emergency, please make sure one of your teammates turns in the project on time.
- **Style counts.** Quality of the write-up will be factored into the project grades. We will penalize poorly organized, poorly written, or excessively long write-ups.
- **Show your work.** For questions requiring calculations, please explicitly write out and explain your calculations in your write-ups whenever possible. Doing this, rather than merely copying the final numbers from your spreadsheets, has two benefits. First, it will help

you prepare for examinations, when you will need to rely only on calculators. Second, it will help us understand what you did and give you credit accordingly.

### TIPS ON SUCCEEDING IN THE COURSE

- Always print out the lecture notes before class. You'll find the notes on Canvas. The notes often have blank sections that I expect you to fill in during class. Alternatively, bring the notes on an iPad or other tablet. If you miss a lecture, be sure to borrow a classmate's completed lecture notes.
- Understand all the content and examples from lectures.
- Do the required readings before each lecture. This is especially true for cases and articles from the popular press, because we'll have classroom discussions about these.
- Find good teammates, and put in lots of hours on the group projects.

Doing the items above is probably enough to get you a B. To get an A:

- Do the **review questions**. For most lectures I will post review questions and their solutions (Canvas website → "Review Questions"). These are not turned in or graded. Working on these questions is an excellent way to prepare for the in-class test. I expect you to spend a significant amount of time every week working through these questions. I strongly encourage you to work through the questions before consulting the solution. The review questions introduce some material that we did not cover in lecture. I expect you to learn this material on your own. On the bright side, you'll have the solutions, and Jose and I are here to help if you need it.

To get an A+:

- Also work through all the examples in the textbook chapters. I posted solutions to all textbook examples on Canvas.
- Take notes on the required readings. Study the notes before the test.

### FREE LUNCH!

I look forward to taking small groups of students out to lunch. You can sign up for these on Canvas. Here's how: Canvas website → Calendar → Scheduler. I will post an announcement on Canvas each time I schedule a new lunch. Feel free to sign up for multiple lunches. However, to make sure all students have a chance to join a lunch, if you have already been to one lunch then please wait until the day before to sign up for subsequent lunches.

### COURSE SCHEDULE , TOPICS, AND READINGS

The schedule below is approximate. Some topics will take longer than one lecture, others shorter. Our last guest speaker has not yet chosen a date, so we may have to move some lectures around to accommodate him. Also, my wife is supposed to have a baby in late December, so

there's a small chance that could get interesting. Since the schedule below is only approximate, I will send you weekly emails letting you know how to prepare for the coming week.

The only date that definitely won't change is the in-class test date: December 4th. Please mark your calendar immediately for the test and scheduled guest speakers.

Guest speakers typically happen outside scheduled class time. The reason is that I have three sections (two undergrad, one MBA), and I cannot ask a guest speaker to speak three times. I realize this means some students will have to miss the guest speakers because of schedule conflicts with other classes. Of course, if you don't have such a conflict, I expect you to be there. I always ask guest speakers if we can videotape, but they usually say no. I'm sorry if you have to miss a guest speaker.

In the schedule below, VCFI refers to the course textbook, *Venture Capital and the Finance of Innovation*. I will email you additional required readings throughout the semester.

Date	Topic	Readings
Aug. 28	Introduction	Syllabus
Sept. 2	No class (Labor Day)	
Sept. 4	The VC industry	VCFI Ch. 1
Sept. 9	Structure of VC firms and funds	VCFI Ch. 2., Accel VII case
Sept. 11	VC fund performance	VCFI Ch. 3
Sept. 16	The risk-reward tradeoff in VC (1 of 2)	VCFI Ch. 7.1, 4
Sept. 18	The risk-reward tradeoff in VC (2 of 2)	
Sept. 23	VC investment process and due diligence	VCFI Ch. 7.2, Iron Gate case
Sept. 25	Term sheets	VCFI Ch. 8, Iron Gate case
Sept. 30	Preferred stock	VCFI 9.1
Oct. 2	<b>No lecture</b>	
Oct. 3 (Thurs)	<b>Guest speaker:</b> Ted Schlein, Kleiner Perkins Caufield & Byers. Time and place TBD	
Oct. 7	Dilution and anti-dilution protection	VCFI 9.2
Oct. 9	<b>No lecture</b> <b>Guest speaker:</b> Erik Hirsch, Chief Investment Officer, Hamilton Lane, 4:30-5:50pm, room TBD	
Oct. 14	Evaluating high-growth opportunities	VCFI Ch. 10
Oct. 16	An analysis of Atricure	HBS case
Oct. 21	<b>No lecture</b> <b>Guest speaker:</b> Jeff Fluhr, CEO and founder of StubbHub, SpreeCast. 4:30-5:50pm, room TBD	
Oct. 23	Valuation by DCF	<i>Valuation</i> Chapter 34
Oct. 28	Valuation using multiples	VCFI Ch. 12
Oct. 30	Options in VC	VCFI Ch. 13
Nov. 4	Valuing preferred stock: Series A	VCFI Ch. 14
Nov. 6	Valuing preferred stock: Later rounds	VCFI Ch. 15, 17
Nov. 11	Case: Endeca	Endeca A and B (HBS case)
Nov. 13	Managing the portfolio	Milliway Capital (HBS case)
Nov. 18	IPOs	
Nov. 20	Buffer for guest speaker, additional topics	
Nov. 25	Buffer for guest speaker, additional topics	
Nov. 27	No class (day before Thanksgiving)	
Dec. 2	Optional in-class review session for test	
Dec. 4	<b>In-class test</b>	
Dec. 9	The future of VC	Kaplan and Lerner (2010)
Dec. 16	Final project due	