

Venture Capital and the Finance of Innovation

FNCE 7500
Spring 2023

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Lectures: Tuesday/Thursday

- a. Section 7500001: 08:30-10:00am in JMHH 350
- b. Section 7500002: 10:15-11:45am in JMHH350
- c. Section 7500003: 01:45-03:15pm in LAUD AUD

Office hours with me: Canvas → Zoom, Fridays, 09:30-10:30am and by appointment.

Office hours with TAs: Canvas → Zoom, TBD

PREREQUISITES

FNCE 6110 (or 6120), or the finance department has allowed you to waive 6110 by credential.

SUMMARY

The course covers the finance of technological innovation, with an emphasis on the quantitative methods useful for venture capital investing. 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., tech, pharma). There are four 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 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, successful venture capital exits, and technological advancements.

GETTING HELP / TEACHING ASSISTANTS

Our TAs are Clara (Chi) Xu, Clara Xu, Avishee Gupta, Lindsey Sheppard, Hou (Harry) Haoxiang, William Cheng, Kush Pandey and Micherice Tao.

There are several ways you can get help with questions throughout the semester:

1. Ask me (Jonathan) in weekly office hours (Friday, 09:30-10:30am, on Zoom)
2. Ask our TAs in their weekly office hours (times TBD, on Zoom)

3. Email us:

- Jonathan: jonzand@wharton.upenn.edu
- Clara (Chi) Xu: chixu@wharton.upenn.edu
- Avishee Gupta: avishee@wharton.upenn.edu
- Lindsey Sheppard: lshepp@wharton.upenn.edu
- Harry Hou: hharry27@wharton.upenn.edu
- William Cheng: wilcheng@wharton.upenn.edu
- Kush Pandey: kpandey@wharton.upenn.edu
- Micherice Tao: mtao@seas.upenn.edu

The TAs and I promise replies to emails within 24 hours on weekdays. We cannot promise replies to emails sent less than 24 hours before due dates or quizzes.

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 overlapping materials 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.

READINGS

- **Priority:** Each week I'll email you the upcoming week's readings, and I will also tell you the priority of each reading.
- **Primary textbooks:**
 - *Venture Capital & the Finance of Innovation*, 3rd edition, by Metrick and Yasuda.
 - *Venture Deals*, 4th edition, by Feld and Mendelson
 - **Optional:** *Secrets of Sand Hill Road*, by Scott Kupor
 - **Optional:** *VC An American History*, by Tom Nicholas

The textbook is excellent and worth buying. Metrick and Yasuda's is more academic and financial, Feld and Mendelson's and Kupor are more practical and legal, and Nicholas' is more focused on the historical overview of the industry.

- **Cases:** There will be four cases available on Study.net. You will need to submit a paragraph-long (200 words max) write-up on two of those cases which **I'll choose**. These write-ups are usually very simple to answer once you read the case.
- **Other required readings:** I'll occasionally send you articles from the academic and popular press. We'll sometimes discuss them in class, and they may appear on the quizzes.
- **Ed Discussion:** If you find a newspaper article, blog post, etc. you think your classmates or I may like, post it to Ed Discussion via our Canvas site. You can find the Ed Discussion tab on the far-left column of our Canvas site. Post these readings in the folder "Interesting Readings." I'll also be posting interesting articles I find. Check out and comment on readings your peers have posted. This Ed Discussion board will be a nice way to keep up with industry trends and see more real-world examples. These readings are optional, but posting and commenting on Ed Discussion can help your participation grade. More on Ed Discussion below.

- **Review questions and solutions:** Details on these below.
- **Solutions to textbook exercises:** Posted on Canvas in folder “Exercises from the textbook.”

GRADING

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

- Team project (**45 points**). Four deliverables:
 1. Sourcing the deal (**5 points**, due Feb. 8th)
 2. Valuing the company (**15 points**, due Feb. 24th)
 3. In-class presentation (**10 points**, due Apr. 14th, 19th, or 21st)
 4. Partial valuation, term sheet, and negotiation strategy (**15 points**, due Apr. 28th)
- Four in-class quizzes, ten points each. I will drop your lowest score out of the four (**30 points**).
- Two case writeups 2.5 points each (**5 points**)
- Participation (**20 points**)

A few other notes:

- **Please always bring your name card to class.**
- The **in-class quizzes** will cover lectures, study questions, and readings. They only cover material since the previous quiz, so they’re not cumulative. Each quiz will take 25 minutes.
- **Missing quizzes.** Since I drop your lowest quiz grade, it’s no problem to miss one quiz for any reason, including a job interview, broken alarm clock, bad hair day, etc. **For that same reason, I will not offer make-up quizzes except in the event of grave illness or family emergency.** You should plan on sitting for all four quizzes. “Stuff” happens, and I don’t want you to get an LT just because you planned to miss one quiz but ended up missing two. This has happened!
- The quizzes and projects may cover **material from outside of lectures**. I do this because we don’t have enough time in lecture to cover everything you need to learn, and I have faith in your ability to learn some material on your own. Of course, the TAs and I are here to help you if you get stuck on this additional material.
- Your **participation grade** depends on both the quantity and quality of participation. The grade mainly depends on what you do inside the classroom, but putting high-quality posts and comments on Ed Discussion is one small way to help your participation grade.
- **Re-grade policy:** You have one week from the date on which the assignment or quiz is handed back to submit a written appeal. 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/quiz, and as a result your score may go up or down. We will not re-grade parts of quizzes written in pencil.
- **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 ask me.
- **Cheat sheet.** The quizzes are closed book although **I’ll allow one-page (one-sided) cheat sheet.** I **expect** you to memorize fundamental facts brought up in class as I believe they will help you in your careers.

TEAM PROJECT

- The semester-long **team project** integrates the course material and asks you to apply it to a VC investment scenario. Your team will take on the role of VCs evaluating a hypothetical investment in a real company of your choosing. You can find a detailed description of the project on Canvas → Files → Project. Here is an overview of the five deliverables, which are spaced throughout the semester:
 - **Choose a company** (not graded): Form a group of five and choose three companies you want to analyze. We will do our best to let you work on your top priority. The main requirements are that the company be privately owned (i.e., pre-IPO), less than 15 years old, and in the typical industries VC invest in. Most important, your team should choose a company that you're excited to learn about. **Unfortunately, data availability will severely limit your choice of company, so choose wisely.**
 - **Sourcing the deal** (5 points): Submit a short memo describing the company and investment opportunity.
 - **Total valuation** (15 points): Perform a detailed DCF valuation of the company, including an in-depth analysis of addressable market size and comparables.
 - **In-class presentation** (10 points): At the end of the semester, each team will give a short presentation on the company and the team's valuation in front of the class. Your classmates will vote on the best presentation. **The best team will win something awesome.**
 - **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.
- **Teams** will have five members, three teams in each section will have six members. All team members are expected to contribute to all five deliverables. All members of the team will receive the same grade. Switching teams is not allowed.
- Avoid “**differently motivated**” teammates. It can be frustrating when a teammate doesn't do their fair share of the work. Make sure your teammates are as motivated as you are. Ask potential teammates whether they are taking the course pass/fail and how hard they plan to work on the project. **You will be required to rate your teammates' contribution at the end of the term.**
- You can find **15+ examples of successful projects from previous years** on Canvas → Files → Project → Examples of good past projects. Studying these is a great way to learn the course material.

HOW TO GET THE MOST OUT OF THE COURSE (AND GET A GOOD GRADE!)

From most to least important:

- Study the content and examples from lectures, which requires taking good lecture notes.
- Make sure you know how to solve every exercise and example I gave in class.
- Do the required readings before each lecture. This is especially true for cases and articles that we plan on discussing in class. Take notes on all the required readings, and study those notes before the quizzes. I expect you to remember the main points from the readings.

- Find good teammates and put in lots of hours on the group project. Look at the sample projects from previous years to see what I'm looking for.
- 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 quizzes. 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 the TAs and I are here to help if you need it.

LUNCH!

I look forward to taking small groups of students out to lunch. You can sign up for these on Canvas → Calendar → Scheduler. I plan on taking 5-10 students a week to [Louie Louie](#). Only one lunch per semester, let's give everyone a chance to participate.

COURSE SCHEDULE, TOPICS, AND READINGS

The schedule below is approximate. Some topics will take longer than one session, others shorter, guest speakers might reschedule, and Covid might force us to make some adjustments. **Every week I'll send you an email through canvas describing exactly how to prepare for the following week.**

Also, please note that most guest speakers cannot commit to more than one lecture per visit. Thus, some of those lectures will take place outside regular class hours.

In the schedule below, VCFI refers to *Venture Capital and the Finance of Innovation*, and VD refers to *Venture Deals*. I will post additional required readings throughout the semester.

SCHEDULE

*** Preliminary schedule, dates are subject to change ***

Date	Topic	Reading	Quizzes & Deliverables
Tuesday, January 17, 2023	Intro	Syllabus	
Thursday, January 19, 2023	The VC industry	VCFI (1, 5, 6.1), VD (1)	
Tuesday, January 24, 2023	Structure of VC firms and funds	VCFI (2), VD (12), Accel Case	Accel writeup
Thursday, January 26, 2023	VC fund performance	VCFI (3)	Startup preferences
Tuesday, January 31, 2023	The risk-reward tradeoff in VC + Sourcing a deal	VCFI (7.1, 4)	
Thursday, February 2, 2023	VC investment process, due diligence, and deal	VCFI (7.2), VD (3)	Quiz #1
Tuesday, February 7, 2023	Buffer for Spillover		
Thursday, February 9, 2023	Evaluating high-growth opportunities	VCFI (10)	Project 1
Tuesday, February 14, 2023	Valuation by DCF	Mckinsey's Valuation (36)	
Thursday, February 16, 2023	Valuation using multiples	VCFI (12)	
Tuesday, February 21, 2023	Preferred stock	VCFI (9.1), VD (5), WebTracker Case I	Quiz # 2
Thursday, February 23, 2023	Options in VC	VCFI (13, 16.1)	Midterm survey
Tuesday, February 28, 2023	No class (core exams)		
Thursday, March 2, 2023	No class (core exams)		Project 2
Tuesday, March 7, 2023	No class (spring break)		
Thursday, March 9, 2023	No class (spring break)		
Tuesday, March 14, 2023	Guest Speaker - Eyal Ofir Lazard	TBD	
Thursday, March 16, 2023	Valuing preferred stock: Series A	VCFI (14)	
Tuesday, March 21, 2023	Valuing preferred stock: Later rounds	VCFI (15)	Quiz # 3
Thursday, March 23, 2023	Dilution and anti-dilution protection	VCFI (9.2), WebTracker Case II	WebTracker writeup
Tuesday, March 28, 2023	The Term Sheet	VCFI (8), VD (4, 6, 7)	
Thursday, March 30, 2023	Guest Speaker - Steve Sarracino Activant	TBD	
Tuesday, April 4, 2023	Guest Speaker - Jon Aurbach CRV	All Sections 01:45 pm - 03:15 pm	
Thursday, April 6, 2023	Special seed financing structures	VD (8, 9)	
Tuesday, April 11, 2023	Guest Speaker		
Thursday, April 13, 2023	Team presentations (Team Project #3)		Quiz # 4
Tuesday, April 18, 2023	Team presentations (Team Project #3)		
Thursday, April 20, 2023	Team presentations (Team Project #3) + Course wrap		
Friday, April 28, 2023	No Class		Project 4