Venture Capital and the Finance of Innovation
FNCE 7500
Fall 2023

Instructor: Luke Taylor, John B. Neff Professor in Finance
Email: luket@wharton.upenn.edu
Office: SHDH 2321
Lectures: Monday/Wednesday in JMHH 345
      Section 1: 1:45-3:15pm
      Section 2: 3:30-5:00pm
Office hours with professor: SHDH 2321, Tuesdays, 1-2:30pm and by appointment
Office hours with TAs: Canvas → Zoom, dates and times TBD
Course website on Canvas: https://canvas.upenn.edu/courses/1722809

PREREQUISITES
FNCE 6110 (or 6210), 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:
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 startups.

GETTING HELP / TEACHING ASSISTANTS

Our excellent TAs are Anomitra Banerjee, Alan Chen, Jack Fu, and Wenjia You. Jack is a finance Ph.D. student. Anomitra, Alan, and Wenjia are second-year MBA students.

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

1. Ask me (Luke) in weekly office hours (Tuesdays, 1-2:30pm, SHDH 2321)
2. Ask our TAs in their weekly office hours (Fridays, 3:30-5pm, Canvas → Zoom)

3. Email us:
   - Luke: luket@wharton.upenn.edu
   - Anomitra: anomitra@wharton.upenn.edu
   - Alan: palanc@wharton.upenn.edu
   - Jack: fxi@wharton.upenn.edu
   - Wenjia: ywj@wharton.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 8040, 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. To learn more about the differences between these courses, go to Canvas → Files → Miscellaneous → "Comparing FNCE 750 and MGMT 804.pdf."

READINGS

- **Priority:** Each week I'll post on Canvas the upcoming week's readings, and I will also tell you the priority of each reading.
- **Primary textbooks (both optional)**:
    - *Venture Capital & the Finance of Innovation,* 3nd edition, by Metrick and Yasuda
    - *Venture Deals*, 4th edition, by Feld and Mendelson

  Both textbooks are excellent and worth buying. Metrick/ Yasuda is more academic and financial, Feld/Mendelson is more practical and legal. I am making both optional because we will use only small portions of each book. Both can be purchased online and in the university bookstore.
- **Cases:** There will be approximately four cases. Some will be on the course website, some will be on Study.net.
- **Other required readings:** I'll occasionally send you articles from the academic and popular press. We'll discuss some of these 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, please post it to Ed Discussion, which is integrated into our Canvas site. (Go to Canvas, then look for "Ed Discussion" on the left-hand side.) Check out and comment on readings your peers have posted. The 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.
- **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 grade, for a total of 100 points:
- Team project (40 points). Four deliverables:
  1. Sourcing the deal (5 points, due Sep. 25th)
  2. Valuing the company (15 points, due Oct. 23rd)
  3. In-class presentation (5 points, Nov. 20th, Nov. 27th, and Dec. 4th)
  4. Partial valuation, term sheet, and negotiation strategy (15 points, due Dec. 15th)
- Four in-class quizzes for a total of 40 points. I will drop your lowest score out of the four.
- Participation (20 points)

A few other notes:
- 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 kill your GPA 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 (details above). Using your name card will also help your participation grade, and it will also help everyone get to know each other. We will *not* be using the Attendance and Video Requests app on Canvas to confirm your attendance or request absences.
- **Class recordings:** You may request access to video recordings of a class if you have a good excuse for missing it. Use the Attendance & Video Requests app on our Canvas site to submit these video requests. Your requests will not be automatically approved. You may only submit requests for the past two weeks of class meetings.
- **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 provide a cheat sheet for you on some of the quizzes. You are not allowed to bring your own cheat sheet. Don't worry, you won't have to do much if any rote memorization to prepare for quizzes.

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 should read the detailed description of the project on Canvas → Files →Project. Here is an overview of the four deliverables, which are spaced throughout the semester:
  - **Sourcing the deal** (5 points): Find a company to analyze and submit a short memo describing the company and investment opportunity. The main requirements are that the company be privately owned (i.e., pre-IPO), less than 10 years old, and in the typical industries VCs 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. The project description provides many more details on which companies are eligible for the project.
  - **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** (5 points): Each team will give a short presentation on the company and your team's valuation in front of the class. These will happen at the end of the semester.
  - **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** ideally will have four members. Three is also OK. I may allow teams of five if there is a compelling reason (ask me). I want teams to be large for three reasons: this project requires a lot of work, I want every team to have a chance to present in front of the whole class, and I want to provide each team with quality feedback. All members of the team will receive the same grade. Switching teams mid-semester 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 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.
- 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, but I don't expect you to memorize details.

- 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'll post an announcement on Canvas each time I schedule a new lunch. Only one lunch per semester, please – 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. Every week I'll post on Canvas detailed instructions on preparing for the following week.

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.

Date	Topic	Readings (chapter)	Quizzes & deliverables
Aug. 28	Introduction	Syllabus	
Aug. 30	The VC industry	VD (1)	
Sep. 4	No class (Labor Day)		
Sep. 6	Structure of VC firms and funds (a16z case)	VCFI (2), a16z case	
Sep. 11	VC fund performance	VCFI (3)	
Sep. 13	The risk-reward tradeoff in VC	VCFI (7.1, 4)	
Sep. 18	VC investment process and due diligence	VCFI (7.2), VD (3)	
Sep. 20	Evaluating high-growth opportunities	VCFI (10)	Quiz #1
Sep. 25	Valuation by DCF	McKinsey's *Valuation* (36)	Project Part 1
Sep. 27	Valuation using multiples	VCFI (12)	
Oct. 2	Buffer for additional topics / case		
Oct. 4	Preferred stock	VCFI (9.1), VD (5)	Quiz #2
Oct. 9	Options in VC	VCFI (13, 16.1)	
Oct. 11	No class (core exams)		
Oct. 16	No class (MBA Opportunity Week)		
Oct. 18	No class (MBA Opportunity Week)		
Oct. 23	Valuing preferred stock: Series A	VCFI (14)	Project Part 2
Oct. 25	Valuing preferred stock: Later rounds	VCFI (15)	
Oct. 30	Dilution and anti-dilution protection	VCFI (9.2)	Quiz #3
Nov. 1	**Guest speaker: Vas Natarajan, partner at Accel.**		
Nov. 6	Term sheets (Webtracker case)	VD (4, 6, 7), Webtracker case	
Nov. 8	**Guest speaker: Jason Rhodes, partner at Atlas Venture.**		
Nov. 13	Seed financing structures	VD (8, 9)	
Nov. 15	**Guest speaker: Alex Immerman, partner at a16z.**		
Nov. 20	Team presentations		Project part 3
Nov. 22	No class (Thanksgiving)		
Nov. 27	Team presentations + last quiz		Quiz #4
Nov. 29	**Guest Speaker: Yaron Galai, Co-CEO of Outbrain.** **Both sections meet as usual.**		
Dec. 4	Team presentations + semester wrap-up		
Dec. 15			Project part 4