

# Venture Capital and the Finance of Innovation

FNCE 250  
Spring 2022

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Lectures:

Section 1: Monday/Wednesday 10:15-11:45am in JMHH F60

Section 2: Tuesday/Thursday 10:15-11:45am in JMHH F50

Virtual office hours with professor: Canvas → Zoom, Fridays, 10-11:00am and by appointment

Virtual office hours with TAs: Canvas → TBD

Course website on Canvas: TBD

## PREREQUISITES

FNCE 100

## 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 TBD.

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

1. Ask me (Jonathan) in weekly office hours (Friday, 10-11am, on Zoom)
2. Ask our TAs in their weekly office hours (times TBD, on Zoom)

3. Email us:

- Jonathan: [jonzand@wharton.upenn.edu](mailto:jonzand@wharton.upenn.edu)
- TBD

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. 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 email you 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*, 3<sup>rd</sup> edition, by Metrick and Yasuda.
  - *Venture Deals*, 4<sup>th</sup> edition, by Feld and MendelsonBoth textbooks are excellent and worth buying. Metrick and Yasuda’s is more academic and financial, Feld and Mendelson’s 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 five 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 sometimes discuss them in class, and they may appear on the quizzes.
- **Piazza.** If you find a newspaper article, blog post, etc. you think your classmates or I may like, post it to Piazza via our Canvas site. You can find the Piazza 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 Piazza 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 Piazza can help your participation grade. More on Piazza 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 three components to the course grade, for a total of 100 points:

- Team project (50 points). Four deliverables:

1. Sourcing the deal (10 points, due Feb. 9/10)
  2. Valuing the company (15 points, due Feb. 28/ Mar. 1)
  3. In-class presentation (10 points, due Apr. 14/18, 19/20, or 21/25)
  4. Partial valuation, term sheet, and negotiation strategy (15 points, due May 3/4)
- Four in-class quizzes for a total of 30 points. I will drop your lowest score out of the four.
  - 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 Piazza is one small way to help your participation grade (details above).
- Due to Covid, I have decided to give every student access to **recordings** of every lecture. You'll find these on Canvas under Course Recordings.
- **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 a small number of fundamental facts brought up in class as I believe they will help you in your careers.
- In the second half of the semester, I will let students who want to **boost their grade** lead a ten minute class discussion on relevant news articles. If interested, please reach out after class or by email for more details.

## 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 four deliverables, which are spaced throughout the semester:
  - **Sourcing the deal** (10 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 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.
  - **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): 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** will have five members. Four is also OK, six is not. All team member are expected to contribute to all four 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.
- 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'll post an announcement on Canvas each time I schedule a new lunch. Only one lunch per semester, let's give everyone a chance to participate.

I also plan on taking one of our guest speakers for dinner with a group of ten students. Priority will be given to students who excel in class.

## **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 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.

## SECTION 1

Date	Topic	Readings (chapter)	Quizzes & Deliverables
Jan. 12	Introduction	Syllabus	
Jan. 17	No class (MLK day)		
Jan. 19	The VC industry	VCFI (1, 5, 6.1), VD (1)	
Jan. 24	Structure of VC firms and funds	VCFI (2), VD (12)	
Jan. 26	VC fund performance	VCFI (3)	
Jan. 31	The risk-reward tradeoff in VC + Sourcing a deal	VCFI (7.1, 4)	
Feb. 2	VC investment process and due diligence	VCFI (7.2), VD (3)	Quiz #1
Feb. 7/8	<b>Guest speaker - TBD</b>		
Feb. 9	Evaluating high-growth opportunities	VCFI (10)	Team Project #1
Feb. 14	Valuation by DCF	Mckinsey's Valuation (36)	
Feb. 16	Valuation using multiples	VCFI (12)	
Feb. 21	Options in VC	VCFI (13, 16.1)	Quiz #2
Feb. 23/24	<b>Guest speaker - TBD</b>		
Feb. 28	Buffer for spillover		Team Project #2
Mar. 2	Term sheets	VCFI (8), VD (4, 6, 7)	
Mar. 7	No class (spring break)		
Mar. 9	No class (spring break)		
Mar. 14	Preferred stock	VCFI (9.1), VD (5)	
Mar. 16/17	<b>Guest speaker - TBD</b>		
Mar. 21	Valuing preferred stock: Series A	VCFI (14)	Quiz #3
Mar. 23	Valuing preferred stock: Later rounds	VCFI (15)	
Mar. 28	Dilution and anti-dilution protection	VCFI (9.2)	
Mar. 30/31	<b>Guest speaker - TBD</b>		
Apr. 4	Buffer for spillover		
Apr. 6	Seed financing structures	VD (8, 9)	
Apr. 11/12	<b>Guest speaker - TBD</b>		
Apr. 13	Alternative financing options for startups		
Apr. 18	Team presentations (Team Project #3)		Quiz #4
Apr. 20	Team presentations (Team Project #3)		
Apr. 25	Team presentations (Team Project #3)		
Apr. 27	Semester wrap-up		
May, 4	No class		Team Project #4

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

## SECTION 2

Date	Topic	Readings (chapter)	Quizzes & Deliverables
Jan. 13	Introduction	Syllabus	
Jan. 18	The VC industry	VCFI (1, 5, 6.1), VD (1)	
Jan. 20	Structure of VC firms and funds	VCFI (2), VD (12)	
Jan. 25	VC fund performance	VCFI (3)	Quiz #1
Jan. 27	The risk-reward tradeoff in VC + Sourcing a deal	VCFI (7.1, 4)	
Feb. 1	VC investment process and due diligence	VCFI (7.2), VD (3)	
Feb. 3	Buffer for spillover		
Feb. 7/8	<b>Guest speaker - TBD</b>		
Feb. 10	Evaluating high-growth opportunities	VCFI (10)	Team Project #1
Feb. 15	Valuation by DCF	Mckinsey's Valuation (36)	
Feb. 17	Valuation using multiples	VCFI (12)	
Feb. 22	Options in VC	VCFI (13, 16.1)	Quiz #2
Feb. 23/24	<b>Guest speaker - TBD</b>		
Mar. 1	Buffer for spillover		Team Project #2
Mar. 3	Term sheets	VCFI (8), VD (4, 6, 7)	
Mar. 8	No class (spring break)		
Mar. 10	No class (spring break)		
Mar. 15	Preferred stock	VCFI (9.1), VD (5)	
Mar. 16/17	<b>Guest speaker - TBD</b>		
Mar. 22	Valuing preferred stock: Series A	VCFI (14)	Quiz #3
Mar. 24	Valuing preferred stock: Later rounds	VCFI (15)	
Mar. 29	Dilution and anti-dilution protection	VCFI (9.2)	
Mar. 30/31	<b>Guest speaker - TBD</b>		
Apr. 5	Seed financing structures	VD (8, 9)	
Apr. 7	Alternative financing options for startups	TBD	
Apr. 11/12	<b>Guest speaker - TBD</b>		
Apr. 14	Team presentations (Team Project #3)		Quiz #4
Apr. 19	Team presentations (Team Project #3)		
Apr. 21	Team presentations (Team Project #3)		
Apr. 26	Semester wrap-up		
May, 3	No class		Team Project #4

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