

# Venture Capital and the Finance of Innovation

FNCE 250  
Spring 2023

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Canvas site: <https://canvas.upenn.edu/courses/1692997>

Lectures: Monday/Wednesday

Section 1: 8:30-10:00am

Section 2: 10:15-11:45am

Office hours with professor:

Sessions for all: will be announced in advance.

Private sessions: constitute a small group and send me an email with a three potential times.

## PREREQUISITES

FNCE 100 and 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. 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 five 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.

## GETTING HELP / TEACHING ASSISTANTS

Our TAs for the semester are Benjamin David and James Paron. They are both finance PhD students. There are several ways you can get help with questions throughout the semester:

1. To discuss the course content, ask me (Sylvain) in office hours

2. To discuss your team project, ask our TAs by email. You can cc me
3. Email us:
  - Sylvain: [scath@wharton.upenn.edu](mailto:scath@wharton.upenn.edu)
  - James: [jparon@wharton.upenn.edu](mailto:jparon@wharton.upenn.edu)
  - Benjamin: [bdavid97@wharton.upenn.edu](mailto:bdavid97@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.

## READINGS

- **Priority:** Each week I will email you the upcoming week's readings, and I will also tell you the priority of each reading.
- **Primary textbook (optional):**
  - *Venture Capital & the Finance of Innovation, 2<sup>nd</sup> Edition*, by Andrew Metrick and Ayako Yasuda
- **Cases:** There will be approximately three cases. Some will be on the course website; some will be on Study.net.
- **Other required readings:** I will occasionally send you articles from academic journals, newspapers, etc. We will sometimes discuss them in class, and they may appear on the quizzes.
- **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:
  - Sourcing the deal (5 points, due March. 12<sup>th</sup>)
  - Valuing the company (20 points, due April 2<sup>nd</sup>)
  - In-class presentation (10 points, April. 17<sup>th</sup>, 19<sup>th</sup>, or 24<sup>th</sup>)
  - Partial valuation, term sheet, and negotiation strategy (15 points, due May 5<sup>th</sup>)
- Five quizzes for a total of 50 points. I will drop your lowest score out of the five.
- Participation (10 points)

Note that, including the participation grade, the total sums up to 110 points. Grades cutoffs will be determined based on the distribution of the numerical score out of 100, excluding participation points. Participation points are bonus points and can greatly improve your grade. More details below.

A few notes on grading:

- **Quizzes**
  - Quizzes cover lectures, study questions, and readings.

- Each quiz covers material since the previous quiz, so they are not cumulative.
- **Missing quizzes.** Since I drop your lowest quiz grade, it's no problem to miss one quiz for any reason, including a job interview, travel, 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. In that event, contact the MBA program office before the quiz day, ask for their guidance, and have the MBA office contact me before the quiz day. You should plan on taking all five quizzes. Don't plan to miss one quiz and then unexpectedly have to miss a second quiz, as this will really hurt your course grade.
- 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.
- **Re-grade policy:** You have one week from the date on which the assignment or quiz is graded to email me a written appeal. We will then re-grade the entire assignment/quiz, and as a result your score may go up or down.
- **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.

## 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** (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 15 years old, and in the typical industries VC invest in. Most importantly, 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** (20 points): Perform a detailed DCF valuation of the company, including an in-depth analysis of addressable market size and comparable.
  - **In-class presentation** (10 points): Each team will give a short in-class presentation on the company and your team's valuation. These will happen on Zoom at the end of the semester. You are expected to present during normal class time even if you are in a far-away time zone.
  - **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 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 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 **examples of successful projects from previous years** on Canvas→ Files→ Project→Examples of good past projects.

### **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.
- 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 last year to see what I’m looking for.

## COURSE SCHEDULE AND TOPICS

The schedule below is approximate, except for quiz dates. Some topics will take longer than one lecture, others shorter. Certain topics and guest speakers may be added or deleted. Every week I'll send you an email describing exactly how to prepare for the following week.

Some guest lectures will happen live in just one of my sections rather than all three. The reason is that I could not convince some guests to visit all three of my sections. I encourage everyone to switch sections on these days so you can see the guest speaker live. I apologize – and do not blame you at all – if a scheduling conflict prevents you from switching sections on these days so you can see the guest live.

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

Date	Topic	Readings	Quizzes
11-Jan	Introduction	Syllabus	
18-Jan	The VC industry	VCFI Ch. 1	
23-Jan	Structure of VC firms and funds	VCFI Ch. 2., Accel VII case	
25-Jan	VC fund performance	VCFI Ch. 3	
30-Jan	The risk-reward tradeoff in VC	VCFI Ch. 7.1, 4	
1-Feb	<b>Guest speaker: Scott Kupor from a16</b>		
6-Feb	<b>Guest speaker: Iris Choi from Floodgate</b>		
8-Feb	<i>Case study: Floodgate</i>		Quiz #1
13-Feb	VC investment process and due diligence	VCFI Ch. 7.2, Sunrun case	
15-Feb	Term sheets	VCFI Ch. 8, Sunrun case	
20-Feb	Preferred stock	VCFI 9.1	Quiz #2
22-Feb	Dilution and anti-dilution protection	VCFI 9.2	
27-Feb	Evaluating high-growth opportunities	VCFI Ch. 10	
1-Mar	<i>buffer</i>		
13-Mar	Valuation by DCF		Quiz #3
15-Mar	Valuation using multiples	VCFI Ch. 12	
20-Mar	Options in VC	VCFI Ch. 13, 16.1	
22-Mar	<b>Guest speaker: Jacqueline LeSage Krause from Munich Re Venture</b>		
27-Mar	Valuing preferred stock: Series A	VCFI Ch. 14	
29-Mar	Valuing preferred stock: Later rounds	VCFI Ch. 15, 17	
3-Apr	<b>Guest speaker: Jason Rhodes from Atlas Venture [?]</b>		Quiz #4
5-Apr	Unicorns		
10-Apr	Seed Financing		
12-Apr	<i>buffer</i>		
17-Apr	Team presentations		Quiz #5
19-Apr	Team presentations		
24-Apr	Team presentations		
26-Apr	Concluding remarks		