

Venture Capital & the Finance of Innovation

FNCE 250/750 Fall 2010 (SH-DH 1206)

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This course will focus on the primary activities performed by venture capital professionals, including how they raise capital, how they structure their funds, as well as how they select, fund, and exit high-growth privately-held companies.

- We start by outlining **how venture capital funds are organized**, how and from whom they raise capital, and in what type of firms they typically invest. A good portion of the section will **examine the risk return profile of venture capital** and whether venture capital “beats the market,” whether it lowers risk of the limited partner’s portfolio, and how the great uncertainty associated with growth firms should be priced.
- The **second section** of the course will examine corporate valuation and value drivers. Given the incredible uncertainty associated with high-growth companies, alternative methods such as **key value driver models and comparable transactions** must be employed to triangulate results. Special attention will be given to the valuation process for small, illiquid, high-growth companies versus mature companies. For instance, how do you bound reasonable estimates of revenue growth, operating margins, and capital productivity when little historical data is available?
- The **third section** of the course will examine valuation techniques necessary to **value complex securities** associated with venture capital and high growth companies. Preferred stock held by venture capitalist has conversion features that resemble a combination of debt and equity. Therefore, options models must be employed to determine their economic (versus fully-diluted) value.
- During the **final section** (time permitting), we discuss **valuing uncertainty using real options**. Real options combine decision trees with options valuation theory from the financial markets (i.e. calls, puts, and forwards). The topic of real options is becoming increasingly popular in both companies and venture capital.

Complementary Classes: The class will focus on the financial aspects of valuing and funding high growth companies. A *critical skill* to venture capital that we will cover *only briefly* is screening and selecting potential investments using business plans. To develop a well rounded skill set, I recommend Entrepreneurship (MGMT 230/801) and Venture Capital and Entrepreneurial Management (MGMT 264/804).

Reading Material

The course will rely on a textbook and a few supplemental readings (which can be found on webcafe). The textbook can be purchased in the campus bookstore or on Amazon.com:

Venture Capital and the Finance of Innovation by Andrew Metrick, 2007, John Wiley & Sons, Inc, NY.

The course will also rely on chapters from a secondary text:

Valuation: Measuring and Managing the Value of Companies (5th edition) by Koller, Goedhart, and Wessels, 2010, John Wiley & Sons, Inc, NY.

Chapters from Valuation will be provided for you on webcafe. Lecture notes will be distributed in class and will also be available on webcafe. There will be a lot of additional material (mostly lecture notes), so please purchase a binder for course slides and articles.

In-Class Requirements

Please bring three items to EVERY class: your name tent, the previous lecture's notes (we often carry the note from one class to the next), and a basic calculator. As the semester progresses, please remain diligent. I tend to be relentless with those who come to class empty-handed.

Assignments & Grading

There will be three individual assignments (5% each), two group projects (25% total), and two exams (30% each). For individual assignments, I expect you to work alone and hand in your own work. You can discuss class tools, but not the assignment. For group work, please self select groups of between 3-5

people, no exceptions. If you have six people, create two groups of three. Also, you can form teams across sections.

Class participation will not formally be scored, but students at the grading cutoffs will be evaluated for their ability to generate an active and positive class environment. The assignment/exam due dates and grading breakdown will be as follows:

	Assignment/Exam	Due Date	Grade
1	Individual Assignment: Portfolio Review	9/22/10	5%
2	Individual Assignment: LP/GP Contracts	9/29/10	5%
3	Midterm Exam	10/20/10, in-class	30%
4	Group Project: Strategic Assessments	11/3/10	10%
5	Group Project: Private Company Valuation	11/17/10	15%
6	Individual Assignment: Capital Structure	12/1/10	5%
7	Final Exam	12/20/10, 6-8pm	30%

Strategic Assessment: During the month of November, each class will start with a group presenting their strategic assessment of a venture-backed startup (assignment 4). Groups will be chosen at random and presentations will be limited to 10 minutes.

Teaching Assistants

The lead TA for the course is Casey Simmons. Additional TAs will be announced at the start of class. Please contact the TA directly if you have questions about assignments or practice exams. Again, all questions concerning assignments and practice exams will be redirected to TAs. If you have questions about the course notes or content beyond the class, please reach out to me directly.

Venture Capital and the Finance of Innovation

Course Schedule

	Note	Date	Session Topic	Associated Reading
The Investor's Perspective: Venture Capital Funds	1	9/8/10	Course Overview	Metrick Chapter 1
	2	9/13/10	Introduction to Venture Capital: The Venture Capital Cycle & Industry Statistics	Metrick Chapter 7 "It Ain't Broke: The Past, Present, and Future of Venture Capital"
	3	9/15/10	Raising LP Capital: Organizational Structure and the Limited Partner	Metrick Chapter 2
	4	9/20/10	Raising LP Capital: Partnership Agreements and GP Compensation	"The Economics of Private Equity Funds," Metrick and Yasuda.
	5	9/22/10 & 9/27/10	Venture Capital Returns: How the CAPM applies to VC & Founders	Metrick Chapter 4
	6	9/29/10	Venture Capital Returns: Are High Hurdle Rates Justified? Empirical Evidence	Metrick Chapter 3
	7	10/4/10	Choosing Amongst VCs: Measuring Firm Performance and Persistency of Venture Capital Performance	Metrick Chapter 5
Valuing High Growth Companies	8	10/6/10	Corporate Strategy & Value Creation: Key Value Drivers	Valuation 5 th Edition Chapter 2
	<i>n/a</i>	<i>10/11/10 & 10/13/10</i>	<i>No Class: Fall Break</i>	<i>Enjoy the Week!</i>
	9	10/18/10	Corporate Strategy & Value Creation: Dynamic ROIC Models and Cash Burn Models	Valuation 4 th Edition Chapter 6

	<i>n/a</i>	<i>10/20/10</i>	<i>EXAM I: In Class</i>	<i>No Reading</i>
	10	10/25/10	Venture Capital Valuation: Market Sizing	TBD
	11	10/27/10	Venture Capital Valuation: Mapping Value Drivers to DCF.	Metrick Chapters 10-11
	12	11/1/10	Venture Capital Valuation: Advanced Issues for High Growth Companies (<u>if time permits</u>)	Valuation 5 th Edition: Capitalized Expenses
	13	11/3/10	Using Comparables (Multiples) to Bound the Valuation and Determine the Exit Price	Metrick Chapters 12
	14	11/8/10	Non-Financial Multiples	No Reading
Term Sheets, Capital Structure & Financing Growth	15	11/10/10	Term Sheets: Matching VC Needs with Entrepreneurial Incentives	Metrick Chapter 8
	16	11/15/10	Term Sheets: Security Design and Capital Structure in VC Backed Firms	Metrick Chapter 9
	17	11/17/10	Term Sheets: Down Rounds and Anti-Dilution Provisions	The Venture Capital Anti-Dilution Solution" Wilson Sonsini
	18	11/22/10	Fundamentals of Options Pricing	Metrick Chapter 13
	<i>n/a</i>	<i>11/24/10</i>	<i>Thanksgiving Break</i>	<i>Enjoy the Holiday!</i>
	19	11/29/10	Valuation of Series A Preferred	Metrick Chapter 14
	20	12/1/10	Valuation of Later Rounds	Metrick Chapters 15 & 16
	21	12/6/10	Going Public: IPO Process, Book Building & Auctions	A Guide to the Initial Public Offering Process (Ellis, Michaely & O'Hara)
Financing Innovation in Large Companies	22	12/8/10	If time permits: Real Options: Decision Trees vs. Options Pricing	Metrick Chapters 21 & 22