September 27, 2018 – November 1, 2018
Room KMEC 4-120

Venture Capital Financing (GB.3173)

Syllabus and Class-by-Class Outline

Professor Ian D’Souza

Venture Capital Financing Syllabus (GB.3173)

Objective & Overview

COURSE OBJECTIVES: GB.3173

For students to learn how to make good investment decisions and how to structure the terms of the investment when financing entrepreneurial companies, especially start-up and early-stage ventures

Note: Due to course and material overlaps, students can choose to complete only one of Venture Capital Financing (1.5 credits), Entrepreneurial Finance (3 credits) or New Venture Financing (3 credits)

1 **Format: Weekly lecture (6 lectures x 3 hours each, 6pm-9pm)**

- One ongoing ("lego" piece) case study to be analyzed each week (handed out and discussed in class)
- Two to three key articles to be read ahead of each class (in coursepack)
- Four take home cases or problems to be read and analyzed to reinforce classes each with graded assignment(s)

2 **Focus on Venture Capital (VC) aspects (not private equity LBO/buyout)**

- Excludes detailed review of VC by corporate entities
- Excludes focus on distressed venture investments

Focus on practitioner considerations (within academic framework)

3 **Grading structure**

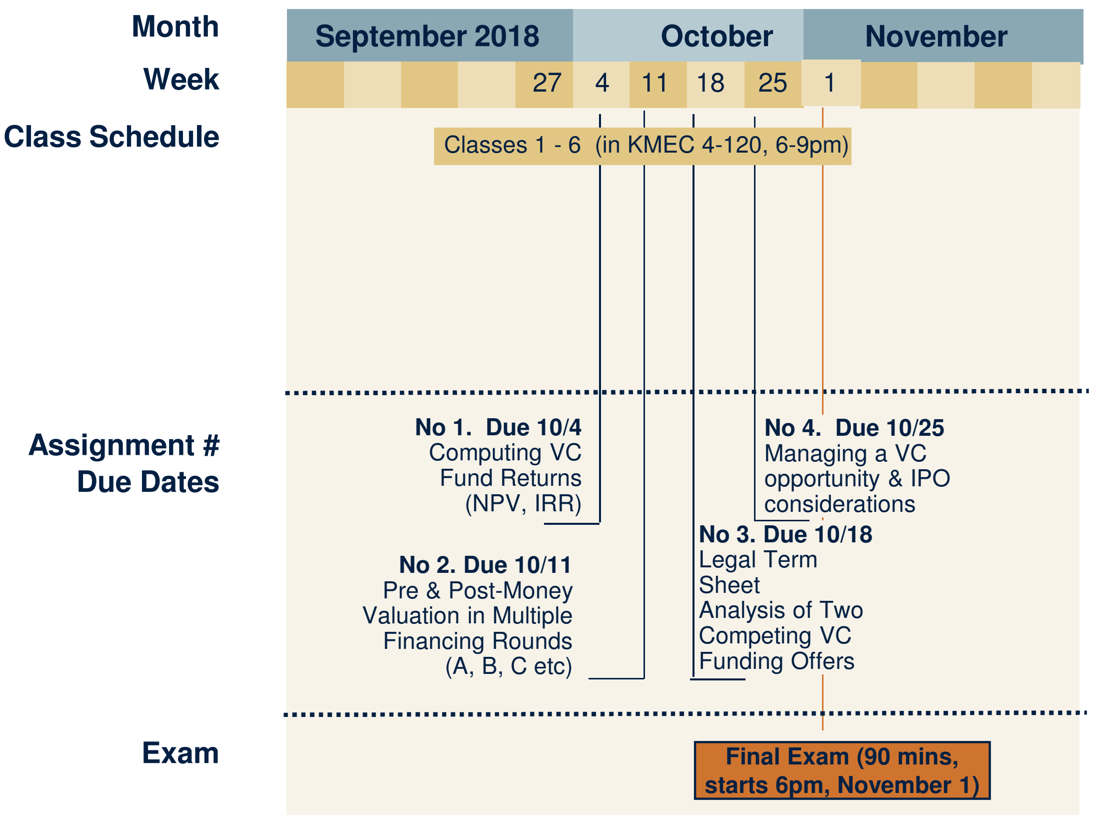
- 60% - closed book, in-class exam (final class, 90 minutes)
- 20% - class attendance & participation for each of first five classes
- 20% - 4 mini-assignments based around set HBS cases or set problems
  - To be submitted individually, each assignment worth 5% (refer also "collaboration", page 4)

4 **All required readings and cases will be in the coursepack available in NYU Bookshop (GB.3173)**

- Announcements, weekly lecture notes, assignments & solutions will be posted on NYU Classes throughout the course

Venture Capital Financing Syllabus (GB.3173)

Class Timetable & Format



Dates & Exclusions

- Classes for venture capital financing will be videotaped and be held in KMEC 4-120. Classes are scheduled 6-9pm from Thursday September 27, 2018 to Thursday November 1, 2018

- **NOTE:** Due to course and material overlaps, students can choose to complete only one of Venture Capital Financing (1.5 credits), Entrepreneurial Finance (3 credits) or New Venture Financing (3 credits)

Class Format

- You are strongly encouraged to attend each class given the discussion & instruction format chosen for this subject. Classes are divided into two parts

- In the first half of each class we will be walking through one "continuous" case study (Invisible Wires) with new information presented each week. The case study will take the form of "lego" building blocks to demonstrate the key stages in the venture capital cycle (all based around a single VC opportunity and common management/VC characters). Class participation represents 20% of the final grade. Please bring your name tags

- In the second half we will take the practical aspects discussed in Invisible Wires case study and overlay them into a framework (to mesh the academic and practical aspects of this course)

Venture Capital Financing Syllabus (B40.3173)

Other Logistics

Materials

The coursepack for this class (GB.3173) is now available at the NYU bookshop. A course outline (under syllabus tab in NYU Classes) has been posted that cross-references the class-by-class syllabus (following pages) with the readings in the pack. The mini-assignments (four in total worth 20% of final grade, to be submitted individually) will be posted to NYU Classes after each class and are to be handed in-person at the next class

Pre-Reading

Preliminary lecture notes will be posted each week prior to the class to stimulate the readings in the pack and provide impetus for class discussion. The preliminary lecture notes are purposely left incomplete (eg. tables are blank & will be completed through class participation). Final lecture notes will be posted after the class (under resources tab in NYU Classes)

Assignments, Collaboration & Feedback

Each assignment is due one week after posting on NYU Classes (per timetable on prior page)

You are permitted to work with other students in analyzing problem sets as well as share coursepacks but each student must clearly disclose who they worked with and each student must submit assignments individually

General solutions will be posted to each assignment on a weekly basis. The solutions will identify the overall student body's strengths and areas for improvement in tackling the problem set. (Note: There can be a delay in processing solutions if students do not submit their assignment responses on a weekly basis. No points will be awarded to students who do not provide advance notice of a delayed response)

Students requesting individual assessment of their assignment can obtain direct feedback by making an appointment. No individual assignments will be handed back to students. Prior courses have revealed that students develop a stronger understanding of materials through direct contact rather than correspondence via email as each student has different areas of focus

Course Orientation: Class 1, Part I

Framework and context of venture capital

1 **List course objectives, grading and structure**

2 **Invisible Wires case study (to be handed out in class)**

3 **Define steps/cycle for investing in private businesses (VC CYCLE)**

- Recognize Opportunity & Evaluate its Potential Fit/Risk-Return
- Identify Key Parties/Players Associated with Opportunity
- Value Opportunity
- Negotiate Terms of Investment
- Manage the Investment
- Harvest/Exit the Investment

Compare private v. public equity

- Identify stages of company's development (S-curve)
  - Seed/start-up, development, beta, shipping, profitable, critical mass
- Nature of the underlying asset for early stage investments
  - Little tangible assets, information asymmetries, weaker price data, different agency problems, uncertainty
- Venture Capital v. Other forms of Private Equity

Learning Objectives
- What makes private equity so different from public equity?
- Where does VC fit into private equity?
- What is the VC cycle?

Classroom exercise
- Invisible Wires (hand in class)
- Market opportunity

Coursepack reading for this class, pg#
- The Entrepreneurs, Smith, pg 1-28
- Some Thoughts on Business Plans, HBS Note, pg 29-60
- What do VC's do? McKinsey/HBS Note, pg 61-79

Opportunity Recognition: Class 1, Part II

Economics of an opportunity

1

Identify an opportunity v. an idea

- Initial screening (lasts anywhere from 5-minutes to 3 hours)
  - Is it more than a concept on "paper"?
  - Who do I know that is involved or knows about this? (mgmt, investors)
  - Who is it aimed at?
    - Customers (& propensity to spend), market (size, growth, margins, competitors, barriers), cash requirements v. generation
  - What will it take for it to get to the market? (Cost, time)
  - How much do they want? (funding requirement & timing)

Learning Objectives
- What makes an idea into an opportunity?
- What are investors looking for?
- What does a business plan cover?
- How important are the financials?

2

Conduct due diligence to establish risk-return & fit

- Look at each element of a potential deal – to assess risk-return:
- Closer look at the opportunity
  - What are its flexible options, what are the exit routes
- Closer look at the people behind the opportunity
  - Any track record, have people worked together before?
- Closer look at the external environment/context
- Closer look at funding requirement
  - For investing in the opportunity is it likely to achieve its targeted return

3

Communicating opportunity & funding requirement to investors

- Table of contents of business plan
- Questions business plan must answer
- Relevance of financials in a business plan (flexibility & adaptability more important than reliability)

Assignment 1 (to be handed in next class)
- Problem a, to be posted on NYU Classes

Identify Key Parties: Class 2, Part I

Negotiating with different mindsets & interrelationships

1

Company & its Founder/Management

- Company and Founder (often not different) at beginning
- Different from shareholder v. management of publicly listed companies
- Mindset: "My baby, my idea, my decisions"

Family, Friends and Fools (Angels)

- Mindset: "We are totally behind our friend [upto a point]"

Fund (GP)

- Venture Fund, Private Equity Fund and Hedge Fund
- Capital not as constrained as good opportunities
- But each brings different connections and control requirements
- Mindset: "Must protect downside, [have control?] and capture upside"

Limited Partners (LP)

- Least visible set, but now treating this as an asset class
- Mindset: "Closely monitor GP as returns are long-term and unclear"

2

Negotiating: Understanding Interrelationships & Mindset

- Entrepreneur and VC
- VC (GP) and LP
- Externals: Macro-economic environment & timing of capital market cycle
- Changes over time (as more investors come in, relationships change)

Learning Objectives
- Who are the key players in private equity?
- What are their key mindsets?
- How does that effect any negotiations between parties?

Classroom exercise
- Invisible Wires (hand in class)
- Participants

Coursepack reading for this class, pg#
- Venture capital negotiations, HBS note, pg 79-96
- Angel investing, HBS note, pg 97-120
- A note on Private Equity Fund Raising Process, HBS note, pg 121-127

Estimate Whose Return? Class 2, Part II

Multiple investment points for returns (that needs to be defined)

1 **Assess each component of return (IRR) relative to valuation (mirror image) – in conjunction with Class 3**

Initial investment and follow-on investment(s)

- Identify quantum and timing of investments/funding
- Negative cashflow for multiple periods

Return (time + structure + multiple + uncertainty)

- From cash flows of business
  - Requires structuring (preferred, common)
  - Time to breakeven (path to profitability, uncertainty reduces)
- From exiting business (sale (primary, secondary), IPO, liquidation)
  - Changing ownership profile (dilution)

2 **Compute IRR & interpret – in conjunction with Class 3**

- Changing risk & uncertainty profile
- Changing ownership profile (dilution principle)
- Structure of investment (preferred, common)
- IRR v. multiple tables (role of time)
- IRR from whose perspective:
  - founder, GP, LP (J-curve)
  - expenses, carry and fees
  - IRR theoretically becomes more "stable" as business matures (and options realized)

Learning Objectives

- How much money does a venture need?
- What are the investment points in a company?
- How do you compute return (IRR)?
- How do you interpret IRR and from whose perspective?

Assignment 2 (to be handed in next class)

- Problem a & b to be posted on NYU Classes
- Reading for problem b associated with Hotmail, HBS Case, coursepack pg 130-168

Value Opportunity: Class 3, Part I

Valuing companies with no profits or history

1 **Understand nature of business (& funding requirements)**

- No profits, little history
- Few tangible assets, likely strong intangible base
- Likely many options

2 **Role of valuation throughout VC cycle**

- Used in all stages
- Recognition: to invest or not?
- Performance evaluation: continue funding
- Exit decision: sale, IPO, liquidate

3 **Revisit common valuation techniques for applicability**

- Comparables: What is a comparable? What ratios?
- DCF: Garbage in, garbage out? What discount rate, why?
- Venture Method: Relevance at all VC stages?

Learning Objectives

– What makes early stage companies so unique?
– What is the role of valuation in the VC cycle?
– What are the methodologies to value these entities? (outline, strengths & weaknesses)

Classroom exercise

– Invisible Wires (hand in class)
– Valuation Issues

Coursepack reading for this class, pg#

– The Dark Side of Valuation, Damodaran, pg 169-222
– A note on valuation in private equity settings, HBS Note, pg 223-244

Value Opportunity: Class 3, Part II

Valuing companies with no profits or history BUT with many options

1 **Describe nature of options**

- Revisit flexibility in business plan
- Scale, product diversification, bolt-on – real options
- Treatment of uncertainty v. risk
- Focus on intangibles

2 **Explain underlying parameters for real options**

- Description of exercise, price, yield, expiration, current value, volatility
- Applicability to different models: binomial, BS, jump diffusion
- Strengths v. weaknesses

3 **Relationship of valuation of business to funding flexibility**

- DCF v. Options
- Staging: Release of capital, instruments used to match risk-return
- Assess each component of return (IRR) relative to valuation

Learning Objectives

– How do you account for options in valuation?
– What impact does valuation have on funding flexibility?

Assignment 3 (to be handed in next class)

– Problem a to be posted on NYU Classes
– Reading for problem a associated with Trendsetter, HBS Case, coursepack pg 245-254

Negotiate & Structure Investment: Class 4, Part I

Formulating and navigating around a term sheet and subsequent agreements

1 **Document terms of an investment – The Term Sheet**

- Specifying the intention
- Avoiding agency/intermediation problems
  - Adverse selection, due diligence, moral hazard, monitoring

2 **Formulate the key clauses from both VC and investee company perspectives**

- Security type
- Staging
- Anti-dilution
- Liquidation preferences

3 **Key binding documents resulting from Term Sheet**

- Shareholder Agreement
- Share Purchase Agreement

Learning Objectives
- What are the agency/intermediation problems with funding an opportunity?
- What is the purpose of a term sheet?
- What are the key clauses in a term sheet?

Classroom exercise
- Invisible Wires (hand in class)
- Negotiations

Coursepack reading for this class, pg#
- Term Sheet Glossary, Smith, pg 255-264
- A note on private equity securities, HBS note, pg 265-272

Assignment 4 (to be handed in next class)
- Problem a to be posted on NYU Classes
- Reading for problem a associated with Immulogic, HBS Case, coursepack pg 273-299

Manage Investment: Class 4, Part II

Subsequent financings & maturing of company/investment

1

A Recap of the Opportunity & Financing Challenge

- Information: Asymmetry reduced after initial investment
- Nature of Assets: Becoming more defined with time
- Uncertainty: Options changing (and solidifying) over time
- Market conditions: Will change (for better or worse)

2

Market Conditions

- Role of market conditions on subsequent financings
- Understanding demand v. supply side of private equity market
- Timing of exit
  - To go to round D v. sale today
  - Impact of a down round

3

Monitoring business performance through:

Staging, CEO transition, recruitment

- Purposes (= control, monitoring)
- Impact of an up or down round (on valuation, morale etc)

Syndication

- Purpose (= risk sharing, buy-in, safeguards)
- Changing mix of investor mindset
- Introduction of mezzanine/debt into capital structure

Learning Objectives
- What are the key monitoring issues after making an initial investment?
- What are the key criteria for continuing funding v. exit?

Classroom exercise
- Invisible Wires (hand in class)
- Interim period, then IPO or sale

Coursepack reading for this class, pg#
- A note on IPO Process, HBS note, pg 299-306
- Harvesting the entrepreneurial venture, Journal of Applied Finance, pg 307-318

Exit Investment: Class 5, Part I

Going Public (IPO)

1 **List and compare exit options**

- IPO
- Sale
- Liquidation

2 **Understand: Why go public?**

- Importance of market conditions & timing
- Valuation multiples (IPO v. Sale v. Private Secondary)
  - Limited access to only best companies (+ Facebook private exception?)
- Access to different forms of capital

3 **Review IPO Process**

Role of Bankers

- Nature of offering
- Timetable, roadshow & create book
  - Pricing and allocation
- Underwriting

Regulation & Costs

- Registration filings and time required
- Sarbanes-Oxley

People Issues

- Founder's ability to transition to CEO
- Options
- Investor relations

Learning Objectives

- What are the main exit options?
- How do you choose between them?
- Why go public?
- What is the process involved in an IPO and what are the issues? (costs and benefits)

Exit Investment: Class 5, Part II

Sale (M&A)

1 **Understand different sale options**

- Sale of company to another entity (M&A trade sale)
- Sale of company to management or founds (MBO/MBI)
- Sale of interest in a company (secondary sale, eg. Facebook)

2 **Process of a sale of whole company**

- Identification of interest parties
- Information Memorandum
- Due diligence
- Key differences between trade sale and MBO

3 **Process of sale of an interest in a company**

- Liquidation of VC fund (ie. 8-10 years from inception)
- Key differences between other forms of sale

Learning Objectives

- What are the different sale alternatives available to a company and investor?
- How do you choose between them?
- What is the process of a sale of company v. an interest in the company?

Exam and Other Areas of VC Finance: Class 6

1 **Exam (90 minutes, closed book)**

- Closed book
- In class
- 60% of grade for course

2 **A look at other areas in VC financing**

- International VC investing
- Corporate VC investing
- Opportunities in VC v. intermediaries v. other investing

Learning Objectives

- Examination
- Discussion about other areas of VC financing not covered in detail

Default Policies and MBA Stern Honor Code

Behavior & Classroom Attendance

- Your behavior should respect your classmates' desire to learn. Students are expected to arrive to class on time and stay for the class period. Attendance and class contribution are required as part of the grade. Please turn off cell phones, recorders and other electronic devices during the class
- Students unable to attend class or submit assignments on time are required to inform the instructor at least 48 hours in advance to avoid penalty.

Code of Conduct

- You are responsible for maintaining Stern's code of conduct which mandates zero tolerance for cheating and plagiarism. Violations of the code of conduct will be prosecuted with a minimum penalty of failure for the course, as required by the code of conduct rules. If you become aware of any violations of the code of conduct you must take whatever steps are necessary to stop the violators.

Collaboration on Graded Assignments

- You are permitted to work with other students in analyzing problem sets but each student must clearly disclose who they worked with and each student must submit assignments individually.

Office Hours & Feedback

- You are welcome to set up an appointment by email to discuss the course material and assignments.

Grading

- MBA students who do not submit Course Faculty Evaluations by the deadline will not have access to their final grades until the grade release date, which is determined by the program.

Other Accommodations

- If you have a qualified disability and will require academic accommodation during this course, please contact the Moses Center for Students with Disabilities (CSD, 998-4980) and provide me with a letter from them verifying your registration and outlining the accommodations they recommend. If you will need to take an exam at the CSD, you must submit a completed Exam Accommodations Form to them at least one week prior to the scheduled exam time to be guaranteed accommodation.