In this course, we will discuss the ins and outs of the innovation funding ecosystem. The course is intended for entrepreneurs, startup employees, institutional and individual investors, corporate executives, regulators, and everybody else who would like to understand better innovation financing. Among many of the topics we will address are: the structure of the Silicon Valley ecosystem, the many different ways startups are funded throughout their lifecycle, the decision-making process of angel and venture capital (VC) investors, the ins and outs of contracts between startups and VCs, the “dos” and “don’ts” of investing in startups and VC funds, the ways investors (limited partners) choose and contract with VC firms, the valuation of early stage companies, the internal organization of VC firms, the return patterns and economics of VC funds.

The course is based on the “Angel and Venture Capital” course that has been taught to a number of cohorts of Stanford MBA students at the Stanford Graduate School of Business. The topics and materials reflect most recent developments, empirical evidence, and extensive research. The course is very practical and intensive, with a lot of examples and cases covered in a relatively short period of time. The course also includes discussion of all the major current issues and topics, complemented by numerous recent and ongoing examples.

The course can be shortened to cover either only some of the material or cover a number of topics at a concise level. Conversely, some of the topics can be covered in a much greater detail (for
example, by including more substantive case studies, deeper illustrative examples, and multiple fine print details).

While the content of the course may be tailored to a specific audience (depending on background and preferences), the sample modules are given below.

Module 1. Innovation Goes Global.

In this module we will discuss the nature of innovative process and the major economic and technological mechanisms that explain dramatic disruption in industries around the globe. We will explore why innovation is becoming more global and why we should expect further major disruptions in multiple industries soon than later.

1. Creativity vs. invention vs. innovation vs. diffusion. Nature of innovation process.
2. Incremental and disruptive innovation.
3. Fundamental factors that drive innovation.
5. Fundamental economic and technological mechanisms that have been converging to speed up innovation and disruption across industries.
6. Why next ten years will see more disruption in more industries and in more geographies than over the past fifty+ years.
7. Examples from various industries and countries.

Module 2. Silicon Valley Ecosystem.

In this module we will discuss the building blocks of the Silicon Valley innovation ecosystem and the major factors behind its success. We also explore how organizations and leaders around the world can benefit by learning from Silicon Valley’s best practices.

1. Why Silicon Valley?
2. Factors behind historical success of Silicon Valley. Factors that determine its continuing success.
3. Major players in the Valley.
4. Overall funding environment.
6. Booms and busts in innovation funding, valuation, and returns. Should we expect the next bust? When and how will it happen and play out? Ways to ride the wave, minimize its impact, and prepare for opportunities ahead.

**Module 3. Overview of Startup Funding: The World of Angel and Venture Capital Investments.**

In this module we will provide a broad overview of startup funding and introduce and review major financing options available to startups, namely angel and venture capital funding.

1. What is a startup? Defining an early stage company. Innovative startups.
2. Different stages and types of startups. Lifecycle of a typical startup, from idea to scale.
3. Major differences between investments in startups and investments in traditional financial markets:
   a. Failure rate.
   b. Intermediate cash flows and exit opportunities.
   c. Liquidity.
   d. Horizon.
   e. Ownership stakes.
   f. Pricing and contract negotiations. Types of financial securities used.
   g. Corporate governance.
4. Why traditional financial funding options such as banks and equity markets do not work for innovative early-stage companies.
5. Funding lifecycle of a typical startup, from bootstrapping to IPO.
6. Types of investors in early stage companies.
7. Angel investors.
8. What is venture capital (VC)?
9. Major characteristics of VC and angel investors. Recent rise of angel investments as a competing force with VC.
10. Other types of investors and funding alternatives.
11. Information resources on early stage companies and the VC industry. Websites, databases, blogs. Informational hazards and ways to find high quality information.

**Module 4. Angel Investors, Angel Investments, and Raising Seed Funding.**

Angels constitute an increasingly important part of the VC ecosystem in Silicon Valley and globally. Most of the deals done by U.S. VCs in the past two years had raised angel funding prior
to VC funding. Moreover, many angel rounds are of the size and stage that would have been
classified as early stage VC rounds just several years ago. In this module we will explore in great
detail different types of angels, decision-making process of angels, and the returns on angel
investments. We will also discuss more recent developments in alternative funding options now
available to startups such as crowdfunding platforms.

1. From bootstrapping to outside funding. When entrepreneurs start raising outside funding.
2. Family & friends rounds.
3. What is a business angel?
4. The angel ecosystem. Example of Silicon Valley and global developments. Most recent
trends in angel investing.
5. Types of angel investors.
7. Angels vs. VCs. Non-financial preferences of angels.
8. Angel decision-making, including sourcing and selecting deals, advising companies.
9. Value-added activities of angels. Does angel funding help startups?
10. When is angel money the right choice for startups?
11. How should entrepreneurs choose and approach angels.
12. What do founders need to know about angels and angel investments?
13. Exit opportunities for angels.
   a. Measuring returns on angel investments.
   b. Math of angel investment returns.
   c. Evidence on returns. The properties of return distribution.
   d. Factors that improve return performance of angel investments.
   e. How to be the most effective angel investor. Best and worst practices.
   f. Is it worth being an angel?
15. Alternative pre-VC funding options.
   a. The rise of alternative funding options. Recent developments and what to expect in
      the near future.
   b. Superangels and micro VCs. Seed funds.
   c. Accelerators and incubators. Their types and business models. Analysis of some
      success stories. Are most of them successful and value-additive for startups?
   d. Crowdfunding platforms. Different types of crowdfunding, and their business
      models. Can they compete with angels?
   e. Grants.
   f. ICOs and their future.
Module 5. Primer on Venture Capital Industry.

In this module we will introduce the major aspects of the VC industry and its components. We will discuss, at a high level, the features of VC investments, the structure of VC firms, the composition of VC funds, and the major professional activities of venture capitalists.

1. Defining venture capital (VC). Venture capital as different from angel investments and private equity.
2. Typical characteristics of companies that would be funded by VCs.
3. History of the VC industry. Importance of the VC industry for innovation and economic growth.
5. Differentiating between venture capital firms and venture capital funds.
6. Examples of different types of VC firms and VC funds.
7. Characteristics of the most successful VC firms, funds, and investors.
8. Institutional vs. corporate venture capital firms.
9. A deep dive into the structure and investments of some specific VC firms.
10. Geography, size, industry, and stage of VC funds.
11. Internal organization of VC firms.
12. Career patterns of VCs. How VCs spend their time, their main activities.
13. Demographics of the VC industry.


The ways investors in early stage companies approach making investment decisions are critical to success of their investment strategies. These decisions and activities include building professional network, sourcing high-quality deal pipelines, due diligence, making and negotiating offers to companies, as well as managing their portfolio of investments.

It is also critical to understand the pre-investment activities, strategies, and decisions, because this process differs substantially from similar activities in traditional financial markets. This module will take us along the journey of how VCs and other investors in early stage companies make decisions before they close an investment in a startup. We also will explore differences in decision-making approaches between early vs. late VCs, IT vs. Healthcare VCs, California vs. Non-California VCs, and top vs. non-top VCs.
1. How early stage investors source their deals.
2. From sourcing to selection.
3. Typical VC deal funnel, its variations and its major components.
4. Competition in the VC industry and its impact on deal funnel and decision-making.
5. Preliminary due diligence; main factors in deciding to move deal forward.
6. Preliminary deal selection. Types of questions VCs ask and analyze in preliminary deal analysis.
8. Science and art of due diligence.
9. Analysis of specific questions explored by early stage investors.
10. Analysis of business models, team, product.
11. Analysis of market and target/expected returns.
12. How should entrepreneurs approach and evaluate VCs?
13. Evaluation of angels, VCs, and other early stage investors through the entrepreneurial lenses.

**Module 7. VC Syndication.**

VC investments are characterized by a very high level of syndication. In syndicated deals, multiple investors co-invest in the same financing round. It turns out that syndication is closely related to VC networking and VC reputation patterns that directly affect success of investment strategies. In this module we will discuss various aspects of syndication in the VC industry.

2. Prevalence and determinants of syndication at various stages.
3. Factors that affect syndication.
4. Lead vs. non-lead syndicate members.
5. Advantages and disadvantages of syndication. Potential conflicts between syndication partners and ways to resolve them. Pay to play.
6. VC networking. Role of VC reputation.
7. Factors of choosing syndication partners.
8. New developments in early stage and in late stage syndication.
Module 8. Contracting and Deal Negotiations: Overview.

This module covers the overview of financial contracts and negotiation of these contracts for VC-backed companies. We will introduce many different contracting issues that are covered in detail in subsequent modules.

1. What exactly is a term sheet?
2. Purpose of term sheets. Legal and economic issues.
3. Examples of economic problems that financial contracting tries to resolve. Main worries of entrepreneurs and their financiers. Agency conflicts in the early stage company setting.
4. Term sheets vs. legal contracts. Types of legal contracts relevant in VC-backed financing.
5. Important and unimportant terms in term sheets.
6. Initial vs. follow-on rounds of funding.
7. Cash flow rights, voting rights, and control rights.
8. How different parties should approach deal making and negotiations.
9. Psychology and rationality of negotiations. How to negotiate over term sheets and what to care about.


This module introduces convertible preferred stock, a financial instrument most frequently used in VC financing in the U.S. We start by discussing why traditional securities, such as common equity, are not used. We then explore in great detail the cash flow rights and properties of the convertible preferred stock. In this module, we will concentrate on the Series A convertible preferred stock. Other important issues, such as multiple rounds and employee stock options, will be discussed in subsequent modules.

1. Types of securities used in VC financing and securities used in traditional financial markets.
2. Cash flow rights and payoff properties of traditional financial securities.
3. Why traditional securities, such as common equity and straight debt, are not typically used in financing of early stage companies.
4. Different shareholders receive different types of stock in early stage companies.
6. Payoff and cash flows of convertible preferred stock.
8. Multiple liquidation preferences.
9. The economics of liquidation preference. When liquidation preference is particularly relevant.
11. Decision to convert. Conversion point.
12. Fully diluted basis.
13. Conversion rule.
15. Payoff value formula for convertible preferred stock.
17. Post-money valuation and pre-money valuation. Role of valuation in negotiations.
19. Payoff value formula for participating convertible preferred stock.
20. Participation cap.
22. Dividends: cumulative vs. non-cumulative, declared vs. nondeclared. Do early stage companies pay dividends?
23. Redemption rights.

**Module 10. Multiple Rounds of VC Financing: Cash Flow Rights.**

In this module we will continue our discussion of contracts by focusing on subsequent rounds of VC financing. We will focus on implications of multiple rounds for cash flow rights of all the claimholders.

1. Typical similarities and differences between early and late rounds.
2. The VC funnel. Success, failure, and number of rounds for VC-backed companies.
3. Up rounds, flat rounds, down rounds.
4. Building cap tables for multiple rounds.
6. How different are securities that investors receive in subsequent rounds?
11. Conflict of interest between various classes of investors with respect to conversion. Disagreement over exit timing and exit type. A hold up problem. Impact of capital structure complexity on disagreements and hold up.


13. Scenarios in which automatic conversion can apply. Qualified IPO and its typical conditions. Non-qualified IPO. Non-IPO scenarios.

14. Exemptions from automatic conversion. Value of such exemptions. Ability to obstruct an IPO. Different payoffs for sale and IPO outcomes.


16. IPO ratchets.

17. Pro-rata rights and their usage in the VC industry. Their impact on dilution.

18. Down rounds and pay to play provisions in syndicates.


**Module 11. Angel Financing Securities and Their Cash Flow Rights.**

This module analyzes typical contracts between angel investors and early stage companies.

1. Types of securities used in angel investments: Convertible preferred stock, Convertible notes, SAFE.
2. Main features of convertible notes. Differences from traditional debt instruments.
3. Consideration, principal, and accrued interest of convertible notes.
4. Conversion provisions of convertible notes.
5. Discount provisions of convertible notes.
6. Impact of convertible notes on capitalization tables upon subsequent VC rounds.
7. Conversion of convertible notes for scenarios when a note is in pre-money and not in pre-money.
8. Cap provisions in convertible notes.
9. Different scenarios with cap: not in pre-money vs. in pre-money; cap excludes or includes convertible note conversion.
10. Payoff analysis of all the scenarios.
11. Prepayment options on convertible notes.
13. What contractual features of convertible notes matter for angels, founders, VCs?
14. SAFE instruments.
Module 12. Corporate Governance of Early Stage Companies.

Corporate governance of early stage companies differs markedly from the corporate governance of other organizations, such as mature or public companies. In this module we will discuss the control and voting rights of shareholders in early stage companies. We also will cover the protective provisions of various classes of investors and explore the implications of these provisions for control and outcomes of early stage companies.

1. Corporate governance of startups. Differences from traditional companies.
2. Control and voting rights of preferred and common shareholders.
3. Voting on an as converted basis.
4. Responsibilities and rights of management, boards, and shareholders.
5. Typical voting rights of preferred stock.
6. Board structure. Appointments to the board.
7. Types of board members. Board members vs. board observers. Representation of investors on the boards.
8. Conflicts of interest between fiduciary duties of VC board members and their fiduciary duties to their investors.
10. Board committees.
11. Most important board decisions: management, raising funding, exit.
12. Replacing managers. How often does it happen?
14. Change of control in down rounds and upon forced conversion.
17. Protective provisions of preferred stock. Provisions that matter and provisions that don’t.
18. Protections and provisions related to liquidation events and IPOs. Deemed liquidation event and its role.

Module 13. Options, Vesting, and Founders as Employees.

In this module we will cover the issues related to founder stock, employee stock, and option compensation. We will also discuss the role of founders as employees.

1. Common shares and options on common shares.
2. Employee compensation structure in early stage companies.
3. Option pool provisions in terms sheets. Ways to negotiate option pools.
5. Single vs. double trigger in vesting.
6. Re-vesting.
8. Liquidity of founders and employees before exit.

Module 14. Activities of Angels and VCs After Investment.

In this module we continue our discussion of decision-making and activities of early stage investors by analyzing their actions after they make an investment.

1. Value-added activities of investors. Strategic and operational advice, hiring, follow-on funding decisions, introducing companies to investors, employees, and customers.
2. Interaction modes with portfolio companies.
3. Forecasting of portfolio company performance.
4. Board member and board observer activities.
5. Boards of VC-backed companies: structure, governance, formal vs. informal involvement, fiduciary responsibilities of board members.
6. Effective vs. ineffective board members and functional vs. dysfunctional boards.
7. Conflicts of interests inside boards. Disagreements between VC board members and founders.
8. Decision to replace senior executives and founders.
9. Decision to exit the deal. Writing the deal off.
10. Decision to raise a follow-on round. Importance of lead investors for attracting new investors. Inside vs. outside investors.
11. IPO vs. M&A for a portfolio company.
12. How VCs think about portfolio composition of their fund.
13. Follow-on investment decisions: portfolio, escalation of commitment, inside vs. outside investors.

Module 15. Venture Debt.

This module covers venture debt, its features and role in startup financing and in the VC industry.

2. Types of venture debt.
4. Upside vs. downside risk.
8. Bridge financing.


Investors in early stage companies realize their return mostly through the sale of all their stake at the time of exit, be it a sale or an IPO. In this module we discuss the exit options in great detail, as well as the dynamics around the exit decisions.

1. Exit decisions. Types of exits. Liquidation, sale, IPO.
3. M&A opportunities. Trade-offs between M&A and IPO.
4. Tag-along and drag-along rights.
5. Cash vs. stock in M&A. Carve-out provisions.
6. Preparing for an IPO. What can go wrong in the IPO process?
7. Decision-making and board dynamics. Conflicts of interest between various claimholders. Role of contracts.
8. Secondary market for claims in VC-backed companies.

Module 17. Valuation of VC-Backed Companies.

In this module we will explore in detail the methods used to value VC-backed companies. Valuation strategies in the VC industry differ significantly from valuation in other financial industries, such as banking, and also from traditional corporate finance valuation methods.

1. Challenges of valuing early-stage companies.
2. Valuation methods commonly used in the VC industry. Comparison with valuation techniques used in other industries, including private equity.
3. How valuation and values are reported to limited partners.
4. Valuation considerations by VCs. Most important factors in valuation.
5. Difference between valuation in early and late stages.
7. The role of multiples and industry comparisons.
Module 18. **Structure of a VC Firm.**

This module analyzes the internal organization of VC firms, and determinants of VC fund characteristics, such as the fund size and industry specialization. We also will discuss fund-raising strategies of VC funds.

1. VC firm vs. VC fund. Internal organization and management of VC firms. Size of VC firms.
2. Titles and responsibilities of VC firm employees.
3. One VC firm, many VC funds.
4. Background of VCs. Path to becoming a VC.
5. Determinants of VC fund horizon.
6. Determinants of VC fund size.
7. Determinants of VC fund specialization.
8. Determinants of VC fund investment geography.
9. Conflict of interests within the VC firm.
10. Raising a VC fund: Strategies, information, prospectuses, and memorandum.
11. Raising a first time fund vs. raising a follow-on fund. Who raises successful first-time VC funds?
13. VC firm compensation strategies.

Module 19. **Contracts between VC Firms and Their Investors.**

How and in what circumstances do VCs make money for their investors and themselves? How is the pie split between VCs and their investors? This and next module discuss the economics of VC funds from a number of different angles. In this module we will pay particular attention to Limited Partner Agreements that investors in VC funds sign with VC firms that manage those funds. These are one of the most complicated legal documents in the world of financial contracts. The ways these agreements are structured have a large impact on fund’s performance and on the distribution of proceeds between investors and VCs.
1. Legal structure of a VC fund. General partners (GPs) and limited partners (LPs).
2. Who are the LPs in VC funds today?
3. Benchmarks that are important for LPs. IRR. Cash on cash multiple. Absolute and relative benchmarks.
5. Why GPs may want to misbehave and what can be done about it?
6. Reporting to LPs.
7. Limited partnership agreement (LPA). What LPA does and does not cover.
8. Key provisions of LPAs.
9. Rights and obligations of GPs and LPs. Secondary sales of VC fund stakes.
10. LP default clause.
11. Key man provisions.
13. Covenants in LPAs.

Module 20. The Economics of VC Funds.

In this module we continue our discussion on the economics of VC funds. We will discuss the compensation of GPs and sharing of fund proceeds between GPs and LPs.

1. Net vs. gross fund returns.
2. Compensation of GPs. Direct and indirect compensation.
3. Present value of lifetime compensation of GPs.
5. Base of management fee: committed vs. managed capital. Typical structures and their impact on fund’s returns. Present value of different types of management fees.
7. Step-up provisions.
8. Distribution rules in carried interest provisions.
9. Net asset value tests.
10. Clawback provisions: do they bite?
11. Hurdle rates and mark to market.
12. Horizon extension provisions.
13. Impact of LPA provisions on fund returns.
Module 21. VC Fund Industry as an Asset Class.

This module provides analysis of the VC industry from the perspective of investors in VC funds. We analyze the ways to measure VC fund performance and choosing VC managers.

1. VC industry as an asset class. Historical financial performance of the VC industry.
3. Differences between traditional and VC asset classes. J-curve in theory and in practice.
5. Sources of success and failure.
6. Return patterns of a single VC fund.
7. The role of big outliers on the VC fund performance.
8. Luck vs. skill: Debate and evidence.
10. Initial and follow-on investments.
11. The importance of a vintage year.
12. Inside vs. outside investors and impact on VC fund returns.
13. Distribution of VC fund returns. Is it the case that a median VC fund loses money for its investors?
15. Portfolio allocation decision for investors in VC funds.
16. Prediction of VC fund returns. Selection of VC funds and managers by LPs.
17. Selection of GPs and selection of LPs.


Innovation plays a critical role in survival and success of a modern corporation. In this module we explore in detail patterns of corporate innovation, different types of innovation, and analyze why often otherwise successful firms fail to innovate. We then explore different ways companies can foster innovation. We will concentrate on corporate venture capital that plays an increasingly important role in the VC industry and in innovation management of large companies. We also will discuss various issues related to the organization and decision-making of corporate venture capital units.

1. Innovation in companies. Types of innovation: incremental vs. disruptive innovation.
2. Why successful large or mature companies so often fail in disruptive innovation.
3. Differences in financial incentives of employees and entrepreneurs.
4. Cultural and organizational block to innovate. Conflicts of interest within large organizations.
5. How can companies adapt and survive the oncoming disruptive waves.
6. Main types of innovation. Internal innovation, acquisitions, corporate venture units.
7. Fostering innovation ecosystem within an organization. Entrepreneurship vs. intrapreneurship.
9. Corporate VC strategic and financial goals.
10. Types of corporate venture capital (CVC) units.
11. Differences between institutional VCs and corporate VCs. Competition and complementarity.
12. On-balance vs. off-balance CVC units. To whom CVC report and to whom should they report?
13. Typical mistakes companies make in setting up CVC units. CVC design questions that should be addressed by company leaders.
14. Best and worst practices in corporate venture capital.
15. Co-investing with institutional VCs. Board participation.
16. CVC as M&A pipeline.
17. Compensation of corporate VCs. Relationship between compensation and returns.
18. Should startups seek or avoid corporate venture capital?

Module 23. Building an Innovative Ecosystem.

1. Defining and understanding an innovative ecosystem.
2. Prominent features of successful ecosystems.
3. Why most attempts to build an innovative ecosystem have failed.
4. Analysis of successes and failures.
5. Is it possible to replicate Silicon Valley?
7. Major issues that regulators should explore before commencing to develop an innovation ecosystem.