Entrepreneurship & Venture Capital : MEM 490

Northwestern University McCormick School of Engineering

Professor Julian Cheng

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1. COURSE INFORMATION

Course: MEM 490: Entrepreneurship & Venture Capital

2. COURSE DESCRIPTION

The **Entrepreneurship & Venture Capital** course integrates early-stage startup creation with the practice of venture capital investing. Students will experience the dual perspectives of entrepreneur and investor by applying frameworks, developing theses, performing diligence, and making real-world decisions. Students will work with real startups and a venture capital firm, apply lean startup methodology, form business models, conduct customer discovery, and build investment cases. Final deliverables include a startup pitch and an investment memo. The course provides high-level exposure to market validation, term sheet structuring, team formation, and fundraising.

3. LEARNING OBJECTIVES

- Develop the mindset of both an entrepreneur and early-stage investor
- Apply lean startup tools to identify problems, markets, and technologies
- Evaluate real companies for investment using diligence frameworks
- Build, iterate, and pitch a compelling business model
- Construct and defend an investment thesis and memo

4. COURSE COMPONENTS

- **Lectures & Guest Speakers** (Founders, VCs, Domain Experts)
- **Hands-On Startup Projects** (Customer discovery, MVP design, pitch)
- **Investor Simulation** (Cap tables, term sheets, market/tech diligence)
- **Weekly Social Media Posting** (LinkedIn/X reflections, insights)
- **Final Presentation** (Startup pitch & investment memo)

5. TEXTBOOK AND MATERIALS

- *Venture Deals* by Brad Feld and Jason Mendelson
- *The Startup Owner's Manual* by Steve Blank and Bob Dorf
- LaunchPad Central + Y Combinator Startup School Videos

6. COURSE SCHEDULE (Tentative)

Week 1: Introduction & VC Fundamentals

- VC stages, players, and capital mechanics
- Guest: Kat Manalac (Y Combinator)
- Assignment: Draft initial investment thesis

Week 2: Lean Startup + Customer Discovery

- Business Model Canvas, hypothesis testing, MVPs
- Assignment: 10 customer interviews & insight log

Week 3: Developing Problem-Market-Tech Thesis

- Frameworks: P/M/T intersections (e.g., AI in healthcare, governance tech)
  P: Problem – a real, unmet, or emerging problem in society or industry
  M: Market – a sufficiently large or growing market where the problem exists and can be monetized
  T: Technology – a novel, emerging, or uniquely applied technology that can solve the problem in a scalable way
- Whitepaper drafts due

Week 4: Working with Founders & Startup Teams

- Founder dynamics, co-founder equity, team selection
- Guest: Allstate Ventures

Week 5: Deep Tech Investing

- Workshop on venture capital partnership dynamics and evaluating deep tech companies
- Guest: Deep Tech Founder

Week 6: Financials & Market Sizing

- TAM/SAM/SOM, modeling returns, competitive mapping
- Guest: a16z

Week 7: Governance, Ethics, and Startup Boards

- Theranos/FTX case studies, governance design
- Guest: Legal/AI GC

Week 8: Technical & Financial Diligence

- Frameworks for evaluating technical teams & traction
- Guest: Susan Kim CFO Psi Quantum

Week 9: Overcoming Regulatory and Scaling Hurdles

- Deep tech, health tech, climate tech: risks & policy
- Guest: Partner, Venrock

Week 10: Final Presentations

- Investment pitch, memo, and startup model delivery
- External VC panel feedback

Important Note: When changes are made to the syllabus, students will be notified via Canvas and in-class announcements. More details for assignments will be provided at least one week prior to their due date.

7. GRADING POLICY

- Class Participation & Peer Feedback: 10%
- Weekly Assignments & Canvas/Blog Updates: 20%
- Startup Project & Team Progress: 20%
- Problem-Market-Technology Thesis: 20%
- Final Investment Memo & Pitch Presentation: 30%

Class and team participation will be graded based on quality versus quantity. I place high importance on comments that move the class discussion forward. Team member evaluations and class attendance will also be factored into your participation score. I will provide discussion questions that will serve as a basis for your analysis. **You will write a short analysis based on one of these discussion questions that you choose to not exceed one page double spaced.**

Grading Scale

92.5-100 A	80-82.49 B-	62.5-69.99 D
90-92.49 A-	77.5-79.99 C+	0-62.49 F
87.5-89.99 B+	72.5-77.49 C	
82.5-87.49 B	70-72.49 C-	

8. ATTENDANCE POLICY

The expectation is that students will try their best to attend all classes. If you need to miss a class, please let the course instructors know in advance.

9. LATE WORK

- Any exceptions to due dates and times must be discussed in advance with a course instructor.
- Due dates for assignments and exams will be provided via the syllabus and Canvas