

# **Financing Technology Commercialization**

## ***A Venture Acceleration Practicum***

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**Fall Term — 2015**

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## I. Introduction and Overview

Now in its eleventh year, and having helped 130 companies and enrolled 600 UM students over that time, the mission of the UM Center for Venture Capital and Private Equity Practicum is to have students and mentors help each participating startup company move toward obtaining the early stage financing appropriate for its market position. That financing may come from customers, individuals, organized angel groups or institutional venture capital providers.

In the process of helping accomplish this mission, student Team members complete a useful apprenticeship in applied entrepreneurial finance – experiential learning at its most immersive. Practicum student Teams experience the complex dynamics of a startup.

### Resources

80	Students - 15 Teams
33	Ross MBA Students
28	Ross BBA Students
19	U-M Interdisciplinary Students - Engin, Law, LS&A, Med, SPH, UMSI, e.g.
75	Startup professionals - 15 Teams
29	Founders and executives
23	Academic mentors
15	West-coast Adjunct mentors from the Enterprise Futures Network
8	Mentors-in-Residence, Venture Specialists, and At-large Expert Mentors
45	Subject-matter experts
20	Entrepreneur panelists
18	VCs
4	Guest speakers
3	Professor, Lecturer, TA
1:1.5	Student / Faculty ratio

### **Learning goals**

- Students will understand the ways in which startups grow, develop, pivot, and compete for funding.
- Students will make accelerated high-value contributions to complex, fast-paced startup environments.
- Students will be fluent, capable, and adept at preparing a startup company for VC Due Diligence scrutiny.
- Students will be able to lead a startup and be a Fundable Founder.

### **Learning evidence**

- Students will deliver VC-grade investment and diligence materials – most importantly the Business Model and Business Plan.
- Students will analyze and defend startup financial statements and forecasts.
- Student will pitch and be evaluated by VCs.
- Team deliverables account for 75% of a student's grade.  
Individual contribution accounts for 25% of a student's grade.

### **Learning experiences**

- Students will immerse in a real-world startup company, working with founders and executives, local and adjunct mentors, and networked startup resources.
- Students will work in diverse, interdisciplinary project Teams, learning effective Group Process, and simulating the dynamics of a startup company.
- Students will evaluate and invest in the 15 companies of the 2015 FTC cohort.

Working with Founder/CEOs and Mentors of our portfolio of companies in this Fall Term 2015 setting, each student will develop a “portfolio view” of the funding process that mimics the role of an analyst in a venture capital fund: deeply engaged in one's assigned Team, but reciprocally aware of and involved in all the companies in the portfolio.

Accordingly, in expressing a preference for a particular startup company to join as a Team member, each student is required to review the background information on each startup and, in relating personal background and interest to each startup, to rank the firms in descending order via our Qualtrix survey before the end of the opening class “Job Fair” on September 9.

## II. Structure of Weekly Class Sessions

Classes are held each Wednesday evening from 7:00 pm to 10:00 pm. Student attendance for the full period of each class is required, and will be recorded and will be factored into the student's final grade.

Each class session will be structured as follows:

7:10 – 8:00 PM	Lecture or Guest Lecture Presentation
8:00 – 8:50 PM	Entrepreneurial panel or class discussion
9:00 – 10:00 PM	Student Team Meeting

Wednesday evening Team Meetings are facilitated by mentors, to translate between companies and curriculum. Mentors and west-coast Adjunct mentors may make themselves available. Students are strongly encouraged to schedule additional Team Meetings outside of class, to focus on Team deliverables.

### Video-stream

Each class will be video streamed and accessible “live” by adjunct mentors through a link that will be provided to them. Students must attend each class and meeting in person, but will be provided a link to view archived videos of class presentations for review purposes.

### III. Team Selection, Engagement Process, and Timeline

The Practicum is open to students from all units of the University of Michigan and from all academic levels. They are assembled into student Teams according to their skill sets, personal background and interest, and their experiential “fit” relevant to the startup to which they are assigned. The aim is to have students work as part of a startup Team and to operate as co-workers with the founders’ Team and mentors.

Students and startup Teams are free to (but not forced to) enter into employment, incentive or investment contractual arrangements, as appropriate, with due notification to Professor David Brophy or Lecturer David Bloom. If requested by their assigned startup company, each student will sign a non-disclosure agreement with that company to protect any confidential information that they may receive.

The Practicum provides an action-based experience for students wanting to pursue a career as a “fundable founder/CEO and investor” in entrepreneurial ventures. Financing Technology Commercialization provides a real, action based apprenticeship in which select student Teams work with the founding management Teams of established startup companies to help them move “the next mile to funding”. This involves interacting with local mentors, adjunct mentors drawn from the national entrepreneurial and venture capital communities, and technology experts drawn from universities and corporations. The course requires each student Team to submit four written deliverables for its assigned startup company as described below.

#### A. Student/ Mentor/ Founder Team Formation Process

Each Student Team includes a Startup Founder/CEO and one or more startup executives; one or more local academic Mentors, and an adjunct Mentor. Information on each Team component is shown below:

- **Startup Companies:** Concise information on each company participating in the course is made available to students, mentors, and CEOs for review. The selection process for participating companies is based on criteria created by the Course Management Team. To be considered as a participating company all applicants submitted an executive summary for review by August 18, 2015.
- **Mentors:** One or more academic Mentors are assigned to each Company and provides guidance on assignments, course objectives and group process to Startup Founder/CEOs and Student Team. Mentors may be thought of as “managers of managers” and have been selected based on domain knowledge and entrepreneurial experience. Mentors, all volunteers, have received background information on their assigned company for review. They attend class sessions to work with their assigned Teams throughout the course. Adjunct

mentors are from different parts of the country, and participate via video teleconferencing.

- **Students:** There will be 4-6 students on each Team, structured to include a balance of graduate and undergraduate students. Permission to enroll via Wolverine Access is extended by Ross Admissions to non-Ross applicants. In addition to registering for the course, each student submits a resume available to Company CEOs and Mentors for review.

### **B. Team Engagement Process**

Mentors are assigned by course management to Startup Companies based on FTC matching criteria and their stated personal preference. Mentor and Startup Company Teams will meet with individual students through “Job Fair” during opening class session (September 9) on the basis of which students will make their final ratings of company preference for their assignment.

### **First Class Session, September 9, 2015**

On the first evening of class we provide a forum for Students, Mentors and Companies to interact so that Students can determine which companies they have particular interest in. The purpose of this “Job Fair” is to allow students to combine the results of their reading of each company’s background information with a personal meeting with each company to rate the companies on the basis of the best fit for the student’s background and interest.

Before the end of the class session (10 pm), each student must submit via Qualtrix survey, a rating (using 1000 points (with a maximum of 400 points assignable to any one Team) of each of the Companies, reflecting their degree of preference for working with each Team. From this information the course management group will match and form Teams based on the following criteria:

- **Student preference**
- **Fit between company and student as identified by the Course Management Team based on resumes and company information sheets**
- **Equal distribution of educational level**

**Failure of a student to submit a rating for each company will cause the student to be randomly assigned to a Team, regardless of any prior statement of preference the student may have submitted by e-mail.**

**Team assignments will be published on Wednesday, September 16th.**

## Second Class Session, September 16, 2015

Each Startup Company, Mentors, and Student Team will meet as a Project Team during the second class session to discuss project expectations and objectives. When the Student Teams are announced, students will be provided with the Founder/CEO's statement and explanation of the current Business Model for the Company they have been assigned to work with. At this second class session, the students will be able to discuss the Business with the Company CEO, Mentor, and Adjunct Mentor.

Student Teams meet to learn about the company from the CEO, and to begin the process of "constructive tear-down," probing the claims and evidence supporting the startup's IP, Technology, Team, Resources, and Comparable Ventures ("Comps"). This process culminates in the first deliverable (below), which serves as foundation for the successive three deliverables.

### IV. Deliverables and Presentations

There are four deliverables due from each student Team.

1. An Intake Critique on the Team's Assigned Startup Company  
500 points      Due Date: Sunday, September 27, 2015
2. A Business Model for the Team's Assigned Startup Company  
1,000 points      Due Date: Sunday, October 11, 2015
3. A Detailed Business Plan for the Team's Assigned Startup Company  
2,500 points      Due Date: Sunday, November 22, 2015
4. An Investment "Pitch Deck" for the Team's Assigned Startup Company  
500 points      Due Date: Sunday, November 29, 2015

There are three presentations due from each student Team.

1. Five minute student presentation, with five minute Q&A  
(practice)      Presenting: Wednesday, October 14, 2015
2. Fifteen minute VC presentation, with ten minute Q&A  
500 points      Presenting: Wednesday, December 2, 2015
3. Five minute student presentation, with five minute Q&A  
2,500 points      Presenting: Wednesday, December 9, 2015

Specific information and guidelines will be provided in advance and as appropriate.

## V. Recommended Readings

The following reference books have been placed on reserve in the Ross School of Business Library under the course title: “FIN ES 329 629 Financing Research Commercialization” and are accessible by all students enrolled in the class.

1. *Financing University Spinouts: A Handbook for Entrepreneurs and Investors*, Edited by Kenny Tang, Ajay Vohora and Lord Roger Freeman, London (Euromoney Institutional Investor Books, 2005).
2. Guy Kawasaki, *The Art of the Start*
3. Geoffrey Moore, *Crossing the Chasm*
4. Kathleen Allen, *Entrepreneurship for Scientists and Engineers*, New York, (Prentice Hall, 2010)
5. Bruce Barringer, *Preparing Effective Business Plans*, New York, (Prentice Hall, 2010)
6. Jeffrey Cornwall, *Bootstrapping*, New York, (Prentice Hall, 2010)
7. W. Chan Kim and Renée Mauborgne, *Blue Ocean Strategy: How to Create Uncontested Market Space and Make Competition Irrelevant*, Boston, (HBS Press, 2005)

## VI. Grading

Team deliverables account for 75% of each participating student’s grade in the course, 7,500 points. The quantity and quality of each individual student’s cumulative participation – her Perspiration and Inspiration (“P&I”) – accounts for 25% of each student’s grade, 2,500 points. P&I scores comes from Team mentors and students.

The last student presentation contributes to both Team grades and individual grades. For the last presentation session, each student in the class is given \$1,000,000 to invest in the other 14 companies presenting. The Team goal is to raise the most money from the students in the class.

The VC presentations create the rubric for individual grading. Each student’s goal is to invest her \$1,000,000 according to the VC’s scoring – to “bet like a VC” on the final student presentations. The Team grade for the final presentation.



## VII. Class Schedule

Session	Topic	Faculty	Panel
1) Wed 9/9	Company Fair	Welcome – Brophy Mentoring – Bloom	n/a
2) Wed 9/16	Disruptive Innovation	Lecture – Brophy Operations – Bloom	n/a
3) Wed 9/23	Organization	Professor David Brophy, Director, Center for VC and Private Equity	Building the Team
4) Wed 9/30	Technology and Market	David Bloom and guest lecturer MaryAnn Labant	Due Diligence
5) Wed 10/7	Business Model	Brophy and Bloom	tbd
6) Wed 10/14	Student Presentations		
7) Wed 10/21	No Class		
8) Wed 10/28	VC Fundamentals	David Parsigian, guest lecturer	Term Sheets
9) Wed 11/4	Intellectual Property	Bryce Pilz, guest lecturer	IP Strategies
10) Wed 11/11	Entrepreneurial Finance	David Brophy	Fundraising
11) Wed 11/18	Investor Finance	David Brophy	What Flew, What Flopped
12) Mon 11/23	Presentation Skills	David Bloom	Pitches Gone Wild
13) Wed 12/2	VC Presentations		
14) Wed 12/9	Student Presentations		

## VIII. Course Management

**Professor David J. Brophy**

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Professor David J. Brophy is the Founder and Director of this course, a practicum designed and first offered by him to University of Michigan students in 2004. As a member of the Finance Faculty and the Entrepreneurial Studies Faculty at The Ross School of Business at the University of Michigan, Prof. Brophy also teaches courses in venture capital, private equity, global private equity and valuation. He is the Founder and Director of the University of Michigan Center for Venture Capital and Private Equity Finance.

Professor Brophy is an active practitioner, teacher, and researcher in entrepreneurship and specifically entrepreneurial finance. His current research is focused upon the study of private equity finance in a global setting, the venture capital investment and private placement process, and entrepreneurial financing systems. As well, he is founding director of two leading private equity conferences: the University of Michigan Growth Capital Symposium, venture capital-oriented and in its 31st ([www.michigangcs.com](http://www.michigangcs.com)) and the University of Michigan Global Private Equity Conference corporate growth/buyout oriented and in its 8th year.

Professor Brophy participates extensively as an advisor and investor in venture capital, private equity and entrepreneurship in the US and globally. He teaches and assists emerging and mid- sized companies to manage their growth and raise the growth capital they need. Dr. Brophy has been a consultant to a variety of government economic development agencies in the U.S., Australia, France, India, Pakistan, and Russia and has served on the Governor's Commission on High Technology in Michigan. Dr. Brophy is active in the development of policy regarding the University's role in technology transfer, entrepreneurial activity, and venture capital investment. He has been a member of the University of Michigan Economic Development Council as well as Chairman of the Advisory Committee of the Michigan Investment Fund (a venture capital investment fund). He is also a member of the Executive Committee of the Samuel Zell and Robert Lurie Institute for Entrepreneurial Studies at the UM Ross School of Business and a member of the organizing committee and faculty of the UM Master's Program in Entrepreneurship.

Dr. Brophy has served as Scholar in Residence at the Ewing M. Kauffman Foundation Center for Entrepreneurial Leadership in Kansas City, Missouri. He has also served as advisor to the State of Michigan Task Force on Venture Capital and is a founding director of the Michigan Venture Capital Association, both of which work to create a positive environment for venture capital investment in Michigan, the Midwest, and the nation. Dr. Brophy is an advisor to BioStar Ventures, LCC (Petoskey, Michigan and Irvine, California), Compass Technology Partners (Menlo Park, California), and VentureEast, LP (Bangalore, India and Los Angeles, California).

**David C. Bloom, Course Operations Officer      dcbloom@umich.edu      734.604.3588**

David Bloom is a veteran of eleven startups; an advisor or director with four emerging companies; and a mentor for scores of entrepreneurial ventures in Clean Tech, Life Science/Medical Devices, Mobile/SaaS Applications, and Big Data/Analytics.

David mentors startups on Business Canvas and Customer Development, Translational Research/Commercialization, Revenue Generation, and Networking. He serves as coach and connector for Factotem's portfolio of companies, and as executive director in economic development and entrepreneurial education programs.

David has a successful track-record of moving innovation from the university into the marketplace. He led a Team in developing key platform technology for the Large Hadron Collider at CERN, and he co-founded a startup to commercialize genetic algorithms and psychometric research methodologies for Genentech, HP, and GM.

David brought the world's first Diabetes Insulin Guidance System (DIGS) to market – Hygieia's d-Nav device – which is carried by hundreds of patients in Northern Ireland. He developed Hygieia's disruptive business model, which won the Accelerate Michigan Innovation Competition's Medical Device award in 2010. David is currently CEO of Mayasil, an emerging Clean Tech company that is commercializing technology to produce high-purity nanosilica from agricultural waste – rice hull ash.

In 1995, David founded the Factotem Constellation, a global Team of senior business development professionals who provide hands-on engineering, marketing, and analyst/diligence services to entrepreneurs and investors. Prior to Factotem, David worked as a product developer, project manager, magazine writer, and editor.

David is a founding director of the a2geeks educational foundation, an organizer of the a2newtech meetup and Ann Arbor Ignite, and he chaired the Marketing Roundtable from 2011 to 2013. David serves as a commercialization expert for the National Science Foundation, a judge for the American Technology Awards, and he reviews startups for the NYU New Venture Competition and the China Business Challenge.

David holds a BSE in Electrical Engineering and an MSE in Industrial & Operations Engineering, both from the University of Michigan.

**Nathan J Fink****nathanjfink@gmail.com**

Nathan has worked with Professor Brophy on multiple projects for the last three years. In the past five years Nathan worked with several startup companies on various topics such as funding, business development, and idea creation. He was awarded the 2011 Weiser Family BBA Entrepreneur of the Year title for his work completed with the Ross School of Business Entrepreneurial Studies Faculty. His professional experience includes Shell Oil, Ford Motor Company, and multiple small and mid-sized firms. In addition to these firms Nathan has worked with government organizations to promote entrepreneurship on a local, national, and global level. He earned a Bachelor's Degree in Business Administration from the Ross School of Business with a focus in entrepreneurship and venture capital.

**Matthew Kosovec****mkosovec@umich.edu**

Now in his third year of involvement with the program, Matt is a fifth year undergraduate student enrolled in the dual degree program for electrical engineering and business with a focus on entrepreneurship and venture capital. He is also founding member of the Society of Business Engineers at Michigan and President of the Michigan Club Tennis Team. Surrounded by entrepreneurs growing up, he has always had a strong passion for early stage business development and finance. He has interned at numerous early and mid-stage companies as well as larger IT and Finance companies such as SAP, Merrill Lynch, and The Royal Bank of Scotland.

**Adam Greenberg****adamgree@umich.edu****TA**

Adam is a Ross BBA Senior studying Finance and Accounting. As an intern for RBC Capital in NYC, Adam developed LBO models for two prospective buy-side acquisitions of public companies; performed due diligence on quick serve restaurant brands, analyzing global footprint, size, and strategic fit to create acquisition materials; and built company profile reports and financials for private and public companies.

At Ernst & Young (Israel), Adam valued Supergas solar plants using energy industry comps; created financial models to calculate enterprise valuation; and developed pitch books for Ernst & Young clients resulting in four Merger and Acquisition negotiations.

Adam is passionate about Habitat for Humanity, he is an Olympic-distance triathlete, and he is a proud fourth-generation Memphian and Memphis Grizzlies fan.