PHYS 4980/6980 Special Topics: Seeking Venture Capital for Your Tech Startup

Instructor: Dr. Xunming Deng, Professor of Physics, University of Toledo
Email: xunming.deng@utoledo.edu; Phone: (419) 530-4782; Office: MH5002

Time: Monday 12:00pm – 1:30pm, Spring 2013
Location: Stranahan Hall South 0118
Class size: Limited to a maximum of 15;
Registration ends on Jan. 11, 2013
Format: Seminar
Levels: Undergraduate: 28136 - PHYS 4980 - 102
Graduate: 27959 - PHYS 6980 -001

Course Description

Many science and engineering students have plans, or dreams, to create a startup company after graduating or sometime in the future. Among the big questions are: how do I get started; where to find the money, and from whom; how do I build the team; how do I sell the first product; and, how do I manage a startup. This Special Topics course will provide basics for attracting angel investment and venture capital funding to finance your startup.

This course will be provided in seminar format, with many discussions on focused topics. This course/seminar series is designed for:

- **Students** who may consider creating their own tech startup in the future;
- **Students** who may have the opportunity to assist others in creating their startup;
- **Students** who may have future interest in being part of the management team in a startup company;
- **Faculty and staff** who have interests in building a tech startup to commercialize their research developed in a university environment;
- **Faculty and staff** who have interest in working with other tech startups to commercialize their research;
- **Faculty and staff** who want to know more about business side to enhance their skills in writing SBIR/STTR proposals and seeking other funding opportunities;
- **Current entrepreneurs** who are interested in learning more about angel investments, venture capital funding and debt financing;
- **Economic development professionals** who want to help others in creating their tech startups; and
- **Business consultants** who are not yet familiar with venture capital financing and would like to know more about it.
Topics to Cover:

- Creating your technology startup (5 weeks)
  - Developing a business idea based on your innovation in science and engineering
    - What are the ideas that can be turned into a business;
    - Potential market size;
    - Entry barrier. Uniqueness; IP
  - Forming your company
    - What type of a company: C-Corp or LLC;
    - Location of registration: Ohio? Delaware?
    - Who are the shareholders.
    - Operating Agreement
  - Writing a business plan
    - Basic elements of a business plan
    - Documenting your own thoughts
    - Presenting it to friends to get initial feed back
  - Building the core team
    - What kind of people would you need on your team
    - Why do they want to join you rather than doing something else
    - What can you afford them
    - What is the HR roadmap and organizational structure
    - Employee stock option plan
  - Developing a product
    - What will your company want to sell
    - Sell to whom
    - Other similar products out in the market
    - Competitiveness;
    - Pricing, Cost.
  - Getting seed funding from angel investors
    - What are angel investors
    - How to find them
    - What are your selling points to get angel’s seed investments
  - Applying for government grants – SBIR/STTR etc
    - SBIR/STTR opportunities
    - Other local and State level seed funds
    - Applying for government grants
    - Managing a government funded project
  - Finding Customers
    - Discussing with potential customers what you plan to offer
    - Finding out their interest level and potential demand level
    - Asking for their help as reference for your investment due diligence
  - Operating a startup
- Basic operations of a initial startup; payroll; tax; Employment agreements; NDAs; Company polices; Decision-making process.

- Seeking venture capital funding (8 weeks)
  - Developing a comprehensive financial projection
    - Financial model, assumptions, 3-year and 5-year projections, creditability of your projections, sensitivity analysis
  - Developing a comprehensive business plan
    - Executive Summary, Marketing Plan, Technology and IP, Manufacturing Process, Team Experience, Financial Plan, Exit Strategic.
  - Making your pitch to potential investors
    - “Elevator” pitch; Teaser; Power Point Presentation; Back up slides
    - Presenting team
    - Road shows
  - Competing your business plan at venture forums
    - Submiting applications to various venture forums, particularly those that run through a selection process, evaluated by the VCs
    - Preparing for the venture forums
  - Getting on-site visits
    - How to get VCs to come to make on-site visits
    - What the VCs look for at the on-site visits
    - How to best present you and your team during the on-site visits
  - Preparing for the Partners’ Meeting
    - Format of the Partners’ meeting
    - Decision making at the Partners’ meeting
    - What role do your VC representatives play at the Partners’ meeting
  - Investment term sheet explained
    - Receiving term sheet
    - Explanation of each sections of the term sheet
    - Ranges between investor-friendly terms and company-friendly terms
    - Legal language and common practice
  - Due diligence process
    - Legal DD, financial DD, market DD, technology/IP DD, employment DD
  - Transaction documents
    - Certificate of Incorporation, Stock Purchase Agreement, Voting Agreement, Co-Sale Agreement and ROFR, Investors’ Rights Agreements and other many, many documents as part of the transaction.
  - Closing the Transaction
    - Escrowing the documents, signature pages, and the investment funds
    - Legal team on both sides of the transaction. Managing legal fees.
  - Management of a VC-backed company
• The Board. The Investors’ rights. The Information Rights; The company governance. The approval. The team-building. The connections the VCs bring.
  The CEO succession plan.

• Follow-up funding (2 weeks)
  o Next rounds of VC investment
    ▪ Series B investments
    ▪ The hiring of an investment bank
    ▪ What roles your existing VCs play and what do they think
    ▪ Managing interests of different investors and shareholders owning different types of stocks
  o Debt financing for business expansion
    ▪ Pros and cons of debt financing
    ▪ Typical documents of a debt financing

About the Instructor:

Dr. Xunming Deng is Professor of Physics and Director of Technology Commercialization of College of Natural Sciences and Mathematics and College of Engineering at the University of Toledo. Ten years ago, Dr. Deng and his wife Dr. Liwei Xu created Midwest Optoelectronics, LLC (MWOE), to license and commercialize technologies developed at Dr. Deng’s thin film silicon photovoltaic research lab at UT. In 2006, MWOE create a subsidiary, Xunlight Corporation (f/k/a MWOE Solar, LLC). As Founder/Chairman/President/CEO, Dr. Deng led Xunlight to receive over $43 million venture capital investments from four leading venture capital firms in cleantech and built the company through multiple phases of a technology startup company. Dr. Deng served as Principal Investigator or Co-Principal Investigator for over 30 research grants (total ~$23 million), with 14 such research projects having over $1 million funding size. He has many PhD and MS students, two of them are currently serving as vice president at Xunlight. Dr. Deng’s effort in commercializing UT-developed technology, and in leading MWOE and Xunlight, were recognized in mainstream media including ABC World News, CNN, Newsweek, The Economist, Guardian, Wall Street Journal, New York Times, MIT Technology Review, and Forbes.

Dr. Deng is interested in using his prior experience in creating technology startups and in attracting venture capital investments to assist other interested students, staff and faculty members to create their startups.
Detailed Registration Information:

**Special Topics In Physics - Seeking Venture Capital for Your Tech Startup - 28136 - PHYS 4980 - 102**

**Associated Term:** Spring 2013  
**Registration Dates:** Oct 03, 2012 to Jan 11, 2013  
**Levels:** Undergraduate  
**Attributes:** Offered with Multiple Titles

University of Toledo Campus  
Seminar Schedule Type  
3.000 Credits  
**View Catalog Entry**

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<td>M</td>
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<td>Jan 07, 2013 - May 03, 2013</td>
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**Special Topics - Seeking Venture Capital for Your Tech Startup - 27959 - PHYS 6980 - 001**

**Associated Term:** Spring 2013  
**Registration Dates:** Oct 03, 2012 to Jan 11, 2013  
**Levels:** Graduate  
**Attributes:** Offered with Multiple Titles

University of Toledo Campus  
Seminar Schedule Type  
3.000 Credits  
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