

**Stevens Institute of Technology**  
**Howe School of Technology Management**

**Entrepreneurship: Discovery and Commercialization  
Of Technical Business Opportunities**

---

BT 372 -B  
Spring 2012  
Tuesday 3:00 - 4:40 pm  
Thursday 4:00-4:50 pm  
Babbio Center 321

Dr. Vartuhi Tonoyan  
Assistant Professor  
Office Hours: By Appointment  
Babbio Center 638  
201- 216-8548 (Office)  
[vtonoian@stevens.edu](mailto:vtonoian@stevens.edu)

---

Steve Jobs of Apple, Bill Gates of Microsoft, Michael Dell of Dell Computers, Larry Ellison of Oracle, Fred Smith of FedEx, and Dietmar Hopp of SAP, are examples of successful entrepreneurs who have pursued new business opportunities in ways which were innovative, path-breaking and contributed to economic growth and employment generation. But, who is a typical entrepreneur, and how well does a typical start-up perform? Why do people start businesses? What is the role of people's education as well as their work experience for launching new businesses? How do entrepreneurs typically finance their start-ups? What is the role of people's social networks for starting new businesses? Finally, what makes some places (countries, regions) more entrepreneurial than others? These are questions which will be answered in **Part I** of this course, which aims at giving students solid knowledge about the subject of entrepreneurship, by drawing on contemporary and classical theories of entrepreneurship as well as recent empirical (quantitative) evidence on entrepreneurship. The purpose of this part is to dissect the common myths about entrepreneurship that investors and policy makers as well as entrepreneurs live by, and re-assess empirical facts about entrepreneurship. Teaching methods of this part are lecturing and class discussions, primarily.

**Part II** of this course aims at providing students with practical skills for setting up businesses and is suitable for those who may want to undertake an entrepreneurial career either by pursuing opportunities which lead to partial or full ownership of a business or those who consider becoming an entrepreneurial consultant and/or venture capitalist. It focuses on the creation of a new venture by providing frameworks and applying them to the identification and pursuit of a viable business opportunity. Employing a dynamic perspective, we will deal with issues revolving around the birth, growth and exit of newly founded companies. Concepts include the new venture formation process, opportunity identification, evaluation and analysis, customer development, market research, business models, managing intellectual property, entrepreneurial finance, as well as growth and exit strategies of newly established entrepreneurial companies. This part will be taught by the "case method", primarily. We will draw on real-life cases which have previously been employed at the Harvard Business School and the Stanford University's Graduate School of Business.

In **Part III** of the course, students are expected to develop and write a business plan in teams of two as well as pitch their ideas in front of the class.

We have designed small program courses to provide our students with intimate, hands-on learning experiences as well as opportunities to bridge academic theory and real-world practice. Since “one size does not fit all”, we will use a variety of **teaching methods** which are designed to give you the breadth and depth of skills and experience you will need for successfully pursuing an entrepreneurial career. They include the following:

- Lecturing, theoretical and empirical overviews
- Class discussions
- Case studies
- Role-plays
- Team projects
- Problem-solving sessions
- Face-to-face feedback

### **Cases**

All cases for every single session can be found in the reading packet. Some cases may be distributed during the term because they are still being revised. We typically assign readings that we expect you to complete in advance of each class.

### **Required Reading**

Shane, S. (2003). *A General Theory of Entrepreneurship: The Individual-Opportunity Nexus*. Edward Elgar, Cheltenham, UK and Northampton, MA, USA.

### **Additional Readings**

Shane, S. (2008). *Technology Strategy for Managers and Entrepreneurs*. Pearson: Prentice Hall.

Shane, S. (2008). *The Illusions of Entrepreneurship. The Costly Myths That Entrepreneurs, Investors, and Policy Makers Live By*. Yale University Press: New Haven & London.

---

**Course Schedule**

Week	Day	Topics
<b>PART I</b>		
<b>WHO BECOMES AN ENTREPRENEUR? WHAT ARE SOURCES OF ENTREPRENEURIAL OPPORTUNITIES? ON THE ROLE OF INDIVIDUALS' RESOURCE ENDOWMENTS AND COUNTRY-SPECIFIC CHARACTERISTICS</b>		
1	01/17/2012 01/19/2012	<p><b>Introduction to the Course and Nature of Entrepreneurship</b></p> <ol style="list-style-type: none"> <li>1. Defining Entrepreneurship</li> <li>2. The Entrepreneurial Process / A Life-Cycle Perspective on New Firms</li> <li>3. Why Approaching Entrepreneurship As a Process Is Central to this Course?</li> </ol>
		<p><b>The Role of Entrepreneurs for the Economy: Understanding Classical Theories of Entrepreneurship</b></p> <ol style="list-style-type: none"> <li>1. Theory of Economic Growth (Schumpeter 1934)</li> <li>2. Entrepreneurial Discovery and Competitive Market Process (Kirzner 1997)</li> <li>3. Comparison Between Kirznerian and Schumpeterian Opportunities, Their Sources and Forms</li> <li>4. Risk, Uncertainty, and Profit (Knight 1921)</li> </ol> <p>Reading: Shane (2003), <u>Chapter 2</u> "The Role of Opportunities"</p>
2	01/24/2012 01/26/2012	<p><b>Psychological Characteristics of Entrepreneurs</b></p> <ol style="list-style-type: none"> <li>1. Aspects of Personality and Motives: Extraversion; Agreeableness; Need for Achievement; Risk-Taking Propensity; Desire for Independence</li> <li>2. Core Self-Evaluation: Internal Locus of Control and Self-Efficacy</li> <li>3. Cognitive Characteristics: Overconfidence; Representativeness; and Intuition</li> </ol> <p>Reading: Shane (2003), <u>Chapter 5</u> "Psychological Factors and the Decision To Exploit"</p>

3	01/31/2012 02/02/2012	<p><b>Entrepreneurship As a Career Choice: Economic Determinants of Entrepreneurship</b></p> <ol style="list-style-type: none"> <li>1. Opportunity Costs and the Decision to Become Entrepreneur <ol style="list-style-type: none"> <li>1.1. Income</li> <li>1.2. Unemployment Duration and unemployment Coverage</li> </ol> </li> <li>2. Human Capital and the Decision to Become Entrepreneur <ol style="list-style-type: none"> <li>2.1. Education</li> <li>2.2. Career Experience: General Business Experience; Functional Experience; Industry Experience; Self-Employment Experience; and Learning by Imitation</li> </ol> </li> <li>3. Balanced Skills and Entrepreneurship (Lazear 2004)</li> </ol> <p>Reading: Shane (2003), <u>Chapter 4</u> “Individual Differences and the Decision to Exploit”</p>
4	02/07/2012 02/09/2012	<p><b>Social Embeddedness of the Decision to Become Self-Employed: Sociological Determinants of Entrepreneurship</b></p> <ol style="list-style-type: none"> <li>1. On the Importance of “Strong Ties” Versus “Weak Ties” <ol style="list-style-type: none"> <li>1.1. Parental Self-Employment</li> <li>1.2. Spousal Self-Employment</li> <li>1.3. Business Networks and Voluntary Organizations</li> </ol> </li> <li>2. The Link between Age, Gender and Entrepreneurship</li> </ol> <p>Reading: Stuart, T. &amp; O. Sorenson (2005) “Social Networks and Entrepreneurship”, from <u>Handbook of Entrepreneurship Research</u>, by Alvarez, S. et al. (eds.), pp. 233-242.</p>
5	02/14/2012 02/16/2012	<p><b>Part A: Institutional Context of Entrepreneurship</b></p> <ol style="list-style-type: none"> <li>1. Defining Formal and Informal Institutions, Property Rights and Transactions Costs of Entrepreneurship</li> <li>2. Economic, Political and Socio-Cultural Environments of Entrepreneurship</li> <li>3. Importance of Formal Institutions for High-Technology Entrepreneurship: Understanding the Role of Trade Secrets, Trademarks, Copyrights and Patents</li> </ol> <p><b>Part B: Corruption and Entrepreneurship: How Formal and Informal Institutions Shape Small Firm Behavior in Transition and Mature Market Economies</b></p> <p>Reading: Shane (2003), <u>Chapter 7</u> “The Environmental Context of Entrepreneurship”</p>

6	02/28/2012 03/01/2012	<p><b>International Differences in Entrepreneurship: What Countries Are More Entrepreneurial, and Why? What is the Impact of Entrepreneurship on Economic Growth?</b></p> <ol style="list-style-type: none"> <li>1. Why Are Some Countries More Entrepreneurial Than Others?</li> <li>2. Empirical Evidence on the Impact of Entrepreneurship on Economic Growth</li> </ol> <p>Reading: Global Entrepreneurship Monitor (2011). Extended Report: Entrepreneurs and Entrepreneurial Employees Across the Globe, pp. 13-33 (<a href="http://www.gemconsortium.org/docs/2200/gem-2011-global-report-extended">http://www.gemconsortium.org/docs/2200/gem-2011-global-report-extended</a>)</p>
7	03/06/2012 03/08/2012	<p><b>Day To Catch Up</b> Because I anticipate running a little behind, I have left one day free in the schedule, to allow us to catch up!</p>
8	03/20/2012 03/22/2012	<p><b>Part A: Patterns of Development, Productivity, Survival and Growth of Newly Founded Firms</b></p> <ol style="list-style-type: none"> <li>1. Patterns of Development and Productivity of Newly Founded Firms</li> <li>2. Survival of Newly Founded Firms: Liability of Newness, Liability of Smallness, Liability of Adolescence, and Liability of Aging</li> <li>3. Determinants of Survival and Growth             <ol style="list-style-type: none"> <li>3.1. Entrepreneurial Characteristics</li> <li>3.2. Organizational Characteristics</li> <li>3.3. Environmental Characteristics</li> </ol> </li> </ol> <p>Reading: Shane (2008), <u>Chapter 7</u> “What Makes Some Entrepreneurs More Successful Than Others?”</p> <p><b>Part B: Review of Part I / Mid-Term Exam Preparation</b></p>
<p><b>Spring Recess between March 11 and 18</b></p>		
9	03/27/2012	<p><b>In-Class, Closed-Book and Closed-Notes Mid-Term Exam</b> (Note: Only Part I will be relevant for your mid-term exam!)</p>
	03/29/2012	<p><b>Part A: Review of Mid-Term Exam</b></p> <p><b>Part B: Introduction to the Participant-Centered Learning</b></p>

<b>PART II</b>		
<b>CREATING, MANAGING AND GROWING NEW HIGH-TECH VENTURES: OPPORTUNITY IDENTIFICATION, BUSINESS PLANS, LEGAL ISSUES, MARKETING, FINANCE &amp; STRATEGY</b>		
<b>I. IDENTIFYING AND EVALUATING BUSINESS OPPORTUNITIES, DEVELOPING AND REFINING BUSINESS PLANS</b>		
		<b>Identifying and Evaluating Business Opportunities</b>
10	04/03/2012	<p><b>Case 1:</b> “R&amp;R” By Roberts (1987), HBS-9-386-019</p> <p>Additional Reading: <u>Bygrave et al. (2010) The Portable MBA in Entrepreneurship</u>, Chapter 3, pp.78-79</p>
	04/05/2012	<p><b>Case 2:</b> “Bill Gates and Steve Jobs” By Mayo &amp; Benson (2010); HBS 9-407-028</p> <p>Additional Reading: Bhide (1994), How Entrepreneurs Craft Strategies That Work, Business Horizons</p>
		<b>Developing and Refining Business Models</b>
11	04/10/2012	<p><b>Case 3:</b> Beautiful Legs by Post By Bygrave; BAB 071, 2000 Revised 2004</p> <p>Additional Reading: Sahlman, W. (1997), Some Thoughts on Business Plan, HBS Note 9-897-101</p>
	04/12/2012	<p><b>Case 4:</b> Zipcar: Refining the Business Model By Hart (revised February 2005), HBS-9-803-096</p> <p>Additional Reading: None</p>

<b>II. ENTREPRENEURIAL MARKETING, ENTREPRENEURIAL FINANCE, INTELLECTUAL PROPERTY, GROWTH AND EXIT STRATEGIES</b>		
		<b>Entrepreneurial Marketing</b>
12	04/17/2012	<p><b>Case 5:</b> D-Bamboo Home and Garden Shop By Pacheco (2010), HBS -910A29</p> <p>Additional Reading: Shane (2009) <u>Technology Strategy for Managers and Entrepreneurs</u>, Chapter 6</p>
		<b>Entrepreneurial Finance</b>
	04/19/2012	<p><b>Case 6:</b> Neverfail Computing By Bygrave (Revised2004), BAB069</p> <p>Additional Reading: New Venture Financing (HBS Background Note)</p>
		<b>Intellectual Property</b>
13	04/24/2012	<p><b>Case 7:</b> Palm Computing By Hart (1996), HBS-9-396-245</p> <p>Additional Readings: Roberts (1988) “The Legal Protection of Intellectual Property”, HBS-Note-9-898-230</p> <p>Roberts (2010): “The Legal Forms of Organization”, HBS-Note-9-898-245</p>
		<b>Growth and Exit Strategies</b>
	04/26/2012	<p><b>Case 8:</b> QI-TECH: A Chinese Technology Company for Sale, By Kuemmerle (2004), HBS 899-079</p> <p>Additional Reading: None</p>
<b>Tuesday April 24, 3:00 pm: GROUP BUSINESS PLANS DUE</b>		
<b>PART III</b>		
14	05/01/2012 05/03/2012	<b>FINAL GROUP PITCHING AND DISCUSSIONS</b>

---

## Course Requirements and Grading

---

There are **four basic requirements** for the course:

- ❖ Participation in Class Discussion: 30%
- ❖ Midterm Exam: 30%
- ❖ New Venture Business Plan (Team): 30%
- ❖ Pitching (Team): 10%

### Class Participation

This course depends heavily on class participation and discussions. Cases expose the ambiguities that are part and parcel of any decision, and the issues involved in going from principles to practices. Case discussions also develop the skills of persuasion, analysis and listening that are keys to the success of any entrepreneur and manager.

You must prepare for class and participate in order for the course to be successful. Preparation for class -especially important for Part II of this course- involves a) reading the assigned cases and background materials thoroughly and b) reviewing and answering for yourself the case assignment questions.

If you have not carefully thought about the study questions, you are not prepared for class. You are welcome to discuss cases with other students currently enrolled in the class, but the analysis must be your own. In preparing for case discussions, consulting students who have previously taken the class, or consulting teaching notes prepared by anyone, prior slides or notes from any class, or any other material (with the exception of what you would otherwise read in the business press) constitutes a violation of the honor code at the Stevens Institute of Technology.

You can contribute to the class discussion in different ways: through clarifying questions, relevant personal experiences as well as critical evaluations of the argument and evidence. Your participation can take three specific forms.

- ❖ Identifying the key issues in the case, drawing on your reading of the case and additional readings.
- ❖ Concisely explaining and justifying your preferred course of action.
- ❖ Listening to the contributions of your classmates and engaging them in constructive dialogues.

Your participation will be evaluated after each class. I will use a four-point scale: (0) missed class, (1) attended class, (2) participated in the case discussion, or (3) made a significant contribution to the case discussion. “Significant contributions” can take a variety of forms, including moving the discussion forward, making insightful comments as well as connections to course materials. The quality of your contribution is far more important than the quantity. Note that repeated absences can have large negative effect on the overall participation grade.



I expect you to be prepared for class each week. I will often cold call on people. If, for some reason, you are not adequately prepared for class and do not wish to be called on, please tell me prior to the beginning of class. Given the size of the class, it may not be feasible for you to participate every week; however, to get the most out of the class and be ready for cold calls, you should be highly prepared for every session.

### **Midterm**

The midterm exam will be an individual, a 60-minutes, closed-book and closed-notes written exam administered in class in Week 9 after Spring Recess. The exam will consist of two tasks, each of them including three questions. You are expected to choose one of the two tasks and provide answers to the questions. The criteria which I will use for assessing your midterm exam answers are as follows:

- ❖ Your statements should answer the question(s) asked.
- ❖ Your answer should be well-structured, i.e. it should have a brief introduction, problem statement and a brief conclusion.
- ❖ When appropriate, you should discuss more than one view, theory or perspective. Your answer should logically develop an argument in an analytical manner. You may back up your answer with real-life examples or research studies which we have discussed in Part I of this course. Your answer may include original and creative thought, but *only* if it is relevant. You may draw comparisons to other business-related subjects.
- ❖ Your answer should be legible and well written. Care should be taken over use of English (sentences, paragraphs, grammar, spelling and general presentation etc.).

Please be sure to bring your **Stevens' ID #** to class for the exam.

If you cannot take the mid-term exam for legitimate reasons, you should contact me prior to the exam or as soon as possible. It is your responsibility to provide evidence of a legitimate reason. Among these are e.g. an illness treated by a physician who will put in writing that you were too ill to take the exam; a death in the family or an accident that prevented your attendance at the scheduled time. In the event of an excused missed exam, it is the student's responsibility to contact the professor to schedule a make-up exam date. For an unexcused absence of an exam, I will give you a grade of zero.

### **Group Project: New Venture Business Plan**

Your final assignment will be a group project. For this project, you -in teams of two- will develop a complete business plan. The format for your business plan will be offered in the course. Groups should feel free to meet me to discuss their business idea. I may be able to help you assess the feasibility of your business ideas, suggest useful sources of information to consult for improving your business plan, etc.

You are free to form your teams as you wish. However, the composition of groups cannot change after week 11. Your final business plan is due Tuesday, April 24, by 5.00 pm. You are expected to email it to me at [vtonoian@stevens.edu](mailto:vtonoian@stevens.edu). Your assignment will only be accepted if it was submitted within the due date. Please note that your assignments may be submitted to a web-based anti-plagiarism control system for an evaluation of their originality. You will pitch your

business idea on Tuesday, May 1, and Thursday, May 3. The presentation of the business idea must be less than 2 min.

---

### **Grading Policies**

---

- ❖ Your final grade is determined by your performance relative to other students in the class.
  - ❖ All requests for re-grading must be submitted in writing within one week of the receipt of the grade. The request must include an explanation of why you believe the grade to be in error. Grades can go up or down after a re-grade.
  - ❖ Class participation grades *cannot* be contested.
- 

### **Classroom Behavior Codes**

---

Students in my class are required to adhere to the following standards of professional behavior in my classroom:

- ❖ You are to arrive on time.
- ❖ You are to remain awake during the class.
- ❖ Cell phones are to be turned off and be completely out of sight during the class.
- ❖ Computer usage is limited to note taking.
- ❖ Reading newspapers, doing homework, studying for other classes, working on puzzles, searching on the web and the like are not permitted.
- ❖ You are not permitted to engage in side discussions with other students.

If you violate any of these standards you will be told to leave the classroom and points will be deducted from your final course grade. In addition, your absence will count as unexcused. A second violation of any of the standards will result in additional point deductions from your final course grade. A third violation will result in you being administratively dropped from the class.

---

### **Honor Code**

---

Students in my class are required to adhere to the standards of conduct of the Honor Code of the Stevens Institute of Technology (SIT). The SIT Honor Code also requires students to sign the following Code pledge, "I pledge my honor that I have not violated the Honor Code during this examination", on every examination and assignment.