

E 102 Syllabus and Lecture Schedule

Subject to change as we adjust for pace of the term. Check back for updates. *Last updated: 1/8/08*

Month	Date	Day	Speaker	Topic	Comments
Lect 1	1/8	Tues.	Ken Pickar	Introduction and Presentation of Candidate Project Ideas	
<u>Class exercise</u> Who are we? Class Expectations. What do you hope to get out of the Class? Discussion of what is required.					
<u>Bookkeeping</u> Discussion and agreement on course times, “rules for the road”					
<u>Introduction and Course/Overview.</u> Course Objectives are discussed. What you will know when you have completed this Course. Teaching strategies are presented. These include heavy emphasis on Team-based off-line activities, student participation in Class including presentations, critiques and discussions, the use of Mentors assigned to each Team as a resource, the presentation of difficult, less familiar subjects upfront. (These include: Team Formation, Marketing and Sales, Networking, etc.) Developing Primary Research Skills and knowing how to use Library secondary research resources. The subjects and the syllabus are reviewed. Students invited to present new learnings they have discovered of general interest. These will be eligible for extra credit.					
<u>Team Formation and behaviors</u> Criteria to form a Team. Why a team?, What makes a good Team? Introduction to Team Behaviors. Roles of Team members. Applicability of Caltech Honor Code. Concept of continuous involvement, speed and fast iteration.					
<u>Importance of proper Concept Selection</u> Criteria for a “good idea” Your science-based ideas. Subjects that you are working on. (Professor’s permission required!). Other Caltech science. Other ideas.					
<u>Resources available to this Class-</u> Mentors for each Team, Research reports and books					
<u>Grand Finale:</u> Competition, judged by outside experts for best business plan. Poster session for invited guests.					
<u>Team and Idea Formation</u> Experience has shown that the earlier a team is chosen and a business idea is selected the better. We will post available ideas and students may organize and form teams around them. Alternatively, you may submit your own ideas for approval. Team diversity by discipline, etc., can be helpful.					
Exercise: List of candidate projects. Stay and discuss projects and form teams					

Preparation for Lecture 2 Read the Caltech IP process at http://www.ott.caltech.edu/fc/protect.html . Think about your team and business idea.					
Lect 2	1/10	Thurs Guest Lecturer	1. Candidate Ideas 2. Library resources		Library Lecture - Kristin Buxton
Lecture: Caltech patent policies. Why file a patent? How to write a provisional patent. How a full utility patent is different. The importance of claims. Examples of good and bad patents. Who owns patent? Patent and common IP mistakes made by Entrepreneurs Class exercise: Discussion of business ideas and form teams. <i>Submit Team names and members to Rahul at end of Period</i>					
Lect 3	1/15	Tues.		1. Vision Statement	How to write a Vision Statement. How to build an effective Team
Mentors introduced Fill out and submit forms on Team roles and behaviors. Preparation for Lecture 4 Readings on marketing.					
Lect 4	1/17	Thurs.	Ken Pickar	Marketing I	Fred Farina, Assoc. Director, Caltech Technology Transfer Office - IP Lecture
Lecture: Marketing a high technology concept. Segmentation. Finding key customer. How to get market data. Primary and secondary research. Hypothesis and Validation. The overriding importance of networks. Discussion: How to do a marketing plan.					
Readings on Business models (to be distributed) 1. Do both a web and library data base search 2. Speak to 2 other potential customers/partners. The act of talking to people about their business opportunity is of prime importance. An online survey can be useful.					
Lect 5	1/22	Tues	1. Each Team Presents Vision Statement. 2. Business Models Lecture		

			3. Introduction of Mentors and Assignment of Mentors and teams		
Lecture: How to create a compelling business model. Perceived value. One time vs. recurring revenue. The Price Curve and Price sensitivity, Commodity products, competitive issues, Scalability					
Fill out questionnaire (to be supplied) on Team Effectiveness and Issues					
Supplementary Event: Caltech/MIT Enterprise Forum: Saturday, January 20, 2007 8:00 AM- 12:00 noon Medical Devices: The Intersection of Software Engineering, Electronic Advancement and Medical Sciences See http://www.entforum.caltech.edu					
Lect 6	1/24	Thur	Chris Halliwell	Class presentations: Each Team presents 10 minute results of web and library data base search, Key hypotheses. Guest Lecture: Marketing II How to find the key customer?	
Preparation for Lecture 7 Competition Readings					
Lect. 7	1/29	Tues.	Ken Pickar	Competition	Lecture: Competitive Advantage, Entrenched Competition, Response of competition, advantage of speed
5 minute presentation of Business Concept Statement					
Preparation for Lecture 8 Read “How to Read a Balance Sheet, Income Statement” for example, (http://www.ameritrade.com/educationv2/fhtml/learning/uincomestates.fhtml)					
Lect 8	1/1	Thur.	Accounting	Ken Pickar	
Lecture: Fundamentals of Accounting/Fiscal Control Reading an income statement, reading a balance sheet, reading a cash flow statement Class Exercise: Analyze sample statements? What drives a young company?					

Midterm 2/1/06 Prepare presentation 5 pages (word) and 10 minute presentation (PPT) Progress to date and key issues to be resolved for the Final						
Lect 9	2/1	Thurs.		Midterm Presentations		
Preparation for Lecture 10: Be prepared to discuss possible examples of ethical dilemmas you have faced.						
Lect 10	2/5	Tues.	Ethics and Culture	Ken Pickar	Ethical behaviors	Establishing and influencing your company's culture
Lecture: How do you run and ethical company? How do you establish and influence a company's culture? Exercise: presentation of ethical dilemma Discussion: What should be the culture of <i>your</i> company? How can you work to make it happen?						
Lect 11	2/7	Thurs.	Leadership	Bill Gross	Market Analysis Update	
Lecture: The 'people factor' for start-up success Hiring "A" Players, Leadership indicators, Vision, Execution, Inspiration, motivation, communication Discussion: How will you assure that you will get the best people for your company?						
Supplementary event Caltech/MIT Enterprise Forum, http://www.entforum.caltech.edu/ Saturday, 2/10 - Biotech - Life Sciences						
Preparation for Lecture 12.						
Lect 12	2/12	Tues.	Sales	Lecture Bill Collins		
Fill out second survey on team effectiveness. Preparation for Lecture on Corporate Structure.						
Lect 13	2/17	Thurs.	Corporate and Capital Structure		Conventional sources of funding	

Lecture: 1. Various Classes of Corporate organizing principles C corporations, S Corporations, etc. Pros and cons. Discussion: Which type of company is best for you?					
Lect 14	2/19	Tues.	Funding Strategies		Conventional and Non-conventional sources of funding
Lecture: How is money raised? What's the difference between a VC, Angel, Mezzanine financier, IPO, Acquisition, Licensing. What non-traditional methods of financing are available? (Friends and family, small business loans, government contracts, consulting, part time employment, shared quarters, joint marketing, visa cards, etc. Discussion : What are the financial objectives of your company? Are they achievable? Class Role Play exercise between VC and entrepreneur.					
Lect 15	2/21	Thurs	How to write a great business plan	Jim Brown	Ken Traveling J
<i>Feb 22 9:30 to 12:00 Tentative Special Event: Tech Coast Angels at Caltech. See actual presentations by entrepreneurs to angels http://www.techcoastangels.com/</i>					
Core Competencies and speed. What should/could you outsource to build your company? Consider multiple business issues. Exercise on Core Competence, what should be outsourced and how? Discussion: Meet in Teams to agree on Strategy. Prepare 5 minute presentation on outsourcing strategy. Present to Class What will you outsource? Why?					
Lect	2/26	Tues.	Financial	Lecture Ken Pickar	

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Lecture: How to write a credible pro forma business plan that you can believe in. The principle of self consistency. What are reasonable numbers? Where are the red flags? How can you make your plan robust? What are the most important parameters to watch? Final survey on Team Effectiveness					
Lect 17	2/28	Thur	How to write a great business plan	Lecture Ken Pickar	
What are the constituents of a great plan?					
Lect 18	3/4	Tues.	Summary lecture		
Lect 19	3/6	Thur	Rehearsal of Final Talk	Rehearse talks video and discuss	
	3/11	Tues	Final	15 minute Business Presentations by each team in Class Followed by Poster Session and Class Party Submit business plans	