

## Course Description

In this course students learn how to invent products that are useful, how invention can lead to innovation, positive change in the real world, what startups are, and how they are created.

The path from pure inspiration to powerful instantiation always consists of a remarkably consistent series of risk-reducing steps. Within a semester's-worth of presentations, guest seminars, and workshops, this course teaches participants a set of theories and best-practice methods for efficiently and effectively turning their best ideas into objects of value.

Course topics will include: (Approx number of hours devoted in class or discussion or seminar. Intended for general sense of coverage. May not add up accurately.)

- The Four Basic Risks to Innovation: Market Risk, Technology Risk, People Risk, and Money Risk. How these relate to class business plan models and how they can be used in early invention and planning at the earliest stages. (4)
- Market Gap Analysis and the Development of Value Propositions: Formal processes, definitions and skills (8)
- Interdisciplinary Product Design and the Power of Product Design Methodologies: Product design cycles, models for product managers in the earliest stage of invention; models for engineering, marketing and design to interact (10)
- Intellectual Property Development and Protection: Patent protection, explanation of the disclosure process and the preliminary patent application process. General introduction to the purpose of "claims" and the theory behind patent thickets. How patents play a role in the commercialization of university IP and how and when patents are important for startups. Some discussion of the difference between patents and trade secrets and when to use one or the other, or both. (3)
- Marketing, Selling and Other Surprisingly Practical ideas from Behavioral Economics. Introduction to the definition of a market, a selling proposition, and a formal sales process. Introduction to recent studies in behavioral economic theory and how predictably irrational human behavior is both exploited by unscrupulous marketers and how it can also inform ethical marketing and product design. (6)
- Capitalization Structures and Proven Strategies for Obtaining Resources. What role does money play in the early invention and innovation process? How should someone think about money at this stage? What simple legal structures enable people to invest in inventions and startups. How do inventors, entrepreneurs and investors get together, and how do they protect themselves from each other? (6)

"Startup School" Seminar (9)

Although this course is affiliated with the In|Venture Prize, taking the course is not at all necessary to participate or win the contest.

For students who are entering the In|Venture Prize competition, and for others on campus who may be interested in starting a new venture some day, associated with this class there will be three "Startup School" sessions held in the evening and open to the whole campus community. At these sessions successful entrepreneurs, high tech corporate lawyers, intellectual property experts, angel investors and venture capitalists will come, share their knowledge and experience, and generally engage in exercises designed to help campus members get up the startup learning curve.

Textbooks and Course Materials.

There will be three recommended texts and many handouts in addition to web references to entrepreneurial material on the internet.

### Evaluation

Students taking the class for credit will be evaluated by a combination of team and individual presentations and short written assignments.

### Meeting Time

One three hour meeting per week (TBD). With three Startup School sessions scheduled in the evening during the course of the semester.