Engineering Entrepreneurship
Course Summary

Catalog Description:

Engineering Entrepreneurship introduces engineering students to the concepts and practices of technology entrepreneurial thinking and entrepreneurship. Using lectures, case studies, business plans, and student presentations, the course teaches life skills in entrepreneurial thought and action that students can utilize in starting technology companies or executing R&D projects in large companies.

Course Overview:

Entrepreneurs have started new ventures for generations. Success was more a function of tenacity and a measure of the idea underpinning the business. Errors in the structure and early conduct of the enterprise could be overcome with time through learning. In the new paradigm, tolerance for such errors is acutely narrow. Competition has become intense, technology-based, market-focused and highly competent. In such a competitive environment the lack or misuse of the application of currently available technology to the structure and conduct of a new business could quickly spell its demise. Similarly, the inability to adapt the enterprise to the emergence of new technologies to make it market-driven and structure-perfect could have the same effect. In summary, competition is just too tough; the end could come quickly.

An entrepreneurial orientation is the common denominator among successful enterprises in this new paradigm. The elements that are frequently key to successful competition include a team approach to management focusing on enterprise value rather than individual recognition, structuring an environment that promotes seeking and exploiting opportunities rather than recognizing and solving problems, conceptualizing and committing to new markets rather than being constrained by traditional boundaries, and balancing intelligent risk and the opportunity for rapid advancement.

Organizational size neither offers a safe harbor nor increased risk. New ventures exist either as a new, small business or as an element of a large organization. Large companies have become competitive in this new paradigm by redefining their cultures. Decision-making has been shifted downward in these companies to encourage quick reaction to market opportunities.

Every student that plans a career, therefore, will face the need to negotiate these new realities, whether through a big company, small company, new company or old. The goal of this course is to provide the background necessary to understand the entrepreneurial approach to business and the tools required to function effectively in that environment.

Instructor:

Erik Sander, Director of Industry Programs
UF College of Engineering
Office: Weil 311
Tel: (352) 392-6000
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Office Hours:

By appointment

On-campus Students Time and Venue:

The course will typically be delivered weekly through a 3 hour weekly block consisting of lectures, guest speakers, student presentations, and in-class exercises.

Credit Hours:

3

Prerequisites:

None

Required Texts:

Individual reading assignment as given in class

Optional Text (Discuss with instructor before purchasing these):

Technology Ventures: From Idea to Enterprise, 3rd Edition, Dorf, Richard, Byers, Thomas, and Nelson, Andrew; ISBN 978-0073380186.

The Art of the Start: The time-tested, battle-hardened guide for anyone starting anything, Kawasaki, Guy; ISBN: 1591840562, Portfolio – a member of Penguin Group; 2004

New Venture Creation, 6th Edition or 5th Edition, Timmons, Jeffry A; ISBN: 0072498404, January 2004. The instructor recommends 5th edition for reasons to be discussed in class. This text will also be available for check-out in the library.

Monk & the Riddle, Komisar, Randy; ISBN: 1578516447, Harvard Business School Press; September 2001.

Sun Tzu for Success: How to Use the Art of War to Master Challenges and Accomplish the Important Goals in Your Life, Michaelson, Steven; ISBN: 1580627765, Adams Media Corp, January 2003.

Web Site:

A specific course website will be available to all students through the UF Sakai system. The website will contain the course schedule and assignments, instructor

contact information, and lecture/seminar notes and other presentation and reading materials. Students should check this often throughout the course as information may be updated frequently.

Course Objectives:

Explore the entrepreneurial mindset and culture that has been developing in companies of all sizes and industries.

Examine the entrepreneurial process from the generation of creative ideas to exploring feasibility to creation of an enterprise for implementation of the ideas.

Experience the dynamics of participating on a business team and the power inherent in a team relative to individual effort.

Create and present a business plan for a technology idea.

Provide the background, tools, and life skills to participate in the entrepreneurial process within a large company, in a new venture, or as an investor.

Course Outline:

The course is firmly presented in a "real-world" format, including students taking the roles of company founders and investors, creating a vision and execution plan for their company, and raising funds – exactly as they would in a true entrepreneurial endeavor. The course is delivered along the following outline of major course themes:

I. Introduction to Entrepreneurship – Introduction to Technology Entrepreneurship and Technology Ventures, Attributes and Myths of Technology Entrepreneurs, Engineers as Entrepreneurs, The Mindset of the Entrepreneurial Leader, Creating and Selling the Entrepreneurial Value Proposition.

II. Idea Generation and Feasibility Analysis – Entrepreneurial Idea Generation and Feasibility Analysis, Technology Commercialization Potential, Paths and Barriers from Idea to Market, Assessing and Presenting the Opportunity.

III. Business Planning and Execution – Business Structuring and Strategy, Business planning and the Business Plan, Financial Analysis and Projections; Market and Competitive Analysis, Presentation of the Opportunity, Intellectual Property Strategies for Technology Companies; Marketing, Sales and Distribution Strategies, Investment and Financial Strategies, Venture Growth and Value Harvesting.

Grading:

The course will be organized around lectures, readings, case studies, class discussion and a team project. Students will organize into companies (teams) for the purpose of developing a venture idea into an early stage business plan and presenting that plan. The deliverables for each team will be individual elements and a business plan and a team presentation of the plan to the class.

Undergraduate student grades in the course will be determined as follows:

Individual Assignments

Individual Idea Overview	10%
Class Participation	30%

Team Assignments

Company Idea Overview	10%
Value Proposition Present.	10%
Financial Analysis	10%
Business Plan Presentation	15%
Business Plan	15%

The teaching methodology and structure of the undergraduate and graduate versions of this course are similar. However, graduate students are required to submit additional assignments (e.g. case studies) and participate in company (team) fundraising exercises to a greater depth than undergraduate students and the distribution of grades is skewed slightly to reflect the case studies.

Additionally, the course is offered through distance education (UF EDGE). EDGE students will not be graded on class participation and the weight of grades for other assignments will be increased accordingly.

Attendance and Expectations:

- For on-campus students - Attendance is mandatory at all sessions, and more than one unexcused absence will adversely affect the student's grade.

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- Students will be evaluated on their participation in classroom discussions, whether about the case under consideration or about the topic of the lecture.

- All assigned readings are to be completed before the session - see the Course Outline for a complete list. Each required reading has been specifically chosen to provide a certain insight or skill; thus, every assignment is mandatory.

- Unless stated otherwise, assignments are to be submitted to the instructor by hardcopy at the beginning of the session when the assignment is due or by E-mail beforehand. Late submissions will typically not be accepted.

- Students are encouraged to post insights and articles related to course discussion topics to the class listserve, the address of which will be given in one of the first classes. The discussion forum will be read by the instructor and contributions will contribute to the individual participation grade.

Honesty Policy:

All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligations as a UF student and to be honest in all work submitted and exams taken in this course and all others.

Accommodation for students with disabilities:

Students requesting classroom accommodations must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting the accommodation.

UF Counseling Services:

Resources are available on-campus for students having personal problems or lacking clear career and academic goals. These resources include:

- University Counseling Center, 301 Peabody Hall, 391-1575, personal and career counseling

- SHCC Mental Health, Student Health Care Center, 392-1171, personal counseling

- Center for Sexual Assault/Abuse Recovery and Education (CARE), Student Health Care Center, 392-1161, sexual assault counseling

- Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling

Software Use:

All faculty, staff and students of the University are required and expected to obey the laws and legal agreements regarding software use. Failure to do so can lead to monetary damages and/ore criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.

IMPORTANT NOTE TO STUDENTS ON THIS COURSE SUMMARY:

This document is provided as a general summary of the course and is not meant to be substituted for the course syllabus in any way. The course structure, grading, outline, etc. may be modified from time to time and this document may or may not reflect the latest course information. In case of any conflict between this document and the course syllabus, students should rely on the course syllabus.