

Applied Technology Entrepreneurship
MGMT 4080 W Section 001
SYLLABUS – Revised 04/06/2010

Class Meeting Information

Credits: 4

Dates and Times: 5:45-7:15p (Tu, Th)

Meeting Location: CarlSMgmt 1-136

Instructor Contact Information

Hans Rawhouser (rawho003@umn.edu)

Office: 4-331

Office Hours

(Tu 4:45-5:45)

Nachiket Bhawe (bhawe001@umn.edu)

Office: 4-355

(Th 4:45-5:45)

Let us know if you cannot make this time and we will be happy to meet you at another time.

Course Objectives

This course gives you a unique understanding of how technology-focused firms are created, and provides you with experience commercializing *real technologies*. Technology commercialization topics that lie at the intersection of technology and business will be the focus of the class. These topics are typically not discussed in detail in other business or engineering/science classes, yet they are keenly important in technology ventures. Topics will include intellectual property, technological convergence, industry creation, technology standards, modularity, and technology strategy. You will apply these principles by assessing the commercial potential of real technological ideas. The final outcome of student group work will be a business plan for commercializing the new technology.

Target Students

This course is designed for upper-level students from the Institute of Technology, College of Biological Sciences, College of Food, Agricultural and Natural Sciences, College of Design and the Carlson School. Graduate students are also very welcome. We are looking for students who have an idea related to a technology based product/service **OR** are interested in working in a team to develop one. This course will be particularly useful to you if you anticipate founding or operating technology ventures.

Course Prerequisites

You must have a demonstrated interest in commercializing a technology based idea to enroll in this class and must be upper-division. Class enrollment will be limited to 25-35 students who will be organized in 3-4 member groups based on ideas; either their own ideas (e.g. technology from their senior capstone project) or ideas provided by the UMN Venture Center.

Grading

You will be graded based on both individual and team performance. This class is a writing intensive course. University writing requirements for the course include: a minimum of 10 pages of formal writing by each student (group assignments are divided by the number of group members), specific instruction in writing, and that at least one of the writing assignments must go through a formal writing process (including a draft, instructor feedback, revision, and resubmission of a final draft). Finally, writing intensive course grades must in part be tied to the quality of the writing that you produce. Your individual writing must minimal standards.

You will be required to communicate clearly and succinctly. We will give very clear writing expectations (including the range of words for each assignment). We will also give feedback and ask for revisions to the initial draft of your final project (either option 1 or 2 shown below) so that you can have experience improving your original writing.

Grading Criteria:

Your final grade will be determined as shown below. Per Carlson School of Management grading policy, the target median grade for a 4000-level undergraduate class is 3.3 +/- .2 (or about a B+). The following are the approximate grade ranges so that you will know where you stand in the class.

Percentage	Grade Range
89-100	A- to A
79-88	B- to B+
67-78	C- to C+
0-66	Fail

Individual Assignments

<i>Class Participation</i>	10%
<i>Group Participation</i>	10%
<i>Quizzes</i>	10%
<i>Industry Creation Report</i>	20%

Team Assignments

<i>Feasibility Report I</i>	20%
<i>Option 1:</i>	
<i>Business Plan</i>	30%
<i>Option 2:</i>	
<i>Feasibility Report II</i>	20%
<i>Feasibility Report Comparison</i>	10%
	30%

Assignment Details

General instructions:

All assignment due dates shown on the syllabus may shift to accommodate guest speakers and any other necessary changes. The due dates will be communicated clearly in class. Typically, you will have 1-2 class periods from when the material for the assignment is presented until when the assignment is due. We will provide grading rubrics for each graded assignment so that you know the expectations for the assignment. We will give you detailed feedback as well as a grade on each assignment within 1-2 class periods. This feedback will provide both your score and your location in the distribution of grades.

All assignments are to be submitted as digital documents by e-mail to the instructors. We do **not** want a paper copy. We will give feedback in the digital documents and return by e-mail. Please email to instructors any material (slides or documents) that you will present at least four hours before class or meeting in which you would like to get feedback.

Each assignment (except quizzes and participation) has both an **oral and written** component. The written component of each assignment follows the same guidelines: **digital submission** of a *double-spaced document with 12 pitch font, and 1" margins on all sides*. We will provide feedback for both the oral and written components. We expect that you will incorporate feedback from previous submissions in future submissions. This is key to improving the quality of your writing. We will give much more detailed instruction on these submissions in class.

Individual Assignments

Class Participation

Focused participation is important to the success of this class. Class participation includes attention in class, feedback to other students, and attention to guest speakers. We seek quality, rather than quantity. Near the end of the semester, you will have an opportunity to *suggest what your grade for class participation should be*. You will also need to provide evidence for why your suggestion merits

consideration. You have several ways of participating. First, you can be part of class discussions, ask relevant questions, etc. We will provide you with a participation feedback sheet in most classes for you to assess your class participation. However, you can also extend your participation to the course website. You can make blog posts related to ideas from class, or comment on instructors' posts. You can post ideas that you have and provide feedback for other students' ideas. You could also provide links to information relevant to class discussion that can enrich the learning of other students.

Group Participation

The major component of this class requires group-work. This class is not a class in teamwork, but you will need to work as a team outside of the designated group meeting times that we will provide. We suggest that with each assignment you determine responsibilities, and that you communicate. You will be given the chance at the end of the semester to allocate 1-10 points to each of your teammates, based on the impact that they provided to the team in relation to your expectation from a typical teammate. You will receive an average of the allocation from your team members.

Quizzes

We will give two quizzes based on key concepts covered in class. The quizzes will not be announced in advance, but should not require any additional studying. Each quiz is worth 5% of your final grade.

Industry Creation Report (6-7 pages, appendices if needed; 3-5 minute presentation).

You will research and present about an industry that has emerged in the last 30 years. Industry creation is often linked to shifts in technology, thus it is important for you to think about how sectors and industries are created. You will provide information about first entrants, industry structure, standards, and technology strategies, among other topics. We will post these reports on the course website for the benefit of other students.

Group Assignments

50% of your course grade is determined by group assignments that culminate in a *final project*. There are two options for the final project. Each option requires a feasibility report based on the technology that you are considering commercializing. After we provide feedback based on your initial feasibility report, you will have the option to develop a business plan based on the technology (Option 1), or to develop a new feasibility report based on a different technology, and then compare these two feasibility reports (Option 2). We provide you with the second option because your time is better spent analyzing a new technology idea if you think your original idea has low feasibility.

Feasibility Reports (6-8 pages, appendices limited to 2 pages, 8 minute presentation)

Ideas take time and work to develop to a point at which they might be feasible. Due to the developmental nature of this class, you will submit a feasibility report early on in the course. The feasibility report has sections that are similar to the business plan (product/service description, industry analysis, marketing plan, intellectual property analysis, and financial plan). The feasibility report is shorter and requires you to make more assumptions. The feasibility report helps to clarify the broad picture so we can see if commercializing the technology is attractive.

Option 1

Business Plan (16-18 pages, appendices limited to 8 pages; 10 minute presentation) –

Plans must be limited to 16-18 pages of text, including the executive summary and summary financial data. Detailed spreadsheets and appropriate appendices should follow the text portion of the plan but will be limited to 8 pages. Appendices should be included only when they support the findings, statements and observations in the plan. The text portion of the plan (16-18 pages) must contain all pertinent information in a clear and concise manner. In total, the maximum number of pages is 24-26. For the final presentation, a copy of the final business plan for each of the judges is to be *printed in color and bound with a plastic cover sheet and a cardstock or plastic backing*. These copies can be kept by the team members after class, since any comments from the instructors will be submitted digitally.

Option 2

Feasibility Report Comparison (16-18 pages, appendices limited to 8 pages; 10 minute presentation)
In this report, you will provide both feasibility reports (each is 6-8 pages), both of which have been revised according to instructor feedback. You will provide an analysis comparing the two potential technology ventures that you have proposed in each feasibility report. You will recommend one of ventures and provide support for why this venture is superior to the other.

Course Materials

We draw on quality entrepreneurship research and practice (which are referenced where applicable), but **do not** require the purchase of a text. Most of the material for the course (including links to other websites, documents, presentations, videos, etc) will be organized on a **course website**. This reduces costs, reduces paper waste, and helps create an open-source resource for technology entrepreneurs that will continually be improved by user input, not just this semester, but into the future. Students really add to the learning environment through their participation on the website. The open-source contributions from students in technology entrepreneurship classes at other universities will be solicited as well. Wherever possible, we will also include cutting edge research papers that we believe will enhance your understanding of a topic and give you good models for writing. We expect you to get to the gist of the argument fairly quickly even if it is an academic paper. We believe this is an important entrepreneurial skill that will help you in identifying core issues very quickly by separating unimportant clutter.

Teaching Philosophy

Entrepreneurship is both an art and a science. Thus, we will try to teach abstract principles and bring experience gained by real people to the classroom. Entrepreneurs, venture capitalists, and other relevant practitioners will add to your learning, so you should take full advantage of classroom discussion to interact with visiting speakers. Students should be proactive, yet respectful of their time in any requests for help. We expect you to be resourceful and be able to work independently and in teams.

The class is divided into 5 core modules that address distinctive topics of relevance for technology entrepreneurs. Each module has a consistent set of learning concepts and allows us to customize the class as per the needs of the student. For example, if a number of teams need assistance with specific issues such as university technology licensing, we will try to bring in guest speakers who are experts on this topic. We plan to create an environment where ideas can be discussed and developed in a structured setting. We expect students to come prepared for the class by going through the tutorials and readings.

Disability Statement

Students with disabilities are welcome. If you need any special accommodations, please contact any of the course faculty before classes begin, or any time thereafter. Also, you may wish to contact the Disabilities Service Office at 612-626-1333 for additional assistance.

Academic Integrity

Academic dishonesty: Academic dishonesty in any portion of the academic work for a course shall be grounds for awarding a grade of F or N for the entire course according to university policy.

Date	Module: Key Concepts	In-Class A=Activity, S=Submissions, P=Presentation	Student Readings (to be read prior to session – C=Case, H=handout, T=tutorial, W=web search, V=video)
1/19	Course Outline, Introductions, Expectations	A: Icebreaker A: Facts quiz	H: “ Five Myths about Entrepreneurs : by the National Com. on Entrepreneurship.
1/21	Introduction to Technologies	A: Technology Idea Presentation	
1/26	Industry/Strategy: Value Creation	A: Exercise	H: Brandenburger and Stuart Article
1/28	Industry/Strategy: Tools Ind. Analysis	A: Bus Ref Library Search Exercise	H: The Five Competitive Forces that Shape Strategy V: Porter’s 5 Forces
2/2	Industry/Strategy: Strategy for entrepreneurs	S: Team Formation	
2/4	Knowledge: Prior Knowledge	A: Feasibility Report	H: Feasibility Report Worksheet H: Education of Tech Entrepreneurs in US
2/9	Knowledge : IP 1		T: www.libraries.psu.edu/instruction/business/Patents/mod1/parts.html
2/11	Knowledge: IP 2	S: Select industry for Industry Creation Report	
2/16	Communication: Arguments	S: Business Concept Pitch	H: Making an argument V: http://www.mootcorp.org/utopia-mootcorp/utopia-moot/module1.html
2/18	Tech & Market: Tech Adoption and Modularity	A: Paper Exercise	
2/23	Tech & Market: Identifying markets		
2/25	Tech & Market: Technology Standards	A: Video Game Case Discussion	H: Technological Leapfrogging: Lessons from the US Video Game Console Industry H: Video Game Industry Report
3/2	Industry Creation Presentations	S: Ind. Creation Report due P: Industry Creation	
3/4	University Context	A: Guest speaker P: Industry Creation	
3/9	Knowledge: IP 3	A: Guest Speaker: IP attorney	S: Feasibility Report I due
3/11	Communication: Intro to the Business Plan		H: Sample business plan V: http://www.mootcorp.org/utopia-mootcorp/utopia-moot/module2.html
	Spring Break		
	Spring Break		
3/23	Feasibility Presentation I	P: Feasibility Presentation I	
3/25	Organizing: Firm	A: Paper airplanes	

	Organization		
3/30	Organizing; Sales	A: Guest Speaker: Doug Smidl	
4/1	Organizing: Make or Buy		
4/6	Organizing; Financial Analysis		T: www.mootcorp.org/utopia-mootcorp/utopia-moot/module4.html
4/8	Stakeholder: Summary		http://www.caseatduke.org/news/1207/Dees Bloom Ecosystem.html#cultivateecosystem
4/13	Communication: Presenting/Giving feedback	Product & Market Presentations	
4/15	Communication: Presenting/Giving feedback	Product & Market Presentations	
4/20	Floating Speaker	A: Marti Nyman	T: http://www.mootcorp.org/utopia-mootcorp/utopia-moot/module5.html
4/22	Communication: Presenting/Giving feedback	Operations & Finances Presentation	
4/27	Communication: Presenting/Giving feedback	S: Operations & Finances Presentation	
4/29	Group Work Day	S: Final Project (option 1/2)	Work on finishing draft of final project by Midnight 4/29.
5/4	Feedback day	A: Instructor feedback (optional) before final presentations	V: David Rose: 10 things to know before you pitch a VC
5/6	Communication - Final Presentations	Final Presentations before judges	
5/11	Communication - Final Presentations	Final Presentations before judges	