

USC Marshall

School of Business
*Lloyd Greif Center for
Entrepreneurial Studies*

BAEP 557: Technology Commercialization

Syllabus, Spring 2016

Wednesdays 6:30 – 9:30 p.m. JKP 202

Professor: Kathleen Allen PhD
Office: Bridge Hall One, basement level
Phone: 213-740-0659
Office Hours: Tuesdays 2:00-5:00 p.m. and Wednesdays
2:00 – 5:00 p.m. Please email to book a
timeslot for an office visit. Other days and
times are available for phone or SKYPE
meetings.

Instructor:

Kathleen R. Allen Ph.D.

Ph 213-740-0659 E-mail: kallen@marshall.usc.edu

Bio found at www.marshall.usc.edu/entrepreneur/faculty

Office: Bridge Hall One-lower level

Course Description

This course is designed to give students a thorough understanding of the technology commercialization process, from invention to market entry. Students will learn about the invention, development, acquisition, management, and exploitation of technology from the Internet to biotech. Students will experience the challenges faced by entrepreneur CEOs of technology companies by participating in interactive, problem-solving experiences using living case speakers from various stages of the commercialization process. The course is offered in the spring semester for business and non-business graduate students.

This course is one in a series of four courses offered by the Greif Center that lead to a USC Marshall Certificate in Technology Commercialization. For more information about the Certificate Program, see

<http://www.marshall.usc.edu/faculty/centers/ctc/venture/commercial%20>

Course Learning Objectives

Global Objective: Understand and apply the fundamental concepts, theories, principles, and practices employed in the commercialization of new technologies.

Detailed Objectives:

- Develop critical thinking skills that will enable you to formulate, frame, and justify your ideas in writing or in other appropriate modes.
- Develop an in-depth understanding of the commercialization process, the activities inherent in the process, and the related challenges and opportunities.
- Gain experience in solving common and difficult problems faced by entrepreneurs in making decisions at all stages of the commercialization process.
- Effectively present your evidenced-based ideas in written and oral forms.

To achieve these objectives through a stimulating and active learning experience, the course will be assignment centered rather than lecture centered. We will use a variety of methods including problem-solving class exercises, case studies,

readings, discussions, individual and group activities, panel discussions, and guest lectures. The evaluation of your work will emphasize the use and application of knowledge rather than the simple acquisition of content as well as the demonstration of relevant skills needed for this course.

Course Materials & Tools

Harvard Business Cases and Articles: You will be able to acquire the required cases and articles at a discount from the HBS site. Be sure to register to access the materials. The link where you can purchase and download the required materials is as follows:

<https://cb.hbsp.harvard.edu/cbmp/access/43353563>

Any additional readings and cases on issues related to the course topics are provided free of charge in Blackboard. A due date for the completion of the required readings is given in the Course Plan, which is incorporated at the end of the syllabus. On the day the readings will be discussed, please come to class prepared to contribute your analysis and insights on what you have read.

All other materials are listed in the Course Plan or will be distributed free of charge.

Course Communication

Course communication will take place through announcements in class, emails, and on Blackboard (blackboard.usc.edu). Many of the emails I send will go through Blackboard; therefore, it's imperative that you have a fully operational Blackboard account with a current and correct email address posted. By default, Blackboard uses your USC email address (username@usc.edu) for sending emails; if this is not your primary email account, please make sure to forward your USC email to the account you use. You are responsible for ensuring that messages will not bounce back due to your storage quota being full.

Evaluation of classroom participation

The participation portion of the grade is 200 points and is evaluated in a number of ways. Obviously, participation is correlated with attendance. It is impossible to earn a participation grade if you are not in class. Attendance at all class sessions is critical to the participation component of the course and to learning in general; in addition, we will undertake a number of in-class exercises and strategy-building sessions that require your regular attendance.

In general, students fall into four participation categories that essentially correlate with grades of A, A minus, B+, B, and in rare cases, B- where there has been no measureable participation. They are:

Outstanding Contribution: Your contributions reflect considerable preparation; they are substantive and supported by your research. You are also able to relate your own experience to the topic. The class, in general, listens when you speak because they learn something. If you were not a member of class, the discussions would suffer.

Excellent Contribution. You come prepared with substantiated comments. You demonstrate good insight and clear thinking. The class notices when you're not part of the discussion.

Average Contribution. Your preparation is satisfactory and achieves the minimum requirements. You rarely offer interesting insights into the discussion, but sometimes you present a compelling idea or take the discussion in a new direction. Alternatively your comments are often off-point and do not provide any constructive direction to the discussion.

No Contribution. You say little or nothing in class. If you were not in the class, the discussion would not suffer.

In the rare case where a student is unable to participate for language or other reasons, that student should contact me. You will have an opportunity to evaluate your own participation at the end of the semester using a posted template.

Evaluation

To achieve an A in this class, you will need to go well beyond the minimum requirements as stated in the syllabus in terms of the quality of your work and your involvement in and contribution to the class. An A is a sign of superior work and, much like the efforts of entrepreneurs, reflects the fact that you stood out from the crowd.

Your final grade is based on an evaluation of the following individual activities:

Critical Thinking Living Cases (A) (5 @ 100 pts each)	500	25%
Critical Thinking Living-case Revisions (B) (5 @ 100 pts each)	500	25%
HBS Case Briefs (3/5 @ 100 pts each)	300	15%
Final Paper	500	25%
Participation	<u>200</u>	10%
	2,000	

I will provide individual grade summaries on Blackboard. If you have any questions about your grade or anything about the class during the semester, please make an appointment to see me or talk by phone to discuss these issues. If you do not notify me of an incorrect or missing grade based on the grade summaries within two weeks of the grade being posted, the grade will be assumed correct. All assignments will have posted grading rubrics so you know exactly how I am grading you.

Please be advised that your papers will be submitted on a random basis to “TurnItIn” through the Blackboard system, which will generate an originality report on your paper. Bottom line: Your original thought, in addition to carefully cited sources, will insure that you don’t run into academic integrity issues that may affect your grade or your standing at the university. Any material cited verbatim from its original source should be in quotes and contain a reference to a full citation for that source. Paraphrased work should also contain a reference to the source citation.

Pass/No Pass

Non-business students taking the class for elective credit may be able to elect the pass/no pass option. **Be aware that if you are taking this course as part of the Certificate in Technology Commercialization, you will need to take it for credit.**

Guidelines for all Course Assignments (Please read carefully!)

The following guidelines apply to all assignments without exception.

All assignments must be typed in 11 or 12 pt font and organized for easy reading using normal margins (1 inch). Do not exceed the page limit requirement for a particular assignment. Additional pages will not be read for grading purposes. Please read the following “on time” requirements for assignments. They are designed to help me return your papers quickly and avoid losing papers.

All written work must be submitted **to the Assignment Page on Blackboard by the time specified in the Course Plan** on the date due. **No exceptions.** If you will not be in class on the due date, your assignment must still arrive by the time and date it is due. You are certainly encouraged to turn in papers before the deadline. **Please keep copies of all your papers and emails until the end of the semester.**

1. The assignment must be sent in a **single Word document file labeled** as follows:
yourlastname_557_assignment name.
2. You should put your name on the actual assignment document at the top.

Assignments that do not follow these rules will be returned and 5% of the total points will be deducted if returned in a timely manner (much like a restocking fee). Since all the assignments are submitted electronically, these requirements are necessary to maintain order and to find files quickly. **DO NOT HIT ‘SUBMIT’ IN BLACKBOARD UNTIL YOU HAVE VERIFIED THAT YOU HAVE PROOFREAD YOUR FILE AND ARE UPLOADING THE CORRECT VERSION AND FILE FOR A PARTICULAR**

ASSIGNMENT. You have one chance to get it right. Those of you who file for grants or file income taxes with the IRS understand the importance of getting it right the first time.

Assignments will be accepted after the deadline with the following penalties: Assignments turned in after the required time and within 24 hours of the date and time due will lose 10% of the total points possible. Papers turned in 24 hours after the due-date/time will lose 20% of the total points. No papers will be accepted 48 hours after the date/time due.

Description of Course Assignments

Below are summaries of some of the activities you will participate in during the semester.

Living Cases and Student Presentations

We will have guest speakers this semester who are technology entrepreneurs involved in various stages in the development of their businesses as well as others who bring a particular expertise from which students can learn. The guest speakers are one of the most valuable aspects of the course and should not be missed. Arriving late or leaving early on a speaker date is not acceptable. Please close your laptops during speaker presentations and avoid eating during a speaker presentation; drinks are fine (please, the non-alcoholic kind!). Remember that you control what you learn from the speaker, so ask for what you want!

You will not know in advance who the Living Case speakers are. That is because you will be dealing with hypothetical Living Cases in advance of their coming to class and I don't want you to research the Living Case speaker to find out what he or she did. That would defeat the purpose of the assignment, which is for you to use your critical thinking skills to solve a problem or meet a challenge. Living Case A will be posted a week before the date of the Living Case speaker. It will take the form of a one-page hypothetical case that requires you to analyze a particular situation and come to a decision. Living Case B is a revision of your original Living Case A submission and decision based on what you learned from the Living Case Speaker and the class discussion. It will be due no later than the end of day (11:59) on the Sunday after the speaker comes to class. **You cannot do part B unless you were in attendance for the speaker.**

For each Living Case, I will call on 2 volunteers to present their conclusions. Your presentation will be brief (no more than 2 minutes) and will be a discussion of your response to the hypothetical situation you were given for this living case. You may use slides if you choose but use more graphics than text – only key points on the slides. There will be 5 Living Cases this semester.

HBS and Other Case Studies

The course includes several case studies designed to demonstrate how real businesses are dealing with issues related to technology commercialization. Case studies are used to analyze and explore typical problems encountered by scientists, engineers, and entrepreneurs in creating their ventures. The cases will vary in terms of their difficulty. Be forewarned that shorter cases are not always easier to analyze. You will turn in a one-page brief on three of the five cases. Your conscientious participation is critical to the success of this aspect of the course, so even if we're discussing a case on which you did not do a brief, you are expected to come prepared to be called on to answer a question or lead a discussion. As there are rarely "right" answers, much of the learning comes from the exchange of ideas among the students. You should come to class prepared to present and support your views on the case. These views should be supported by the frameworks and ideas expressed in the readings for that day. Therefore, it is important to do any associated readings first before beginning to address the case study. **Under no circumstances should you look up the company to see what it's currently doing. You must address the case dilemma as it's presented. It is quite easy to tell when a student has not followed this requirement.**

Final Paper

Your final paper will be an expressive paper designed to reflect on and apply the knowledge and skills you have gained through your interactions with the living case speakers, the case discussions, and your classmates. You will be given a detailed instruction sheet for this assignment and it will be discussed in class.

University and Marshall Policies

Please read the following policies carefully. They are critical to your success in this course.

Confidentiality Policy

Throughout the Entrepreneur Program's classes and events, students will be exposed to proprietary information from other students, guest lecturers, and faculty. It is the policy of the Greif Entrepreneurship Program that all such information is to be treated as confidential.

By enrolling in and taking part in the Program's classes and activities, students agree not to disclose this information to any third parties without specific written permission from students, guest lecturers, or faculty, as applicable. Students further agree not to utilize any such proprietary information for their own personal commercial advantage or for the commercial advantage of any third party. In addition, students agree that any legal or consulting advice provided without direct fee and in an academic setting will not be relied upon without the enlisted opinion of an outside attorney or consultant without affiliation to the Program.

Any breach of this policy may subject a student to academic integrity proceedings as described in the University of Southern California University Governance Policies and procedures as outlined in **SCAMPUS**, and to any remedies that may be available at law. The Entrepreneur program, the Marshall School of Business, and the University of Southern California disclaim any responsibility for the protection of intellectual property of students, guest lecturers or faculty who are involved in Entrepreneur Program classes or events. Receipt of this policy and registration in our classes is evidence that you understand this policy and will abide by it.

Academic Conduct

Plagiarism - presenting someone else's ideas as your own, either verbatim or recast in your own words - is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Section 11, *Behavior Violating University Standards* <https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions>. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct>.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of Equity and Diversity* <http://equity.usc.edu/> or to the *Department of Public Safety* <http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us>. This is important for the safety of the whole USC community. Another member of the university community - such as a friend, classmate, advisor, or faculty member - can help initiate the report, or can initiate the report on behalf of another person. *The Center for Women and Men* <http://www.usc.edu/student-affairs/cwm> provides 24/7 confidential support, and the sexual assault resource center webpage <http://sarc.usc.edu/> describes reporting options and other resources.

Support Systems

A number of USC's schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the *American Language Institute* <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students. *The Office of Disability Services and Programs* http://sait.usc.edu/academic-support/center-programs/dsp/home_index.html provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* <http://emergency.usc.edu> will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.

Add/Drop Process

In compliance with USC and Marshall's policies classes are open enrollment (R-clearance) through the first week of class. All classes are closed (switched to D-clearance) at the end of the first week. This policy minimizes the complexity of the registration process for students by standardizing across classes. We can drop you from our class if you don't attend the

first two sessions. Please note: If you decide to drop, or if you choose not to attend the first two sessions and are dropped, you risk not being able to add yourself to another section this semester. You can only add a class after the first week of classes if you receive approval from the instructor.

Technology Policy

Web-enabled devices are not permitted during academic, professional sessions, or for guest speakers unless otherwise stated by the professor. Use of other personal communication devices such as mobile phones is considered unprofessional and is not permitted during academic or professional sessions. Videotaping faculty lectures or guest speakers is not permitted due to copyright infringement regulations. Audiotaping may be permitted ONLY if approved by the professor. Use of any recorded material is reserved exclusively for USC Marshall students.

Emergency Preparedness/Course Continuity

In case of a declared emergency if travel to campus is not feasible, USC executive leadership will announce an electronic way for instructors to teach students in their residence halls or homes using a combination of Blackboard, teleconferencing, and other technologies. Please make sure you have access to the course in Blackboard; this will be crucial in an emergency. USC's Blackboard learning management system and support information is available at blackboard.usc.edu.

IMPORTANT!!!! RECEIPT OF THIS SYLLABUS AND REGISTRATION IN THIS COURSE WILL SERVE AS EVIDENCE THAT YOU UNDERSTAND AND ACCEPT THE REQUIREMENTS OF THE COURSE.

The course plan begins on the next page

Course Schedule

This schedule is subject to change due to the needs of the class and availability of guests; however, no change will cause a burden on student semester planning. Active web links are available in the Content Folder on BB. Legend: **HBS** = Harvard Cases **HBA** = Harvard Articles **BB** = BlackBoard

WEEK	TOPIC AND PLAN	PREPARATION FOR CLASS	DELIVERABLE
Jan 13	<p>Introduction to the course: philosophy, expectations, syllabus, and assignment strategy</p> <p>Overview of the Tech Commercialization process and course framework</p> <p><i>Activity:</i> Problems and Solutions – preparing to invent. Ice breakers</p>	<p>Come prepared to discuss:</p> <ul style="list-style-type: none"> ○ Your experience in technology ○ Your expectations for the course 	<p>Post one narrative paragraph about yourself on Blackboard in the “Who am I?” discussion board by EOD Jan 16. Include background and interests relative to technology commercialization.</p>
Module I: Dilemmas Around Invention, Innovation, and Product Development			
Jan 20	<p>Invention Decisions</p> <ul style="list-style-type: none"> ○ Into the mind of the inventor ○ The role of invention in the economy 	<p>Prepare: Watch: “Mick Ebeling: The Invention that Unlocked a Locked-in Artist” on TED. http://tinyurl.com/7n9jqoc</p> <p><i>What did you learn about invention from this video? Come to class prepared to discuss.</i></p> <p>HBA – “The Intersection—Your Best Chance to Innovate: Monkeys and Mind Readers”</p> <p><i>What insights did you gain about invention and innovation?</i></p>	
Jan 27	<p>The Mind of the Inventor and You</p> <p>Living Case #1</p> <p><i>Activity:</i> Invention presentations & discussion</p>	<p>Prepare: Living Case #1</p> <p>Bring your invention to class in some physical form. Be prepared to discuss how you found the problem and how you came up with the solution.</p>	<p>Living Case 1A (your invention disclosure) due by 5:00 p.m. by posting Word doc to BB assignment page</p> <p>Living Case Revision 1B due by END OF DAY (11:59) Sunday, Jan 31 to the BB assignment page</p>

WEEK	TOPIC AND PLAN	PREPARATION FOR CLASS	DELIVERABLE
<p>Feb 3</p>	<p>Issues in Innovation</p> <ul style="list-style-type: none"> ○ Debate: Is it alive or dead? ○ Disruptive v. incremental innovation ○ Platform v. product 	<p>Prepare: HBS Case #1: Quirky</p> <p>Come prepared to debate your views on the topic of whether innovation is alive or dead. You will need to back up those views with credible data that is not in the two videos you will watch.</p> <p>Watch: “The Death of Innovation,” Robert Gordon http://www.ted.com/talks/robert_gordon_the_death_of_innovation_the_end_of_growth?language=en</p> <p>“The Key to Growth? Race with the Machines,” Erik Brynjolfsson http://www.ted.com/talks/erik_brynjolfsson_the_key_to_growth_race_em_with_em_the_machines</p> <p><i>Come prepared to defend your position on this issue.</i></p>	<p>HBS Case # 1 due to BB assignment page by 5:00 p.m.</p>
<p>Feb 10</p>	<p>Product Development Dilemmas</p> <ul style="list-style-type: none"> ○ Product development tradeoffs ○ Funding NPD ○ Product versus platform revisited <p>Living Case #2</p>	<p>Prepare: Living Case #2</p> <p>Watch: “R.A. Mashelkar: Breakthrough designs for ultra-low cost products” http://www.ted.com/talks/r_a_mashelkar_breakthrough_designs_for_ultra_low_cost_products.html</p> <p><i>What insights did you draw? Try to relate them to other things we’ve talked about so far.</i></p>	<p>Living Case 2A: Due by 5:00 p.m. by posting to BB assignment page</p> <p>Living Case Revision 2B due by END OF DAY Sunday FEB 14 by posting to BB assignment page</p>

WEEK	TOPIC AND PLAN	PREPARATION FOR CLASS	DELIVERABLE
Module II: Founder/CEO Dilemmas			
Feb 17	Team Formation <ul style="list-style-type: none"> ○ Solo versus team ○ Relationships and roles ○ Strangers v. friends 	Prepare: HBS Case #2: Ockham Technologies Living on the Razor’s Edge Submit a one page, single-spaced Word doc in which you assess how effective Jim was in assembling his team. Be sure to discuss the criteria you used to make the assessment.	HBS Case # 2 due to BB assignment page by 5:00 p.m.
Feb 24	Aligning Rewards with Contributions <ul style="list-style-type: none"> ○ Rewards and stakes –equity splits ○ Compensation ○ Protecting assets ○ Attracting resources while maintaining control ○ Successors Living Case #3	Prepare: Living Case #3 HBA: “A Rich-vs.-King Approach to Term Sheet Negotiations.” <i>Come to class prepared to discuss.</i>	Living Case 3A: Due by 5:00 p.m. by posting to BB assignment page Living Case Revision 3B due by END OF DAY Sunday Feb 28 by posting to BB assignment page
Mar 2	CEO Dilemmas in an Established Company <ul style="list-style-type: none"> ○ Getting buy in ○ Providing incentives to take risk ○ Overcoming the inertia of success 	Prepare: HBS Case #3 Luminar (Big Data) Submit a one page, single-spaced Word doc addressing the question “Should Luminar be exploited as a stand-alone enterprise or as a division of Entravision? If the latter, how much autonomy should it have?” Provide your decision rationale and support it with at least one credible third- party citation (no blogs!)	HBS Case 3 to BB by 5:00 p.m.

WEEK	TOPIC AND PLAN	PREPARATION FOR CLASS	DELIVERABLE
Module III: Go to Market Dilemmas			
<p>Mar 9</p>	<p>Tech Adoption and the Chasm Understanding early adopters, the adoption cycle, and creating standards</p>	<p>Prepare: HBS Case #4: Google Glass <i>Come prepared to discuss how hypotheses about the pattern of customer adoption are linked to decision about distribution strategy and partner choices</i></p> <p>Read: “A Summary of Diffusion of Innovations” posted in BB.</p>	<p>HBS Case 4 to BB by 5:00 p.m.</p>
SPRING BREAK MARCH 13-20			
<p>Mar 23</p>	<p>Licensing Strategy – the Basics</p> <ul style="list-style-type: none"> o How does licensing work? o Strategies for avoiding infringement of intellectual property o What to do when your technology is infringed <p>Living Case #4</p>	<p>Prepare: Living Case #4</p> <p>Read: Note on Intellectual Property – Allen (posted in BB)</p>	<p>Living Case 4A: Due by 5:00 p.m. by posting to BB assignment page</p> <p>Living Case Revision 4B due by END OF DAY Sunday Mar 27 by posting to BB assignment page.</p>
<p>Mar 30</p>	<p>Strategies for Protecting IP</p> <ul style="list-style-type: none"> o Determine when patents and other IP are needed o Understand the requirements for a patent o Understand IP strategy 	<p>Read and Prepare: “Elon Musk’s Billion-Dollar AI Plan, posted in BB</p> <p><i>Come prepared to debate the side of this issue that you favor. Bring evidence from other sources to back up your argument</i></p> <p>Watch: “intellectual Property for Long-term Growth,” Mike Olson, Cloudera (2 min)</p> <p>http://ecorner.stanford.edu/authorMaterialInfo.html?mid=3228 <i>Be prepared to present your insights from the video</i></p>	

WEEK	TOPIC AND PLAN	PREPARATION FOR CLASS	DELIVERABLE
Apr 6	<p>Challenges in Healthcare Innovation</p> <ul style="list-style-type: none"> ○ The FDA minefield ○ Getting paid – CMS ○ Commercializing overseas <p>Guest Speaker : Dr. Frances Richmond, Director, USC International Center for Regulatory Science</p>	<p>Prepare: HBS Case #5: AthenaHealth</p> <p>Submit a one page, single-spaced Word doc detailing the primary (and specific) problem in the case, the options for a solution, and evidence to support those options. Which one would you choose and why?</p>	<p>HBS Case #5 due to BB assignment page by 5:00 p.m.</p>
Apr 13	<p>Go-to-Market:</p> <ul style="list-style-type: none"> ○ Issues of scaling from lab to market <p>Living Case #5</p>	<p>Prepare: Living Case 5</p> <p>HBA: “Scaling a Startup: Pacing Issues, Thomas Eisenmann.</p> <p>Watch: “Scaling Up Excellence,” Bob Sutton (58 min) http://ecorner.stanford.edu/authorMaterialInfo.html?mid=3271</p> <p><i>Come prepared to discuss the article and video.</i></p>	<p>Living Case 5A due to BB assignment page by 5:00 p.m.</p> <p>Living Case Revision 5B: Due by END OF DAY Sunday Apr 17 by posting to BB assignment page</p>
Apr 20	<p>Money: Valuation and Funding of Technology Start-ups</p> <ul style="list-style-type: none"> ○ How technologies are valued ○ Sources of funding <p>Guest Speaker: TBA</p>	<p>Watch: John Doerr, Kleiner Perkins Caufield & Byers. http://ecorner.stanford.edu/authorMaterialInfo.html?mid=1273 <i>Watch the entire series and come prepared to discuss.</i></p>	
Apr 29	<p>Guest Speaker: TBA</p> <p>Course Wrap-up</p>		<p>Final Paper Due by 11:59, Saturday, May 3 by posting to the BB assignment page</p> <p>Self-Assessment due end of day (11.59) May 3.</p>