Technology Commercialization (ENTR 7381 / MARK 7381)

Course Objectives and Goals

Technology Commercialization will provide experiential learning in innovation and entrepreneurship with a focus on technology driven value creation, and growth. This course will focus on both: creating new ventures, and on growth within existing companies, ventures, and other types of entities through innovation and commercialization of products, services, solutions, social and cause-based activities, etc. We will bring together aspects of strategic innovation, customers and markets, product lifecycle management and development, strategic planning, scaling, and value realization. Through the semester students will be exposed to multidisciplinary systems thinking and problem solving around technology commercialization as relevant to the world we live in today.

We will use a project-based approach – forming teams with complementary and diverse members as two to four student cohorts that would journey through the various aspects of commercialization culminating in a final report. The deliverables of each project would be negotiated with the professor early in the semester, interim semester deliverables will follow the outlined course activities. By the end of the semester, each team would have developed a package that would include a business plan packet, e.g., as a launch roadmap for a start-up, or to share within an existing enterprise.

This course would benefit students enrolled in the colleges of business, engineering, sciences, and other technical disciplines - interested in growing new ideas or leading growth at an existing enterprise.

Instructional Philosophy - Project Based Framework

Given this is an experiential course, class participation, individual participation, teamwork and completion of the assignments and team-project would be critical. This course will use a participatory project-based method for learning, learning assessment and grading. Each project will be based on a technical commercialization objective. A project could be a startup idea, e.g., a product or service, a market growth idea with an existing commercial or non-commercial enterprise, or other growth ideas to enhance market presence, revenue, profitability, social or human welfare, utilizing and leveraging technology. Ideally the best project would be one that student(s) bring as their idea and are passionate about its success. The project idea will be vetted by the instructor before assigning it to a team.

Learning and practice will be provided on finding and exploiting adjacencies in products and services, market focus and strategy, creating new and disruptive products, solutions, and services, creating business models / customer relationship avenues, communication, socialization, and networking, etc.

It is not expected that all students would have their own startup or growth idea. The instructor/college will also provide additional project ideas which may be real, e.g., sponsored from within or outside of the university, as well as some that may be hypothetical. The emphasis during the course would be on the journey to create a viable startup pitch, business plan, and a long-term strategic growth plan for the idea chosen as the project.

Course Material

No assigned book. In addition to class lectures, reading assignments, pre-read materials, and references will be posted or provided during class.

Project Identification and Teams

Pre-Teams process (Prework and 1st Class)

As prework for the class, each student would be asked to prepare a personal introduction with the following context:

1. Why are they enrolled for this course.
2. What do they bring to the class as their passion, ambition, experience, strong areas, …
3. What they would like to gain from the class.
4. And, if they have a project in mind? Pend a short description of your project before the 1st class via email, the instructor may set time to discuss the project idea ahead of the class with the student(s).

It is not necessary that students come with a project to class. The instructor will provide an additional list of projects for the 1st class. Day 1 class assignment (due by the following Monday), for each student to create a personal statement summarizing their background, their personal objectives for the class, long term aspirations (future brand), project preference, and their top three reasons how they would make their team successful.

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Team Formation

Teams will be no less than two and no more than four members. Based on the day 1 presentations and personal statements the instructor will group students into teams. Team assignments may be reconsidered until the third class if necessitated by project topic, team dynamics, or other mitigating circumstances.

Teamwork – class deliverables, grading and end of class packet.

Starting with the second class, each team will deliver group assignments. This will consist of documented material delivered to the instructor and a short presentation (followed by discussion) during class. Written team assignments will be graded with each team member receiving the same grade. For individual assignments, class presentations and class participation, an individual grade will be given. By the end of the class semester each team would have a "package" in the form of a startup pitch, business plan, and a long-term strategic growth plan for the chosen project. This final packet will be graded for contribution to the final grade. The grading plan is provided below – it may be adjusted depending on the size of the class.

Grading			
Attendance	10%	Individual	Attendance, sign into attendance sheet
Participation	10%	Individual	Engagement, ideas, positive contributions
Assignments and Presentations	30%	Individual	Graded per assignment
Project	50%	Team	30% Interim deliverables, 20% Final Project

Total	100%		

The following scale is used to calculate your grade (no +/- in the course). Please note: There are no points "given" for any reason. For example: For an A, you must earn the full 90 points. A 89.9999 is a B. This example applies to the entire grading scale.

FINAL SEMESTER GRADES
A 90 – 100
B 80 – 89
C 70 – 79
D 60 – 69
F 59 and below

ACADEMIC HONESTY

The University of Houston Academic Honesty Policy is strictly enforced by the C.T. Bauer College of Business. No violations of this policy will be tolerated in this course. A discussion of the policy is included in the University of Houston Student Handbook which can be downloaded at http://www.uh.edu/dos/publications/handbook.php. Students are expected to be familiar with this policy.

AVAILABILITY OF COUNSELING SERVICES

Counseling and Psychological Services (CAPS) can help students who are having difficulties managing stress, adjusting to college, or feeling sad and hopeless. You can reach CAPS (www.uh.edu/caps) by calling 713-743-5454 during and after business hours for routine appointments or if you or someone you know is in crisis. Also, there is no appointment necessary for the "Let's Talk" program, which is a drop-in consultation service at convenient locations and hours around campus. http://www.uh.edu/caps/outreach/lets_talk.html

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES:

The C. T. Bauer College of Business would like to help students who have disabilities achieve their highest potential. To this end and to receive academic accommodations, students must register with the Center for Students with Disabilities (CSD) (telephone 713-743-5400, http://www.uh.edu/csd/) and present approved accommodation documentation to their instructors in a timely manner.

CLASS SCHEDULE

The following is the planned schedule for this class. Adjustments will be made to topics and content as the class progresses to make the class relevant to student interests, chosen projects, etc.

Date	Discussion Topic and Activity
19-Jan-23	**Day 1** - Technology Commercialization - Course Intro and Overview ***Pre-read material*** ***Team and Project formation guidelines*** Context and Introduction Class / student self-introductions (step 1 towards teams) Assignment: Self-assessment, goals, and objectives
26-Jan-23	**Day 2** - I + E = V A bit more of my background, Team Introductions OR Project Introductions I, E, and V Assignment: define your I, E and V
2-Feb-23	**Day 3** - Foundation I – Awareness and Focus Team Presentation of assignment Awareness to Market Discipline (Treacy and Wiersema), Ecosystem Intro, Value Chain Intro Assignment: define core competence and focus (discipline, primary, secondary, tertiary, segmentation)
9-Feb-23	**Day 4** - Foundation II – Business Ecosystem Team Presentation of assignment Ecosystem – Examples, discussion and class exercises Assignment: Define and develop the Ecosystem for your Project / Idea
16-Feb-23	**Day 5** - Foundation III – Value Chains Team Presentation of assignment Value Chain, Michael E. Porter, "Competitive Advantage …" Examples and discussion Assignment: Define value chain / activities for your project / activity
23-Feb-23	**Day 6** - Project Checkpoint - Definitional Completeness Team Presentation of assignment or movie review on Innovation and Entrepreneurship Assignment: Review and analysis of the movie
2-Mar-23	**Day 7** - Inbound Marketing and "Product" Definition Team Presentation of assignment Marketing 101 Relevant Aspects / Components of Marketing, Requirements Template Inbound Marketing, MVP/MVD, Barriers to Entry (Kotler and Keller, Gause and Weinberg) Assignment: Requirements Specification Draft

9-Mar-23 **Day 8** - Launch Planning
Team Presentation of assignment
MVP, and Requirement, Barriers/Differentiation, Outbound Marketing
Business Plan Outline (SBA/SCORE, Porter)
Assignment: Final Requirements Specification + one pagers on Barriers and Outbound Plan

16-Mar-23 Spring Break: No class

23-Mar-23 **Day 9** - Product Management I - Strategy & Roadmap
Team Presentation of assignment
Internal – Product, Process, Services, tying to Barriers and Competitive Positioning
Competitive positioning, Strategy Maps, Roadmaps (Kaplan and Norton, Porter)
Assignment: Strategic Roadmap (graphic and description)

30-Mar-23 **Day 10** - Product Management II - Tactics
Team Presentation of assignment
External - Pricing, Positioning (Nagle and Holden, Kotler and Keller)
Proforma P&L w/ template provided Revisit MVP and Barriers
Assignment: Five-year Proforma + discussion of top three revenue and cost factors

6-Apr-18 **Day 11** – Risk, Channels, IP, Quantifying the Value Proposition
Team Presentation of assignment
Risk types, mitigation, failing early/often, value proposition (Nagle and Holden)
Crossing the Chasm (Christiansen)?
Assignment: + Makeup

13-Apr-23 **Day 12** – Ethics, Regulations, Resourcing, Planning, and Execution
Team Presentation of assignment
Ethics and Regulation, funding, resourcing, execution (Nagle and Holden, Cooper)
Assignment: Final Outline and Draft Content

20-Apr-23 **Day 13** - Looking beyond + Final project report prep
Team Presentation of assignment
Growth as a process, lifecycle management, business expansion (Harari)
Assignment: Maybe … depending on project maturity

27-Apr-23 **Day 14** - Final Presentations

5/4/2023 **Day 15** - Final Presentations (Backup Day, if needed)

Course Reference Material – Instructional Resources

1. Bill Aulet, "Disciplined Entrepreneurship – 24 Steps to a successful startup", Wiley, 2013
2. Treacy and Wiersema, Discipline of Market Leaders
3. Michael E. Porter, "Competitive Advantage – Creating and Sustaining Superior Performance",
4. Kotler, P., and Keller, L.K, "A Framework for Marketing Management", 5th Edition, Prentice Hall, 2012
5. Gause, G.C, and Weinberg, G.M., "Exploring Requirements. Quality Before Design", Dorset House Publishing, 1989
6. SBA/SCORE (Service Corps of Retired Executives, Houston), "Starting and Running Your Own Business"
7. Nagle, T.T, and Holden, R.K., "The Strategy and Tactics of Pricing", Third Edition, Prentice Hall Marketing Series, 2002
8. Geoffrey A. Moore, "Crossing the Chasm", Harper Perennial, 1991, 1999
9. Robert G. Cooper, "Product Leadership", Perseus Books, 1998
10. Clayton M. Christiansen, "The Innovators Dilemma", HBS Press, 1997
11. Oren Harari, "Leapfrogging the Competition, Five Steps … ", American Century Press, 1997