THE WHARTON SCHOOL OF THE UNIVERSITY OF PENNSYLVANIA

MGMT 802: INNOVATION, CHANGE AND ENTREPRENEURIAL MANAGEMENT

Version 1.2 121210

This syllabus is a game plan subject to change, not a contract

Spring 2011 Q3 and Q4
Instructor: Ian MacMillan:
4th Floor Vance Hall, 37th and Spruce

Office Hours: Friday **Noon- 1 pm by appointment only**

TA:

Textbook
"Discovery Driven Growth" by McGrath and MacMillan. HBSP, 2009.
Bulkpack

This course will provide you with a theoretical foundation and a set of practical tools for the management of innovation, both in corporate settings and start-up situations. For the purposes of the course innovation is defined as the profitable commercialization of a new idea: product, market or technology. The theoretical backdrop will be provided by multiple readings, your knowledge of which will be tested in a readings report. The practical tools will be provided via lecture/discussion sessions, your skills at which will be demonstrated in an innovation assessment for an actual innovation opportunity .

GRADING:

Class participation	20%
Readings report	15%
Innovation assessment	65%

Class participation is an integral component of your learning experience as well as your grade. Your class participation score will be based on the assessment of the quality of your comments in class and the consistency of your attendance. To help us learn your name and recognize your participation, please use a tent card in class. I shall assume for each class that you have prepared the readings – these will not be repeated in class. You may be called on to present a summary of the readings at the start of class.

It is an explicit condition of signing up for this class that you can expect to be cold called.

Individual contribution to Group Effort:

In order to minimize the free rider problem with respect to group work, you will be asked to rate the contribution of each of the group members by assigning a percentage score to each member, using the GROUP MEMBER EVALUATION FORM below. Note that you should assign each member a score of 1 to 100% for your perception of the contribution they made to the group effort. If you all contributed equally **each** member would therefore receive a score of 100%. These scores will be used to calculate a weighting score that will be applied to the individual's group work as follows

PERCENTAGE GIVEN TO		**TO** A	**TO** B	**TO** C
PERCENTAGE GIVEN BY				
	BY A	NA	100	65
	BY B	85	NA	55
	BY C	75	100	NA
AVERAGE		80	100	60

GRAND AVERAGE (80+ 100+ 60)/3 = 80

FINAL WEIGHTING:

= AVERAGE/GRAND AVERAGE = 80/80 100/80 60/80
1.0 1.25 0.75

SO IF GROUP REPORT SCORE WAS 50 POINTS

A WOULD GET 1.0*50 = 50
B WOULD GET 1.25*50 = 62.5
C WOULD GET 0.75*50= 37.5

There have been (rare) occasions when one group member (free-rider) got an F while another got an A

PLEASE NOTE THAT THE INSTITUTION IN ITS "WISDOM" OBLIGES ME TO GRADE TO A CURVE, SO YOU CANNOT **ALL** BE AT THE TOP OF THE CLASS.

WE GO TO CONSIDERABLE EFFORT TO ASSURE THAT EACH STUDENT IS GRADED AS FAIRLY AS POSSIBLE.

THEREFORE UNDERSTAND THAT I WILL **NOT** DISCUSS GRADES

COURSE OUTLINE – The specifics of course timing may change during the semester

The numbers **without** Ch in front of them refer to the list of readings at the end of this syllabus; the numbers **with** Ch in front of them refer to the Chapters in the textbook

Session	Q3 Date	TOPIC	Readings
1	1/12	Introduction	5,Ch1
2	1/19	Managing innovation programs, aligning for growth	3, 4, Ch2, Ch3
3	1/24	Consumption Chain **Due: Project description and team member list**	1, 7, 22, Ch7
4	1/26	Attribute Maps	2, 12,16, 17
5	1/31	Stage Gating and Discovery Driven Planning **Due: Executive summary**	13,14,15, Ch5,Ch6
6	2/2	Discovery Driven Planning	8, 23, Ch4
7	2/7	Simulating innovation projects and Barebones NPV **Due: Consumption Chain and Attribute Map**	10,19, 21
8	2/9	Checkpoint/assumption tables and Capability Ladders	9, Ch7
9	2/14	Real options reasoning (ROR) and Opportunity Engineering **Due: Initial DDP Reverse Financials**	10, 19, 21
10	2/16	Opportunity portfolios	9
11	2/21	Anticipating Competitive response **Due: Simulation and BareBones valuation**	6
12	2/23	MarketBusting: Key Metrics **Due: Opportunity Portfolio plot of your project (single point plot)**	18
13	2/28	Stakeholder analysis and DRAT analysis **Due: Innovation assessment and readings report**	11, 20, Ch8,
14	3/2	Elevator pitches	Ch9, Ch10

Innovation Assessment Description

This project is intended to help you refine your skills at assessing the potential of a proposed innovation and designing a system to commercialize it.

Form a team consisting of at least 5 members. Assume the role of a team charged with commercializing an innovation. Select an innovation that really interests your team. Startups are OK, as are innovations being considered by existing firms – even innovations being considered by previous/current employers of group members.

Your goal is to learn enough about the innovation; using whatever data sources you can, to prepare a report for an assessment of the innovation's feasibility and an appropriate strategy for commercializing the innovation.

The following outline should serve as a guide, but use your own best judgment as to the best way to present your work. Confine your text to **no more than** 20 double-spaced pages of 12 point type. Your Discovery Driven Plan, Consumption Chain, Attribute Maps, and other exhibits, supporting materials and additional analyses should not be more than another 12 pages.

1. **Executive Summary** (maximum 1 page)
2. **Impact statement** Description of the innovation, the problem to be solved, how your innovation solves it better than the current alternatives, what the intellectual property issues (if any) are with this innovation, and expected financial benefits (maximum 2 pages).
3. **Market analysis.** Analysis of the market for the innovation: Five forces with areas of greatest potential or vulnerability, arenas that will benefit from your project and the benefits, the target revenue arenas you selected, (or target application arenas in the case of an internal project), with value propositions, the revenue model and profit model or, in the case of an internal project, the cost/benefit model. (Maximum 3 pages)
4. **NCO analysis.** Nearest competitive solutions, benchmarks these NCO's are setting, what makes you better, and what protects you from competitive matching? (maximum 3 pages)
5. **Operations Specification** Required scope of your effort, resources and capabilities must be developed, alliances and partnerships you suggest (maximum 3 pages).
6. **Discovery Driven Plan** for implementing the innovation, including reverse financials, operations spec and benchmarks, checkpoint/assumption table, a tornado chart and your Barebones NPV. Your DDP should have maximum twelve major CheckPoints and a maximum twenty assumptions with their ranges.
7. **Recommendations and key risks.** What the client should do next, and why you feel this is the best way to proceed. Your recommendation may be to not go forward, in which case your analysis should show why. Critical environmental risks, customer-response issues, alternate competitor reaction scenarios, impact on your base-case discovery driven plan, contingency plan (maximum 3 pages)
8. **Appendices**
    a. Your consumption chain with trigger events, attribute maps of major links, compared to the NCO
    b. A completed DRAT table for expected external and internal resistance, if any
    c. Portfolio plot (the single point plot of your project)
    d. Other appendices that you deem necessary.
9. **Extra Credit:** Scorecards and mapping of attractiveness and market power for key market segments

READINGS REPORT DESCRIPTION (NOTE: THIS IS A GROUP PROJECT)

You will be required to submit a five-page report describing how the bulkpack (not textbook) readings applied to your innovation project.

The structure is simple: Pick five of the readings that you think are particularly appropriate for the decisions your team made about your innovation. Explain what concepts and conclusions were useful to you and how you incorporated the learnings into your innovation assessment.

Here is a score-card an earlier group used, rating the readings under each heading on a 1 to 4 scale:

Relevance	*Practicality*	*Up to date and Current*	*Interesting and Easy to Read*	*Total*

Appendix: List all readings (including your top five) and rate the reading's usefulness along the spectrum: no value, some value, useful, very useful. At the end of the appendix also include any recommendations of readings that your team is aware of that did not appear in the required readings list, but you feel should be included. Finally list any readings that have been used in other courses, and specify the course
This report will then be used to improve the readings for this course.
THE READINGS REPORT WILL COUNT 15% TOWARDS YOUR FINAL GRADE
(NOTE: THIS IS A GROUP PROJECT)

INDIVIDUAL EXTRA CREDIT REPORT

Provide a two-page critique of the Innovators' Toolkit with descriptions of major benefits and suggestions for improvement.

GROUP MEMBER EVALUATION FORM: E-mail to your TA on the day before the exam

GROUP NAME
GROUP LEADER

YOUR NAME: SOCIAL SECURITY NUMBER:

GROUP MEMBER'S NAME (PLEASE PRINT)	PERCENTAGE EFFORT
DO NOT RATE YOURSELF	

802 READINGS

1. R. Gunther McGrath and Ian C. MacMillan "Discovering New Points of Differentiation" with. Harvard Business Review, Vol. 75, no. 3, July-August 1997. pp 133-145
2. R. Gunther McGrath and Ian C. MacMillan "Discover Your Products' Hidden Potential" with R. Gunther McGrath. Harvard Business Review, Vol. 74, no. 3, May-June 1996. pp. 58-73.
3. Bower, Joseph L. and Christensen, Clayton M. 1995. 'Disruptive Technologies: Catching the Wave" Harvard Business Review January/February, 1995.
4. Drucker, Peter. F. "The Discipline of Innovation". Harvard Business Review, November/December, 1998.
5. Anderson, Philip and Tushman, Michael, "Managing Through Cycles of Technological Change". Research/Technology Management, May/June 1991, p. 26-31.
6. van Putten, MacMillan and McGrath. ""Global Gamesmanship". Harvard Business Review. May-June 2003: pp. 62-74
7. Von Hippel, E. 1986. 'Lead Users: A Source of Novel Product Concepts' Management Science v32n7.
8. Lynn, Gary S., Morone, Joseph G., Paulson, Albert S. "Marketing and Discontinuous Innovation: The Probe and Learn Process". California Management Review, Spring 1996, Vol. 38, Issue 3, p. 8.
9. Wheelwright, S. C. and Clark, K. B. 'Creating project plans to focus product development' Harvard Business Review March-April 1992 p. 70-82.
10. Mitchell, Graham R., Hamilton, William F., "Managing R&D as a Strategic Option". Research/Technology Management, May/June 1988.
11. Horn, Lovallo and Viguerde. "Learning to let go: Making better exit decisions" McKinsey Quarterly online journal; mckinseyquarterly.com.
12. Selden, L and MacMillan, I.C. "Manage Customer-Centric Innovation - Systematically" Harvard Business Review April 2006. pp. 108-116.
13. **SKIM** Cooper, Edgett and Kleinschmidt, "Optimizing the Stage-Gate Process: What Best-Practice Companies Do – I" . Research—Technology Management. Sep-Oct 2002. pp 21-27
14. **SKIM** Cooper, Edgett and Kleinschmidt. "Optimizing the Stage-Gate Process: What Best-Practice Companies Do – II" Research—Technology Management. Nov-Dec 2002. pp 43-49
15. **SKIM:** Sethi, R and Iqbal, Z. "Stage-gate controls, Learning failure and Adverse Effect on novel new products" Journal of Marketing, Vol. 72 (January2008), 118-134.
16. L. Selden and Ian C. MacMillan. "The Incumbent's Advantage" Harvard Business Review, October 2008 pp 111-122
17. L. Selden and Ian C. MacMillan. "Change with Customers and Win Big". December 2008 p24.
18. R.G. McGrath and Ian C. MacMillan "Marketbusting: Strategies For Exceptional Business Growth". Harvard Business Review March 2005. pp80-92
19. A.B. van Putten and Ian C. MacMillan "Making Real Options Really Work". Harvard Business Review December 2004. pp134-141.
20. **SKIM** McGrath, R. "Falling Forward: Real Options Reasoning and Entrepreneurial Failure", in: Academy of Management Review Vol. 24, No. 1 (1999), pp. 13-30.
21. Rice, M, O'Connor, G and Pierantozzi, R. "Implementing a learning plan to counter project uncertainty" MIT Sloan Management Review, Vol. 49, No 2 (Winter 2008) 54-62.

22. Gourville, J.T. "Eager Sellers and Stony Buyers: Understanding the Psychology of New-Product Adoption" Harvard Business Review June 2006.
23. Clark, Gilbert and M. J. Eyring "Beating the Odds When You Launch a New Venture" Harvard Business Review Reprint R1005G