

Technology Commercialization Strategies
Florida Atlantic University
Barry Kaye College of Business
MAN 6874

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Course Objectives and Career Focus

The course is aimed at professionals who work in or with innovative industries. The focus is on commercialization of science and technology, moving research from the lab to the market place. This is not a product development course. The course covers topics such as commercialization options, technology strategy, market analysis, product adoption likelihood, evaluating licensing opportunity, intellectual property, and the market for ideas. The emphasis is on strategies to capture value under uncertainty and profit from technological opportunities. A central part of the course is to assess a technology's commercialization potential.

Required Readings

1. A course packet is available through the Harvard Business School Publishing web site at the following link: <http://harvardbusinessonline.hbsp.harvard.edu/relay.jhtml?name=cp&c=c05283>
2. The Art & Science of Technology Transfer by Speser, John Wiley & Sons (Speser)

Grade Determination

Grading will be on a percentage basis where A, 91-100%; A-, 90; B+, 88-89; B, 82-87; B-, 80-81; C+, 78-79; C, 71-77; C-, 70; D, 60-69; and F, 0-59%. Points will be allocated as follows:

Quicklook Commercialization Assessment	40%
Midterm Exam	30%
Case Quizzes	20%
Class Participation	20%

Office Hours

My office hours are on Tuesday/Friday 9:00-12:00 noon. I am also available by appointment and before and after the class on Wednesday. Please e-mail me for an appointment prior to your coming from off-campus.

Case Quizzes

Each student is expected to read the case and assigned readings, and adequately prepare the class preparation questions before coming to each class. Each student is expected to take all case quizzes and keep up with the class assignments on a weekly basis.

Class Participation

Each student is responsible for all in-class and e-mail announcements. *You must check your FAU e-mail account regularly.* Effective participation is when a student provides regular and substantive insights into the problem and its solution while taking into consideration the ideas provided by others. In assigning class participation grades, the following scale will be used:

0 points	Student is absent, unprepared or makes no comments
5 points	Student adds minimally to the discussion.
8 points	Student makes a significant contribution to the discussion.
10 points	Student provides regular and substantive insights

Quicklook Commercialization Assessment

The goal of a Quicklook assessment is to get an early indication of commercial interest in an idea, invention, or area of research. The primary benefits of the reports are the potential partners/licenses that can be found. In cases where inventions are not well received by the commercial marketplace, the reports can give early warning signals that the proposed area of research or proposed patent may be a non-starter and further investigation is needed prior to funding either more research or a patent submission.

The entire Quicklook process should only take 20-30 hours. It is not designed to be an in-depth market analysis report that will give a complete market picture to potential licensees. It is an information tool to be used for the targeting of the invention for license or information to be used in a go/no go decision.

Academic Integrity

A fundamental principle of academic, business and community life is honesty. Violation of this ethical concept will result in penalties ranging from a grade of "F" in the course to dismissal from the University. In all penalties, a letter of fact will be included in the student's file. The use of unauthorized material, communication with another student during an examination, attempting to benefit from the work of other students, or attempting to aid another student, and other similar behaviors which defeat the purpose of examinations and individual assignments is unacceptable. Violation of these standards is a serious offense and shall result in disciplinary actions allowed by the College and the University. (See current University Catalog).

Americans with Disabilities Act

In compliance with the Americans with Disabilities Act, students who require special accommodations due to a disability to properly execute coursework must register with the Office for Students with Disabilities (OSD) and follow all procedures.

Tentative Schedule of Sessions

Week 1		Introduction and Overview
	Additional Readings:	Ch. 1, 2, 3 (Speser)
Week 2 and 3	Case:	Beta Golf
	Additional Readings:	1. Innovating for Cash 2. Ch. 7, 8, 9 (Speser)
	Class Preparation Questions:	1. Why does Beta Group exist? What economic function does it serve? What is the business model for Beta? What does this tell us about translating innovation into value? 2. What is a sensible development plan for the HXL technology? Of the various choices for exploiting the technology which would you choose? Why? In what order? 3. Given the response from Callaway, what should Zider and Krumme do next? 4. What would happen to this project if it were developed inside an existing industry competitor?
Week 4 and 5	Case:	Elliot Lebowitz
	Additional Readings:	1. Note on Corporate Partnership 2. The Life Science Revolution: A Technical Primer
	Class Preparation Questions:	1. Does the strategic alliance with Mass General Hospital (MGH) make sense? For BioTransplant? For MGH? 2. What is driving the financing needs at BioTransplant? When will it turn cash flow positive? How certain are we of this estimate? 3. What are the potential sources of financing for BioTransplant? Which make sense now? Why? 4. Should BioTransplant pursue an alliance with a big pharma? When? For what products? In what form?
Week 6 and 7	Case:	Cardiac Thoracic Systems
	Additional Readings:	1. Note on Innovation Diffusion: Rogers' Five factors 2. Ch. 4, 5, 6 (Speser)

	Class Preparation Questions:	<ol style="list-style-type: none"> 1. What are the obstacles to adoption for the CTS product? Of these, which is most critical? 2. What is the size of the market for CTS? 3. How has CTS done to date and why? 4. What can CTS do to maximize the speed of adoption?
Week 8		Library Database Presentation and Review
Week 9		Midterm Exam
Week 10 and 11		Merck & Company: Evaluating a Drug Licensing Opportunity
	Additional Readings:	<ol style="list-style-type: none"> 1. The Role of Royalty Rates in the Licensing Process 2. Decision Tress for Decision Making 3. Ch. 10 and 11 (Speser)
	Class Preparation Questions:	<ol style="list-style-type: none"> 1. Build a decision tree that shows the cash flows and probabilities at all stages of the FDA approval process. 2. Should Merck bid to license Davanrik? How much should they pay? 3. What is the expected value of the licensing arrangement to LAB? Assume a 5% royalty fee on any cash flows that Merck receives from Davanrik after a successful launch. 4. How would your analysis change if the costs of launching Davanrik for weight loss were \$225 million instead of \$100 million as given in the case?
Week 12 and 13	Case	Vertex Pharmaceuticals: R&D Portfolio Management (A)
	Class Preparation Questions:	<ol style="list-style-type: none"> 1. Which of the project portfolio options currently facing Vertex do you favor? Specifically, which two projects would you advance in development? Would you license out the two others not chosen or keep them as back-up? 2. What criteria would you use to make the decision? What other information, if any, do you think Boger needs to make his decision? 3. How should a company value investments in projects like these, which entail an extremely high degree of uncertainty? What management process should be used?
Week 14 and 15	Team Deliverables	<i>Quicklook Assessment Report due</i> Final Presentations

Technology Commercialization Bibliography

Text:

The Art & Science of Technology Transfer by Speser, John Wiley & Sons (Speser)

Cases:

Beta Golf

Innovating for Cash

Cardiac Thoracic Systems

Note on Innovation Diffusion: Rogers' Five factors

Merck & Company: Evaluating a Drug Licensing Opportunity

The Role of Royalty Rates in the Licensing Process

Decision Tress for Decision Making

Elliot Lebowitz

Note on Corporate Partnership

The Life Science Revolution: A Technical Primer

Books

“Technology Development and Transfer”, Quorum Books, Westport, CT, and London, UK;
Authors: Alan S. Gutterman and Jacob N. Erlich

“Licensing-A Strategy for Profits”, KEW Licensing Press, Chapel Hill, NC; Author: Edward P. White

“A Primer on Licensing”, Kent Press, Stamford, CT; Author: Jack Revoyr

“New Venture Creation”, Irwin Publishing, Homewood, IL and Boston, MA; Authors: Jeffrey A. Timmons and Leonard E. Smollen