

**Technology Management Program**  
Critical Issues in Early Stage Healthcare and Life Science Companies  
**ENGR192/292 C Spring 2008**



University of California, Santa Barbara  
College of Engineering

Course website: <http://www.tmp.ucsb.edu/curriculum/schedule.html>

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CLASS: Wednesday, 6:00 to 7:50 pm  
CLASSROOM: PHELPS 3505

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Office: Trailer 937 near Broida Hall

OFFICE HRS: Monday's from 2-4 p.m.  
Or by appointment

**COURSE DESCRIPTION:**

Course includes visiting speakers to facilitate learning about the critical issues in early stage, life science related companies. This course explores key activities that take place in a U.S. biotech company through the process of drug discovery, development, and approval. The course will be an introduction to different areas of expertise that are required to support the business of biotechnology and will expose students to career options both for science and non-science majors. Experts from each industry, including the US healthcare delivery arena, will present an overview of their industry, of their company, and aspects of their field (such as research/licensing from universities, the global regulatory and business environment) that are critical to understand for successful launch of a new product or idea. Guest speakers, team presentation and final paper.

**COURSE OBJECTIVES:**

1. Understand the process by which new biotechnology products are discovered and how they advance from discovery through clinical testing to FDA approval and commercialization.
2. Gain insight into the factors influencing the success of a product/company.
3. Discover the functions of divisions of a biotechnology company.
4. Learn the career paths available in a biotechnology company.

## **ASSIGNMENT:**

There are two separate assignments that students will receive a grade for in this course:

### 1. Team Assignment:

Identify a new biotechnology business opportunity (that your team has thought of) and present a development plan that identifies critical elements for its success, resource requirements, competition, and commercialization strategy. Student presentation will take place on the last day of class (Wednesday, June 4, 2008)

### 2. Individual assignment:

Write a paper, 3-4 pages in length, that further analyzes your new biotechnology business opportunity that you presented in the team assignment *OR* analyzes an early stage biotechnology company of your choice. What do you think the opportunity/company will need in the way of resources to be successful? What type of management team would appeal to investors? If you are analyzing a company, discuss if their current management team is likely to appeal to investors and make it to drug approval? Why? What is the competitive environment? The project must state how the information was obtained (include names and emails, reference material, etc., depending on how you obtained the information). You are encouraged to consult with any of the speakers. Individual papers are due by Friday, June 6 at 4:00 p.m in the TMP office, Trailer 937 next to Broida Hall.

**COURSE REQUIREMENTS:** Classes will be held once a week, 2 hours per session. Guest lecturers will provide information in their specific health care fields. Student teams will be created of not more than 4 persons. Each team can not be comprised of all graduate students. Students will be expected to interact with the guest lecturers and industry experts. A roundtable discussion will be conducted and each student will be expected to participate.

## **GRADING:**

33.3% Attendance and Individual participation in discussions with speakers  
(students are required to interact with the guest lecturers/industry experts each evening).  
33.3% Individual assignment  
33.3% Group project

## **192C/292C Course Speaker list, 2008**

**April 2:** Course Overview

**April 9:** Robin Campbell— President and CEO, **Naryx Pharma, Inc.**

Commercialization: From Bench to Bedside. A descriptor title might be:  
"All the things you wished you'd done or thought of earlier, but didn't, to prepare for market entry"

**April 16:** Bruce Altrock— former V.P. Research, **Amgen**

Overview/tools and considerations for research

**April 23:** Terri Burgess—Director of Oncology Research, **Amgen**

Research in a biotech company

**April 30:** Roy Hardiman-- V.P. Corporate Law and Assistant Secretary, **Genentech**

Legal issues/licensing

**May 7:** Leslie Edwards, Director of Corporate Business Development for the College of Engineering and Math Life and Physical Sciences at **UC Santa Barbara**; former Manager of the division pharmacology and toxicology, **Miravant**

Entrepreneurial Toxicology- a very fun job

**May 14:** Linda Pullan-- Biotech Business Development Consultant, **Pullan Consulting**

Business development in emerging biotechnology

**May 21:** Ralph Smalling— former V.P. Regulator Affairs, **Amgen**

Regulatory affairs

**May 28:** Geoff Slaff— Senior Vice President, Quality, **Amgen**

Scale-up and process development

**June 4:** Student presentations