



Graduate Programs—NEW COURSE PROPOSAL

UGPC APPROVAL _____
 UFS APPROVAL _____
 SCNS SUBMITTAL _____
 CONFIRMED _____
 BANNER POSTED _____
 ONLINE _____
 Misc _____

DEPARTMENT NAME: **BIOLOGICAL SCIENCES**

COLLEGE OF: **CHARLES E. SCHMIDT COLLEGE OF SCIENCE**

RECOMMENDED COURSE IDENTIFICATION:

PREFIX _____ **COURSE NUMBER** _____ **LAB CODE (L or C)** _____
 (TO OBTAIN A COURSE NUMBER, CONTACT ERUDOLPH@FAU.EDU)
COMPLETE COURSE TITLE: **BIOTECHNOLOGY BUSINESS DEVELOPMENT**

EFFECTIVE DATE

(first term course will be offered)

FALL 2010 _____

CREDITS: **3**

TEXTBOOK INFORMATION: *SCIENCE BUSINESS: THE PROMISE, THE REALITY, AND THE FUTURE OF BIOTECH,*
 FIRST EDITION BY GARY P. PISANO (HARVARD BUSINESS SCHOOL PRESS, ISBN 1-59139-840-1)

GRADING (SELECT ONLY ONE GRADING OPTION): REGULAR PASS/FAIL _____ SATISFACTORY/UNSATISFACTORY _____

COURSE DESCRIPTION: BIOTECHNOLOGY IS THE APPLICATION OF BASIC SCIENCE DISCOVERIES TO MEDICINE, AGRICULTURE, AND THE ENVIRONMENT. BIOTECH COMPANIES ARE FORMED AROUND BIOTECHNOLOGY APPLICATIONS AND THESE COMPANIES INVOLVE BOTH SCIENCE AND BUSINESS. THE GOAL OF THIS COURSE IS TO UNDERSTAND THE RELATIONSHIP BETWEEN BIOTECH BUSINESS AND BIOTECH SCIENCE.

PREREQUISITES W/MINIMUM GRADE:*

COREQUISITES:

OTHER REGISTRATION CONTROLS (MAJOR, COLLEGE, LEVEL):

PREREQUISITES, COREQUISITES & REGISTRATION CONTROLS SHOWN ABOVE WILL BE ENFORCED FOR ALL COURSE SECTIONS.

*DEFAULT MINIMUM GRADE IS D-.

MINIMUM QUALIFICATIONS NEEDED TO TEACH THIS COURSE: PH.D. IN SCIENCE OR EQUIVALENT AND BUSINESS EXPERIENCE

Other departments, colleges that might be affected by the new course must be consulted. List entities that have been consulted and attach written comments from each.

Tod R. Fairbanks, tfairba2@fau.edu, 561-398-6163 _____
 Faculty Contact, Email, Complete Phone Number

SIGNATURES

SUPPORTING MATERIALS

<p>Approved by:</p> <p>Department Chair: _____</p> <p>College Curriculum Chair: _____</p> <p>College Dean: _____</p> <p>UGPC Chair: _____</p> <p>Dean of the Graduate College: _____</p>	<p>Date:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Syllabus—must include all details as shown in the UGPC Guidelines.</p> <p>Written Consent—required from all departments affected.</p> <p>Go to: http://graduate.fau.edu/gpc/ to download this form and guidelines to fill out the form.</p>
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Email this form and syllabus to sfulks@fau.edu and eqirjo@fau.edu one week **before** the University Graduate Programs Committee meeting so that materials may be viewed on the UGPC website by committee members prior to the meeting.

Syllabus

Course name: Biotechnology Business Development

Course number: TBD

Pre-requisites: TBD

Co-requisites: TBD

Instructor: Tod R. Fairbanks

Office number: TBD

Telephone: 561-398-6163

E-mail: tfairba2@fau.edu

Office hours: TBD

Required textbook: *Science Business: The Promise, the Reality, and the Future of Biotech*, First Edition by Gary P. Pisano (Harvard Business School Press, ISBN 1-59139-840-1)

Supplementary texts: recent research and review papers, which will be posted on blackboard or given as handouts.

Course description and instructional objectives: Biotechnology is an applied science that transforms basic science discoveries into practical uses. Disciplines that typically benefit from biotechnology are agriculture, medicine, non-food agriculture (biofuels) and the environment. All four disciplines have some of the same components; science and improving needs of humanity, but all are also driven by a business component. To understand the relationship of business and biotechnology is the goal of this course.

Method of instruction: Lectures, classroom exercises, single and group assignments, discussion, and presentations.

Topics and Schedule

- Business in the context of biotechnology
 - Overview of biotechnology field
 - Biotechnology as a function of science and business
 - Company structures versus other non-biotech companies
 - Functional units
- Company structure and functions
 - Science/development, the idea and its development
 - Pharmaceutical drug development
 - Medical device product development
 - Technology product development
 - Other biotech product development, such as biofuels, bioengineered foods, etc.
 - CEO/CFO, the funding
 - Sources of funding
 - Obligations
 - Exit strategy for funding entities
 - Legal
 - Patents
 - Confidentiality
 - Licensing agreements
 - Business Development/Licensing
 - Strategy
 - Business plan
 - Marketing
 - Business dealing
- Business Development and Licensing company organizations
 - Department structure and function
 - Business Development and Licensing
 - Business versus science
 - Technology versus compound v product/business
 - Staff experience
 - Staff dedicated versus borrowed
 - Business Development and Licensing support
 - Licensing data
 - How much licensing going on in biotech field?
 - Why is there a licensing need?
 - Licensing strategy
 - Basic hurdles: IP type, drug class, use, development stage
 - Positive list
 - Negative list
 - Seek
 - Sources
 - Types of items to license
 - Evaluate
 - Preliminary
 - Due diligence
 - Scientific input

- Business Development department functions
 - Commercial/financial evaluation
 - What is included?
 - Where do the deal dollar amounts originate?
 - Where does mergers and acquisition fit in?
 - Negotiation
 - Term sheet
 - Give and take
 - Pathway to approval with companies, licensor and licensee
 - Done deal, what does it mean?
 - Bio dollars v real dollars
 - Key biotech requests
 - Miscellaneous
 - Alliance management
 - Mergers & Acquisitions
 - Deal outliers and why
- Other company functions
 - Marketing/Sales
 - Marketing research
 - Competitive intelligence
 - Manufacturing
- Case studies
 - Company
 - Licensing/partnering
- New company simulations with presentations and discussions involving roll-playing by each student in each of four different job positions
- Careers in biotechnology and general discussion

Assessment Procedures, Grading Criteria, Class Policies:

The student will be assessed on their roll play in each of four positions during company simulations, as a new company scientist, as a new company business person, as an acquiring/licensing company scientist and as an acquiring/licensing company business person.

Roll/Activity	100%
NewCo Scientists	20
NewCo Business person	20
BigCo Scientists	20
BigCo Business person	20
Class Participation	10
Attendance	10

90-100%=A, 80-89%=B, 70-79%=C, 60-69%=D+, <60%=F; grades may be curved to adjust to 100%

It is the responsibility of the student to withdraw from this class, should that status be desired - the instructor cannot withdraw students from the course. The instructor will not give the grade of "I" in lieu of a grade of "D" or "F". The grade of "I" will be considered only in exceptional cases (such as serious illness) for students who are presently performing at a "C" or higher level in the course.

Roll Playing. Each student will be assigned a roll in a company in each four different fictitious biotech company scenarios that each student group will develop. The goal is for each student to play a different roll in each of the four scenarios and to be graded on each roll as outlined above in the assessment section. This will provide the student a chance to see what it is like to be in four different rolls involving the business of biotech companies. The assignments will be made early in the course so that each group can formulate their company and strategies and each student can prepare for their roll.

Class Participation. Participation in class will be assessed based on reasonable questions asked in class or after class for each lecture session.

Attendance. Students are expected to attend all scheduled classes. If a student misses a class they are responsible for ALL the material covered during that class, including lecture material and rules and regulations about the course.