



Charles E. Schmidt College of Science
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CESCOS Graduate Curriculum Committee
Florida Atlantic University
Boca Raton, FL 33431

Dear Graduate Curriculum Committee,

The faculty of the Department of Biological Sciences have unanimously supported a proposal to offer a Professional Science Masters in Business Biotechnology. This would be a new Masters of Science Program that would be administered through the Center for Molecular Biology and Biotechnology (CMBB) with the support of the Chair of Biological Sciences (R. Murphey) and Dean Perry.

Justification

A recent study by the National Science Foundation (NSF) found that only about 25% of individuals whose highest academic degree is the bachelors in science or engineering actually end up in careers in the areas for which they were trained. The PSM is designed to change that trend. The PSM is intended as a terminal graduate degree for the student who will then move directly into the market place. As biotechnology businesses move into the south Florida area, there will be a growing need for business-savvy individuals with a strong background in science and technology. This is a cross-disciplinary training that prepares students for a business rather than academic based career. This program is in response to the changing work force of the 21st Century.

A study by the Council of Graduate Schools (CGS) found that 70% of graduates with the PSM degree in 2006 had found employment in non-academic sectors at salaries significantly higher than those of individuals with either a baccalaureate degree or traditional Masters in science.

Employment Opportunities for Graduates

Graduates of the program would be employed by companies working in a range of life science based businesses. More than 50 such businesses are currently operating in southeastern Florida stretching from Indian River County to Monroe County (see attachment). With the establishment of the Max Plank Institute and Scripps Florida on the FAU campus in Jupiter, the number of biotechnology oriented businesses and research institutes will undoubtedly continue to increase in the coming years.

An Interdisciplinary Program

The program would involve courses offered in the Department of Biological Sciences in the Charles E. Schmidt College of Science (CESCOS), the Barry Kaye College of Business and the Charles E. Schmidt College of Biomedical Sciences. The faculty and Dean of the business college fully support the program and endorse administration through CESCOS (see attached letter). More specifically, the program would be administered through the Center for Molecular Biology and Biotechnology (CMBB) with the support of the Chair of Biological Sciences and the Dean of the College. A key aspect of the program is two internships – one science oriented and the other with a business focus. CMBB has a presence on both the Boca Raton and Jupiter campuses. The center is now housed in close proximity to Scripps Florida and the Max Plank Institute, which should provide valuable internship opportunities for the students.

Coursework

The curriculum for the proposed PSM program will be divided between courses offered in the business, science and biomedical science colleges. The business courses were selected after several discussions with faculty from the College of Business, especially Paul Hart, Associate Dean and Chair of the Department of Information Technology and Operations Management (ITOM) and Peggy Golden, Chair of Management Programs. All of the required courses will be offered by the College of Business on a regular basis by fall 2010, the projected starting date for the program. Only one new lecture course will be required. This course entitled *Biotechnology Business Development* was offered as a special topics course in spring 2009 and had a robust enrollment of 18 graduate students.

Eligibility and Application

1. Bachelor's degree in biology or chemistry. Degrees in other scientific areas will be considered on an individual basis.
2. Graduating undergraduate science GPA of 3.2 or higher
3. Minimum of 1,000 on GRE
4. Personal statement of career goals and how the applicant feels this training will help achieve those goals.
5. Three letters of recommendation with at least one from a former professor.

Overview of Curriculum

1. Program will require a total of 34 credit hours
2. The core curriculum, required of all students will be the new *Biotechnology Business Development* (ENT 6188) course, an accounting and finance course (*Financial Accounting Concepts* (ACG 6027)) and two 2-credit internships (see below for more details). The core curriculum will be a total of 10 credits.
3. The science curriculum will be a total of 15 credits. These courses will be electives to allow the student the flexibility to tailor the courses to their interests and career goals.
4. The remaining 9 credits will be three graduate courses from the business school.

Two Internships

Each of the two internships last one semester. One internship will be science oriented and will involve working directly with research scientists. The second will involve working on the business and administrative side of the company or institute including technology transfer and business development offices. We will strive to place students in one of the biomedical institutes (e.g. Scripps Florida and the Max Plank Institute) or an emerging biotechnology business. Special interest will be given to opportunities where the internship has the potential of leading to a job offer.

Advisory Board

The advisory board includes individuals associated with a biotechnology-based company or they are directly involved in job placement. An important function of the board is to provide guidance on the skills needed by students in the program to be competitive for employment.

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SIGNATURES

<i>Approved by:</i>	<i>Date:</i>
Department Chair: _____	_____ _____
College Curriculum Chair: _____	_____ _____
College Dean: _____	_____ _____
UGPC Chair: _____	_____ _____
Dean of the Graduate College: _____	_____ _____