Florida Gulf Coast University Board of Trustees
June 20, 2006

SUBJECT: New Degree Proposal: Bachelor of Science (B.S.) in Biology

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PROPOSED BOARD ACTION

Approve new B.S. in Biology.

BACKGROUND INFORMATION

FGCU is requesting permission to offer a B.S. in Biology.

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Supporting Documentation Included: (1) Memo from Provost, and (2) Executive Summary

Prepared by: Dr. Cathy Duff, Director of Program Development

Legal Review by: General Counsel Wendy Morris (June 2, 2006)

Submitted by: Provost Bonnie Yegidis
May 18, 2006

MEMORANDUM

TO: Trustee Larry Hart, Chair
    Academic/Student/Faculty Affairs Committee
    FGCU Board of Trustees

FROM: Bonnie L. Yegidis
      Provost and Vice President for Academic Affairs

SUBJECT: Bachelor of Science (B.S.) in Biology

The College of Arts and Sciences is proposing the addition of a B.S. in Biology that builds upon the strengths of the existing B.A. in Biology, which was implemented as a B.A. Liberal Studies-Biology in 1997 when the University opened. The proposed B.S. Biology program includes additional science requirements, which provides greater breadth and depth in content knowledge.

The proposed B.S. Biology program will be 120 semester credit hours in length. It offers two concentrations: the Accelerated 3 + 4 Pre-Medicine Concentration and the Pre-Professional Concentration. The program is consistent with the criteria for new degree authorization adopted by the Board of Governors on April 30, 2003. The curriculum has been approved by both the College of Arts and Sciences Curriculum Team and the university-wide Undergraduate Curriculum Team.

Implementation of the B.S. in Biology program will provide Southwest Florida with a high quality program that is consistent with the university’s mission. I recommend approval.
FLORIDA GULF COAST UNIVERSITY

Executive Summary
New Program Proposal

Degree: Bachelor of Science (B.S.)
Major: Biology
Concentrations: Accelerated 3+4 Pre-Medicine
                       Pre-Professional
College: Arts and Sciences
Department: Biological Sciences
Anticipated Implementation Date: Fall 2006
Suggested CIP: 26.0101

Program Description

The proposed B.S. Biology program requires 120 credit hours and offers for two concentrations: the Accelerated 3 + 4 Pre-Medicine Concentration and a Pre-Professional Concentration. During the first 60 hours of study, students enroll in coursework to satisfy general education and common prerequisite requirements. The program includes an upper-division core curriculum that provides a background in the chemical, mathematical, and physical sciences, as well as a broad preparation in the biological sciences. The two concentrations prepare students for continued education in medicine and other professional programs of study such as allopathic and osteopathic medicine, dental, veterinary, optometry, pharmacy, physician assistant, and pharmacy.

The Accelerated 3 + 4 Pre-Medicine Concentration is offered through an agreement with the University of South Florida’s College of Medicine. Qualified students selecting this concentration fulfill requirements as set forth by FGCU for their first three years (90 credit hours) of coursework on the FGCU campus. If all requirements are satisfied, students are eligible for admission to the USF College of Medicine. Upon successful completion of the first year of the USF medical school curriculum, 30 credits are awarded by FGCU for completion of the B.S. Biology degree. Successful students continue with their medical education at USF toward a Doctor of Medicine degree.

Students in the Accelerated 3 + 4 Pre-Medicine Concentration may elect to complete the fourth year of study at FGCU. This option follows a more traditional pattern of four years of undergraduate coursework prior to receiving the baccalaureate degree and then
entering the USF College of Medicine (4 + 4 option). Students selecting this option have an opportunity to take more advanced coursework and become involved in additional activities.

The *Pre-Professional Concentration* provides students with opportunities to fulfill baccalaureate degree requirements at FGCU, while meeting admission requirements for professional schools (allopathic and osteopathic medical, dental, optometry, pharmacy, physician assistant, etc.).

Implementation of the program is anticipated for fall 2006.

**Consistency with FGCU’s Mission and Strategic Plan**

The Florida Gulf Coast University Strategic Plan for 2005-2010 includes:

- **Goal 1:** Higher Quality Education: *As the region’s only public comprehensive University, FGCU is committed to the pursuit of academic excellence. Strategies to be implemented will focus on acquisition, maintenance and improvement of high-quality facilities and equipment; faculty knowledge and innovation; an academically competitive and supported student body... and high-demand academic programs. By pursuing these strategies FGCU will move closer to realizing its vision of achieving national prominence in undergraduate education.*

  To meet this goal, strategies and indicators were set that included faculty/student research component that is medically/clinically oriented that is realized in the curriculum set forth in the BS-Biology degree.

  - Goal 1 also set forth the need for implementation of new courses that embed service learning goals and total service hours. This is realized in the proposed course “*Seminars in Medicine*” that provide for volunteer community service for all students enrolled. Goal 1 also sets forth “...*attract, retain and engage in learning, high quality students through appropriate academic programs.*...” The benchmark for this strategy is to increase overall average of combined SAT scores and high school GPAs for entering freshman. This degree program will attract students with high GPAs and SAT scores bringing the University closer to its goals. This degree program offers an opportunity for more FGCU students to continue their educational goal after the baccalaureate. The BS Biology degree answer’s the FGCU Goal 1 to “*create and develop innovative academic programs that attract the best students and faculty.*” An indicator for this strategy is “...*new program development.*”

- **Goal 2** of the FGCU Strategic Plan for 2005-2010 includes “...*the delivery of access to high quality educational opportunities for residents of Southwest Florida who historically have had limited postsecondary choices. This includes the population of the five-county region of Charlotte, Collier, Glades, Hendry, and Lee and the wider surrounding geographic region of southern Florida. It also extends to traditionally underrepresented populations...[with] expanded educational choices at all degree levels.*” Strategies for realization of this goal
include the continued improvement in the quality/profile of the student body as indicated with the quality of enrolled first-time-in-college students

- FGCU has set forth in its mission “to achieve national prominence in undergraduate education” and in its strategic plan “promote nationally recognized undergraduate programs.” This degree program will allow for FGCU students to fulfill educational requirements for professional degree aspirations and become competitive in application and acceptance into professional schools to realize these goals. This program offers unique challenges for exceptional students. It provides opportunities for students within our service area access to a medical degree program through the Accelerated Pre-Medicine 3+4 and 4+4 option with an articulation agreement with the University of South Florida College of Medicine. All degree-seeking students in this new BS-Biology program, will receive faculty advisement, mentoring, and support during their undergraduate education as well as unique hands-on research opportunities within our university and community.

Need and Demand

The Board of Governors State University System of Florida Strategic Plan, June 9, 2005 established specific, measurable goals that included production of degrees meeting statewide professional and workforce needs that included a critical need in the health professions and medical science. The Council for Education Policy, Research and Improvement (CEPRI) Medical Education Needs Analysis as presented to the Board of Governors’ Strategic Planning/Educational Policy Committee identified several factors that affected the physician supply and demand in Florida including age and gender demographics with the demand in the continued growth of the elderly population. It was deduced that additional physicians were needed to meet the demands. The availability of “qualified” Florida students to attend medical school is a prime consideration for the “pipeline” into Medical Education. Studies conducted indicate that efforts to improve pre-medical education at the undergraduate level is needed to increase Florida’s potential pool of medical students. The proposed B.S. Biology degree program supports students that wish to enter professional schools in the pursuit of medicine. With the support of this program, students will be better prepared to enter this much needed avenue to meet the needs of the physician shortage and in other areas of healthcare. With the articulation agreement with the University of South Florida’s College of Medicine, students will be mentored and advised and have greater success in their academic endeavors for acceptance into medical degree programs.

Enrollment Projections

It is projected that the Fall 2006 that there will be 59 students (44.25 FTE) declaring the B.S. Biology major. With the increasing FGCU enrollment growth, it is projected that these numbers will increase to 178 (133.5 FTE) in the next five years.
Resources

No additional resources are needed to implement the proposed program. The resources of the Department of Biological Sciences and the current faculty lines (2006-07) are sufficient for implementation. Upper division courses are integral to the department and existing degree programs of B.A. Biology and B.S. Biotechnology. The FGCU library currently provides access to the basic level of resources necessary to expand our undergraduate program in biology including monographs (books) and access to 144 journals appropriate to the degree. A Library Impact Statement revealed that no new costs are anticipated by the library staff in the initiation of this degree program. The total annual estimated costs of the program, including instructional support, are expected to be $109,375. The Accelerated 3+4 Pre-Medicine Concentration is supported externally by an articulation agreement with the USF College of Medicine.