

Note: This outline and the questions pertaining to each section must be reproduced within the body of the proposal to ensure that all sections have been satisfactorily addressed.

INTRODUCTION

I. Program Description and Relationship to System-Level Goals

- A. Briefly describe within a few paragraphs the degree program under consideration, including (a) level; (b) emphases, including concentrations, tracks, or specializations; (c) total number of credit hours; and (d) overall purpose, including examples of employment or education opportunities that may be available to program graduates.**

The College of Public Health and Health Professions proposes to establish a master's program in biostatistics. The M.S. in Biostatistics will require a minimum of 36 post-baccalaureate credit hours. The program is designed to facilitate students' development of a strong theoretical foundation in biostatistics, broad-based understanding of biostatistical methods, and expertise in a cognate field. A typical student will be enrolled full-time for two years. Upon successful completion of the program, graduates will be awarded a M.S. degree in biostatistics (CIP 26.1102).

The principal goal of the proposed M.S. program is to prepare highly qualified individuals for future Ph.D. training and for careers in biostatistics practice. The training will be conducted in the innovative and interdisciplinary public health culture of the College. The most current biostatistics training will foster professional development of successful careers and produce graduates who will help address the shortage of biostatisticians. Our graduates will be highly competitive in three primary settings: academic university-based settings, industry, and federal agencies that involve research and/or public health practice.

- A. Describe how the proposed program is consistent with the current State University System (SUS) Strategic Planning Goals. Identify which goals the program will directly support and which goals the program will indirectly support. (See the SUS Strategic Plan at <http://www.flbog.org/about/strategicplan/>)**

Graduates will help the state of Florida meet many of their professional and workforce needs as outlined in the SUS Strategic Planning Goals including in manufacturing, medical science and healthcare, and computer science and information technology. M.S. level biostatisticians are key members of research teams in all these areas. Examples include ensuring medical studies are designed carefully to answer the questions of interest, developing and implementing (data mining) algorithms for computer science and informative technology, and coordinating the quantitative aspects of quality control in manufacturing. In addition, M.S. biostatisticians are high-wage jobs with the median salary for graduates of \$63,000 for those in Business and Industry and \$62,000 for those working for government agencies according to the most recent Business, Industry, and Government 2007 Salary Survey in Amstat News (the informational

publication of the American Statistical Association). Finally, the M.S. in Biostatistics will provide a feeder for and foster the PhD program in Biostatistics, which is also a high demand degree and is consistent with the goal of building world-class academic programs and research capacity.

INSTITUTIONAL AND STATE LEVEL ACCOUNTABILITY

II. Need and Demand

- A. Need: Describe national, state, and/or local data that support the need for more people to be prepared in this program at this level. Reference national, state, and/or local plans or reports that support the need for this program and requests for the proposed program which have emanated from a perceived need by agencies or industries in your service area. Cite any specific need for research and service that the program would fulfill.**

The United States faces a critical shortage of biostatisticians with graduate training as documented in *The Seventh Report to the President and Congress on the Status of Health Personnel in the United States and Objectives for the Nation*, the American Public Health Association (APHA) *issue brief on the workforce* (September, 2006), and the Institute of Medicine (IOM) report *The Future of the Public's Health in the 21st century* (2002); see also Dixon and Legler, 2003 STATs. The APHA brief says "...the public health workforce shortage is emerging at a time when public health must take on more responsibility in addition to the ongoing role of preventing disease and promoting health...However, there are inadequate numbers of public health personnel and students in training to response to the current demand...Health professions that are repeatedly mentioned as experiencing shortages: epidemiologists, biostatisticians...".

Positions are available in academia (biostatistics, statistics, public health, epidemiology, and in the biological, medical, agricultural and environmental sciences), in industry (pharmaceutical, biotechnology, food science, nutrition, genome data banks, agribusiness, biochemical, software, statistical consulting, biostatistical and environmental consulting, medical diagnostic and therapeutic technology, medical informatics, medical clinical trials, life insurance, health insurance, health care and HMOs, think tanks, health policy, etc.) and in government (federal agencies such as the Food and Drug Administration, Census Bureau, National Biological Survey, National Forest Service, Environmental Protection Agency, National Institutes of Health, Centers for Disease Control and state agencies such as state health offices, state environmental agencies, etc., as well as international agencies such as UNESCO and WHO).

- B. Demand: Describe data that support the assumption that students will enroll in the proposed program. Include descriptions of surveys or other communications with prospective students.**

We expect enrollment to be high for several reasons. First, the United States faces a critical shortage of biostatisticians with graduate training (as outlined in Section IIA above) and the median starting salaries are high (over \$60K), which is a major attraction to potential students. Second, based on the applicant pool for the graduate program in statistics, there are always many more applicants than openings. We expect some applicants from this pool to also apply for the

M.S. in Biostatistics program. Third, students who aspire to a Ph.D. in Biostatistics need to obtain an M.S. beforehand. We expect many of the future applicants for graduate training in Biostatistics will be students with only a Bachelor's degree and will get an M.S. and Ph.D. in Biostatistics at UF in succession; this is a common occurrence in both biostatistics and statistics graduate programs (we see this in the graduate program in statistics at UF).

- C. If similar programs (either private or public) exist in the state, identify the institution(s) and geographic location(s). Summarize the outcome(s) of any communication with such programs with regard to the potential impact on their enrollment and opportunities for possible collaboration (instruction and research). Provide data that support the need for an additional program.**

Only two SUS institutions offer an M.S. in biostatistics (USF and FSU). The M.P.H. is a less rigorous degree in terms of biostatistical methodology and does not prepare students for a Ph.D. program in biostatistics. USF offers a small master's program in biostatistics (culminating in an M.S.P.H. in biostatistics), but has limited capacity for training larger numbers of Florida residents and meeting the growing demand for biostatisticians as outlined above. The program resides in a department of epidemiology and biostatistics. In addition, USF does not have a large affiliated department of statistics. The USF department of epidemiology and biostatistics is housed in the College of Public Health, whose dean is Dr. Donna Petersen. Dr. Petersen is aware of and has been consistently supportive of our public health development, including the master of science in biostatistics. This is also evidenced by her willingness to facilitate our mock site visit (Sept. 2, 2008) in preparation for our public health accreditation site visit. FSU also offers an M.S. in biostatistics. Dr. Daniels, the graduate coordinator for the Ph.D. in biostatistics, has discussed the M.S. program at FSU with the chair of the department. The M.S. in biostatistics at FSU is offered out of the statistics department and does not have the resources of a college of public health and a large Health Science Center like at UF. The educational experience of a graduate program in biostatistics is greatly enhanced when it is offered out of a department of biostatistics as opposed to a department of statistics.

Note that Florida Atlantic University offers an M.S. in Applied Mathematics and Statistics with a track in Biostatistics. This degree is offered out of a Department of Mathematical Sciences.

- D. Use Table 1 (A for undergraduate and B for graduate) to categorize projected student headcount (HC) and Full Time Equivalent (FTE) according to primary sources. Generally undergraduate FTE will be calculated as 40 credit hours per year and graduate FTE will be calculated as 32 credit hours per year. Describe the rationale underlying enrollment projections. If, initially, students within the institution are expected to change majors to enroll in the proposed program, describe the shifts from disciplines that will likely occur.**

Based on the number of applications typically received in the Department of Statistics for their graduate program and the fact that the pools are typically similar in number between Statistics and Biostatistics graduate programs, we expect to easily be able to reach our enrollment projections. We expect the first year's class to be students recently graduated from bachelor's degree programs at UF or other state institutions. More national recruiting will be undertaken during year 2 and beyond. We do not expect students to change majors to enroll in the program.

E. Indicate what steps will be taken to achieve a diverse student body in this program, and identify any minority groups that will be favorably or unfavorably impacted. The university's Equal Opportunity Officer should read this section and then sign and date in the area below.

We will work actively with the Director of Graduate Minority Programs at the University of Florida to recruit both minority and women students. Here is a brief summary of their current programs.

Recruitment services involve creating a pool of students from groups traditionally underrepresented in the student body by participating in 1) graduate fairs nationwide, 2) partnerships with foundations and organizations, and 3) the Campus Visitation Program.

Retention services are provided in the form of the Florida Board of Education (FBOE) Summer Program, the Office of Graduate Minority Programs (OGMP) Supplemental Retention Program (SRP), and academic support services and programs for graduate students.

There are partnerships with (1) the Florida Educational Fund, (2) the Florida A&M University (FAMU) Feeder program, (3) Santa Fe Community College Faculty Development Project, (4) the National Consortium for Graduate Degrees for Minorities in Engineering and Sciences, Inc. (GEM), and (5) the National Science Foundation-Alliance for Graduate Education and the Professoriate.

The Campus Visitation program is conducted twice a year, during the fall and spring semesters. The program is intended to provide an opportunity for prospective minority graduate students and school advisers to visit our campus.

The staff of the Office of Graduate Minority Programs (OGMP) and five University of Florida faculty and staff members were also involved in recruiting trips. A total of 23 recruiting trips were made during the last academic year.

We will work to identify potential candidates for the training program, and we will participate in the Campus Visitation Program by offering a short introduction to Biostatistics.

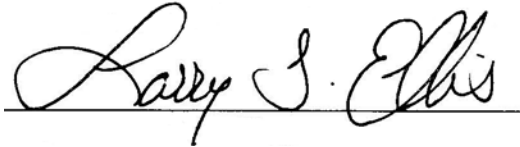
Potential biostatistics students identified through any of these activities will be actively recruited. Once the student is recruited we will focus on helping the student be successful. For example, the Florida Board of Education Summer Fellowships prepares new graduate students from underrepresented demographic groups, admitted to the University of Florida for fall semester, during the summer. Participants receive a tuition waiver and around \$1,500 as a stipend, and enroll in four credit hours of summer graduate coursework. This enables new graduate students to spend the summer on campus prior to the fall semester, and we will make every effort to obtain these scholarships for all eligible graduate students.

Another retention effort is the Professional Development Workshop offered to enrich the educational experience of students who are typically underrepresented in graduate education.


This series of mentoring workshops addresses issues such as writing literature reviews, effective reading strategies, summarizing and critiquing readings or lectures, passing qualification examinations, getting manuscripts published, using professional meetings to advance one's career, and getting research grants.

Opportunities also exist for additional funding should a student from an underrepresented group need longer to complete the degree, but is no longer eligible to receive a fellowship, assistantship or other funding from his/her department or college. Limited tuition assistance and the help of a structured retention program are provided to the student.

These University programs will supplement the efforts of the program faculty to recruit, retain and graduate M.S. biostatisticians from underrepresented groups.



Equal Opportunity Officer



Date

III. Budget

- A. Use Table 2 to display projected costs and associated funding sources for Year 1 and Year 5 of program operation. Use Table 3 to show how existing Education & General funds will be shifted to support the new program in Year 1. In narrative form, summarize the contents of both tables, identifying the source of both current and new resources to be devoted to the proposed program. (Data for Year 1 and Year 5 reflect snapshots in time rather than cumulative costs.)**

The M.S. program in Biostatistics was planned for as part of the Public Health enterprise at the University of Florida. As discussed earlier, the M.S. is essential to the ultimate success and growth of the Ph.D. program in Biostatistics, which is a necessary component for Council on Education for Public Health (CEPH) accreditation. As can be seen in Table 2, the core support for the new program is \$172,665 in year one and \$198,269 in year 5. It is anticipated that student support will be primarily derived from grants as the program grows and increased external funding is secured. Students are also eligible for already funded TA positions in the BHS and MPH programs.

- B. If other programs will be impacted by a reallocation of resources for the proposed program, identify the program and provide a justification for reallocating resources. Specifically address the potential negative impacts that implementation of the proposed program will have on related undergraduate programs (i.e., shift in faculty effort, reallocation of instructional resources, reduced enrollment rates, greater use of adjunct faculty and teaching assistants). Explain what steps will be taken to mitigate any such impacts. Also, discuss the potential positive impacts that the proposed program might have on related undergraduate programs (i.e., increased undergraduate research opportunities, improved quality of instruction associated with cutting-edge research, improved labs and library resources).**

The resources for this program will come from the budget for the original planning of the public health initiative at UF. No other programs will be negatively impacted.

There will be no negative impacts of the proposed program on related undergraduate programs. However, there will be positive aspects. It is expected that creation of the Biostatistics M.S. program will expand available research opportunities to undergraduates throughout campus for both independent study and honors thesis work. In addition, Biostatistics faculty members will bring their expertise to the classroom via opportunities for guest lecturing in the Bachelor of Health Science program, particularly in the research methods course, a core health science requirement, and the honors seminar. There will also be increased opportunity for undergraduates to attend seminars related to cutting-edge biostatistical research.

C. Describe other potential impacts on related programs or departments (e.g., increased need for general education or common prerequisite courses, or increased need for required or elective courses outside of the proposed major).

Biostatistics M.S. students will take some M.S. courses offered in the Statistics Department. This should have minimal impact on these courses during the first five years of the Biostatistics M.S. program, and PPHP and CLAS already collaborate on the Biostatistics Ph.D offered by PPHP. We anticipate that as the public health enterprise grows, some of these courses will have a section specific to the Biostatistics students.

The Master of Public Health (MPH) program will be enhanced by the ability to attract top-notch researchers who will teach specific MPH courses and will be attracted by the opportunity to supervise M.S. students.

Finally, this program will be an important feeder to the Ph.D. program in Biostatistic, which is a key component of accredited schools of public health.

D. Describe what steps have been taken to obtain information regarding resources (financial and in-kind) available outside the institution (businesses, industrial organizations, governmental entities, etc.). Describe the external resources that appear to be available to support the proposed program.

Current faculty have collaborative grants to support RA's in the program (Ph.D. students are often funded off biostatistical methodology grants). In addition, the PPHP Public Health Advisory Board is an important resource for project needs identification.

IV. Projected Benefit of the Program to the University, Local Community, and State

Use information from Table 1, Table 2, and the supporting narrative for "Need and Demand" to prepare a concise statement that describes the projected benefit to the university, local

community, and the state if the program is implemented. The projected benefits can be both quantitative and qualitative in nature, but there needs to be a clear distinction made between the two in the narrative.

As noted in The Seventh Report to the President and Congress on the Status of Health Personnel in the United States and Objectives for the Nation, the United States faces a critical shortage of biostatisticians with graduate training (see also Dixon and Legler, 2003 STATS). Positions are available in academia, in industry, and in government. Thus, this program will provide the state with individuals with the necessary expertise to help fill these positions. In addition, the demand for M.S. biostatisticians at UF and elsewhere will be lessened with this program. Students who aspire to a Ph.D. in Biostatistics need to obtain an M.S. beforehand. We expect many of the future applicants for graduate training in Biostatistics will be students with only a Bachelor's degree and will get an M.S. and Ph.D. in Biostatistics at UF in succession; this is a common occurrence in both biostatistics and statistics graduate programs (we see this in the graduate program in statistics at UF). The M.S. will help the Ph.D. program grow, which is an essential component for accredited schools of public health. And for students who only desire an M.S., median starting salaries are high (over \$60K) which is a major attraction to potential students. Because the infrastructure for the Ph.D. program is already in place, the M.S. program, which uses the same infrastructure, requires minimal investment compared to the gain anticipated.

V. Access and Articulation – Bachelor's Degrees Only

A. If the total number of credit hours to earn a degree exceeds 120, provide a justification for an exception to the policy of a 120 maximum and submit a request to the BOG for an exception along with notification of the program's approval. (See criteria in BOG Regulation 6C-8.014)

N/A.

B. List program prerequisites and provide assurance that they are the same as the approved common prerequisites for other such degree programs within the SUS (see Common Prerequisite Manual <http://www.facts.org>). The courses in the Common Prerequisite Counseling Manual are intended to be those that are required of both native and transfer students prior to entrance to the major program, not simply lower-level courses that are required prior to graduation. The common prerequisites and substitute courses are mandatory for all institution programs listed, and must be approved by the Articulation Coordinating Committee (ACC). This requirement includes those programs designated as "limited access."

If the proposed prerequisites they are not listed in the Manual, provide a rationale for a request for exception to the policy of common prerequisites. NOTE: Typically, all lower-division courses required for admission into the major will be considered prerequisites. The curriculum can require lower-division courses that are not prerequisites for admission into the major, as long as those courses are built into the curriculum for the upper-level 60 credit hours. If there are already common prerequisites for other degree programs with

the same proposed CIP, every effort must be made to utilize the previously approved prerequisites instead of recommending an additional “track” of prerequisites for that CIP. Additional tracks may not be approved by the ACC, thereby holding up the full approval of the degree program. Programs will not be entered into the State University System Inventory until any exceptions to the approved common prerequisites are approved by the ACC.

N/A.

- C. If the university intends to seek formal Limited Access status for the proposed program, provide a rationale that includes an analysis of diversity issues with respect to such a designation. Explain how the university will ensure that community college transfer students are not disadvantaged by the Limited Access status. NOTE: The policy and criteria for Limited Access are identified in BOG Regulation 6C-8.013. Submit the Limited Access Program Request form along with this document.

N/A.

- D. If the proposed program is an AS-to-BS capstone, ensure that it adheres to the guidelines approved by the Articulation Coordinating Committee for such programs, as set forth in Rule 6A-10.024 (see Statewide Articulation Manual <http://www.facts.org>). List the prerequisites, if any, including the specific AS degrees which may transfer into the program.

N/A.

INSTITUTIONAL READINESS

VI. Related Institutional Mission and Strength

- A. Describe how the goals of the proposed program relate to the institutional mission statement as contained in the SUS Strategic Plan and the University Strategic Plan.

The request to offer the M.S. in Biostatistics is consistent with the University’s goal to become a top university. Biostatistics, defined as the theory and techniques for describing, analyzing, and interpreting health data, is integral to strong research in the health sciences. Research projects are strengthened by establishing strong collaborative relationships between a subject-matter scientist and a biostatistician. When fully developed, these relationships not only advance the area of application, but also lead to new statistical methodology. Specifically, biostatistics is fundamental to research areas highlighted in the strategic plan, such as brain imaging, cancer research, evaluation of new technologies, remedying health problems associated with aging, assessment of environmental impacts on health, and health issues important to children and families. The College of Public Health and Health Professions has faculty with expertise and ongoing investigations in each of these areas, several of which are strongly associated with public health training, including biostatistics training at the master’s level.

We are in the final stages of the process for becoming an accredited college of public health through the Council on Education for Public Health, with a site visit having occurred in September 2008 and a final decision to be made in late spring 2009. The recently approved Ph.D. in biostatistics is a necessary component for accreditation. To help ensure the ultimate success of this Ph.D. program, the M.S. in Biostatistics can provide highly qualified students for the Ph.D. program. This is essential as most Ph.D. programs in Biostatistics accept students with a bachelor's degree and they obtain a master's degree along the way to the Ph.D. To compete for top students, we need a similar mechanism.

B. Describe how the proposed program specifically relates to existing institutional strengths, such as programs of emphasis, other academic programs, and/or institutes and centers.

The recent approval of the Ph.D. in Biostatistics has formed and brought together a critical mass of faculty with interests in biostatistical methodology, the core of which is the five Biostatistics faculty in the Department of Epidemiology and Biostatistics in PHHP. Following the same model we have used in our Ph.D. program in Biostatistics, the Biostatistics master's program has been designed in collaboration with the Colleges of Liberal Arts and Sciences and Agricultural and Life Sciences, and both colleges have faculty who have agreed to participate in the M.S. program. The College of Liberal Arts and Sciences has faculty with strong biostatistics interests from the Department of Statistics. Two of the Statistics faculty, Dr. Jim Hobert and Dr. Hani Doss, will be teaching in the core sequence (e.g. theory, possible electives). Similarly, the College of Agricultural and Life Sciences has statisticians, including Dr. Mary Christman, who will be active in the biostatistics master's program. The Program Director of Biostatistics, Dr. Mike Daniels, has a joint appointment between the Department of Epidemiology and Biostatistics in the College of Public Health and Health Professions and the Department of Statistics in the College of Liberal Arts and Sciences, which will further enhance collaboration between the units.

The master's program will also benefit from the presence of other disciplinary expertise within the College of Public Health and Health Professions that enriches biostatistics training. Epidemiology is an important component of biostatistics training and research. Dr. Nabih Asal (epidemiology) will teach the required epidemiology course for the master's program. The collaboration of methodologists will provide a learning environment that meets current expectations in biostatistics and public health training. We also expect contributions (e.g. research project availability) from faculty in the School of Health Professions in the College of Public Health and Health Professions, with whom many members of the biostatistics faculty currently collaborate. These individuals will be an important part of the practical consulting training of the master's degree. Similarly, we have corresponded with Dean Good and Dr. Betsy Shenkman in the College of Medicine, who has expressed interest in her department teaching electives, serving on committees, and offering additional opportunities for students to complete the consulting requirement. Based on all of the above noted collaborations, we believe students will benefit from multiple opportunities to gain theoretical and practical training in biostatistics.

C. Provide a narrative of the planning process leading up to submission of this proposal.

Include a chronology (table) of activities, listing both university personnel directly involved and external individuals who participated in planning. Provide a timetable of events necessary for the implementation of the proposed program.

Planning for this proposal started in November 2005. Dr. Linda Young, at that time Division Chief of Biostatistics, formed two committees: 1) the Structural Committee and 2) the Academic Committee. The charge of the Structural Committee, composed of Dr. Ramon Littell (now retired Professor and former Chair of Statistics), Dr. Hani Doss (Professor of Statistics), Dr. Yongsung Joo (Assistant Professor of Biostatistics), and Dr. Linda Young, was to determine the appropriate structure for the M.S. program, especially in terms of interaction with the Department of Statistics. This included establishment of the initial core of faculty members with graduate faculty status and administrative principles. The Academic Committee, composed of Dr. Mike Daniels (current Program Director of Biostatistics, Professor, and Interim Chair of Statistics), Dr. George Casella (Distinguished Professor of Statistics and former Chair), Dr. Babette Brumback (Associate Professor of Biostatistics), Dr. Mary Christman (Associate Professor of Statistics), and Dr. Linda Young, was to establish the academic requirements for the M.S. program, including course requirements, and complete new course development, as needed, for program implementation. The Academic Committee researched other Biostatistics M.S. programs to help set up the proposed curriculum. The recommendations of these two committees were combined and brought to the faculty of the Department of Statistics in March 2006. After appropriate modifications and approval by the faculty, these recommendations were sent to Dr. Robert Frank, Dean of the College of Public Health and Health Professions (PHHP) and Dr. Stephanie Hanson, Associate Dean of PHHP. After further discussion among Deans Frank, Hanson, and Professor Young, the proposed program was further revised. In August, 2006, Dr. Daniels took over leadership of proposal planning because of changing administrative roles by Dr. Young and Dr. Daniels. During 2007-2008, in order to solicit additional input for the M.S., Dr. Daniels contacted graduate coordinators of other Biostatistics M.S. programs, including ones at Brown University (Joe Hogan) and Johns Hopkins University (Dan Scharfstein) in addition to statistics and biostatistics faculty at UF prior to finalizing the curriculum. In particular, Drs. Daniels and Brumback met in Spring and Summer 2008 to further discuss and finalize the curricular components.

Proposed implementation timeline

Assuming the present proposal is approved by the Board of Trustees, the timetable for program implementation over the next year is as follows:

Fall 2008 to Spring, 2009

Acquire approval of new courses necessary for Year 1; assign teaching responsibility for Year 1; clarify administrative responsibilities for program components; participate in interviewing of candidates for Biostatistics faculty positions to support the PhD program (the hired faculty member will also contribute to the proposed MS program).

Fall 2009

Admit the first class of students

Planning Process

Date	Participants	Planning Activity
Nov. 2005	Dr. Linda Young	Form Structural and Academic Committee
Nov 2005-March 2006	Dr. Littell, Doss, Joo, Young	Determine appropriate structure for the MS program
Nov. 2005-March 2006	Dr. Daniels, Casella, Brumback, Christman, Young	Determine academic requirements
March 2006		Recommendations made by the two committees
March 2006-August 2006	Dean's office in PHHP	Plan was further revised
January 2007-March 2008	Dr. Daniels	Solicited input from other Biostatistics M.S. programs
March 2008-June 2008	Dr. Daniels and Brumback	Further revise the curriculum based on input from other programs
June 2008-September 2008	Dr. Daniels and Dean's office in PHHP	Contacts with other colleges regarding collaborations; final revisions to curriculum and proposal

Events Leading to Implementation

Date	Implementation Activity
Fall 2008 to Spring 2009	Acquire approval of new courses necessary for Year 1; assign teaching responsibility for Year 1; clarify administrative responsibilities; participate in interviewing Biostatistics faculty
Fall 2009	Admit first class of students

VII. Program Quality Indicators - Reviews and Accreditation

Identify program reviews, accreditation visits, or internal reviews for any university degree programs related to the proposed program, especially any within the same academic unit. List all recommendations and summarize the institution's progress in implementing the recommendations.

The Department of Epidemiology and Biostatistics was established in 2006. The faculty currently contribute to the Master of Public Health program and the Ph.D. degree in Biostatistics offered in PHHP, and, through this M.S. proposal, are seeking University approval for the establishment of a masters-level program. The M.S. program is a key component for the continued success of the Ph.D. program in Biostatistics as this program will provide a steady stream of qualified students for the Ph.D. program. The success of the Ph.D. program is key for accreditation of the College of Public Health and Health Professions by the Council on Education for Public Health (CEPH). The accreditation site visit occurred in September, 2008. A final decision will be made in late spring 2009.

Biostatistics is considered a core area of public health. The Council on Education for Public Health maintains the accreditation for Schools of Public Health. In 2003, the College of Health Professions changed its name to the College of Public Health and Health Professions and began the process to seek accreditation as a college of public health. A final decision on accreditation will be made in late Spring 2009.

VIII. Curriculum

- A. Describe the specific expected student learning outcomes associated with the proposed program. If a bachelor's degree program, include a web link to the Academic Learning Compact or include the document itself as an appendix.**

All graduates of the program will be expected to be able to:

- I. Provide biostatistical expertise via successful collaboration with investigators in new quantitative fields.
- II. Co-author collaborative papers for peer-reviewed subject matter journals.
- III. Compete successfully for biostatistical research and teaching positions in academic institutions, federal and state agencies, or private institutions.

- B. Describe the admission standards and graduation requirements for the program.**

The University of Florida Registrar's Office (Graduate Admissions and Pre-Admissions) will send applications for admission to the Biostatistics Graduate Coordinator. The Graduate Coordinator will chair the admissions committee that will review and rank all applicants. Final selections will be made by the admissions committee.

Candidates for admission to the program must have earned a bachelor's degree from an accredited university. In addition, all students are expected to meet the minimal admission requirements of the University of Florida's Graduate School which include (1) a baccalaureate degree from an accredited university or college, (2) a submission of GRE results, (3) a 3.0 junior-senior level grade point average, and (4) a completed application for Graduate School, including a letter of intent, official transcripts, completed application form, and three letters of recommendation. International students whose primary language is not English will have to demonstrate a minimum score of 550 on the paper-based, 213 on the computer-based, or 80 on the web-based version of the TOEFL (Test of English as a Foreign Language). Applicants will be expected to have taken the following coursework: Calculus III, a linear algebra course, and an introductory statistics course. Application deadlines will be February 15 (notification by May 15) for Fall applicants and June 15 (notification by September 15) for Spring acceptance.

After the completion of the set of methods and theory Biostatistics core courses (see curricular detail below) with an average grade of no lower than "B", usually at the end of the first year, the students will take the written comprehensive exam consisting of questions from the core courses. During their final semester they will take an exam in which they need to demonstrate mastery of the program.

- C. Describe the curricular framework for the proposed program, including number of credit hours and composition of required core courses, restricted electives, unrestricted electives, thesis requirements, and dissertation requirements. Identify the total numbers of semester credit hours for the degree.**

A minimum of 36 credits beyond the bachelor's degree is required for the master's degree. The credits are broken down as follows:

Component	# of credits
<u>Core Biostatistics courses</u>	18
<u>Core Public Health courses</u>	3
<u>Biostatistics/statistics electives</u>	12
<u>Consulting requirement</u>	3

Total **36**

The following six courses are required for all M.S. students and compose the biostatistics core of the program.

Course	Title	Hours
<u>PHC 6xxx</u>	Biostatistical Methods I	3
<u>PHC 6xxx</u>	Biostatistical Methods II	3
<u>STA 6326</u>	Introduction to Theoretical Statistics I	3
<u>STA 6327</u>	Introduction to Theoretical Statistics II	3
<u>STA 6177</u>	Survival Analysis and Clinical Trials	3
<u>PHC 6001</u>	Principles of Epidemiology in Public Health	3

In addition, each student must complete three credits from the Public Health Core, selected from the following:

Course	Title	Hours
<u>PHC 6102</u>	Introduction to Public Health Administrative Systems	3
<u>PHC 6313</u>	Environmental Health Concepts in Public Health	3
<u>PHC 6410</u>	Psychological, Behavioral, and Social Issues in Public Health	3

The courses Biostatistical Methods I and II and Survival Analysis and Clinical Trials make up the methods core of the program. These are courses which cover the essentials of statistical methods for different types of data common in health studies. The courses Introduction to Theoretical Statistics I and II form the theoretical part of the core and will provide students with the mathematical foundation necessary to use and understand biostatistical methods. The epidemiology course will provide students with an overview of epidemiology methods used in research studies that address disease patterns in community and clinic-based populations. It will include coverage of distribution and determinants of health-related states or events in specific

populations and application to control of health problems. Elective courses will provide broader coverage of specific public health areas relevant to the student's area of interest.

Students are also required to complete at least four additional biostatistics/statistics courses determined in conjunction with their supervisory committee. Special topics elective courses will be taught under the course number PHC 6937.

Consulting Requirement:

Students must acquire experience in the planning of experiments and establishing a collaborative interaction with an investigator. This requirement is fulfilled by registering for STA 6092 (3 credits).

The curriculum shares some components with the M.S. in Statistics (in particular, the theoretical core because the theoretical underpinnings of statistics and biostatistics are similar and therefore did not require new course development). However, there is different emphasis in the methodology courses, with the core courses covering methodology for categorical data in Biostatistical Methods II and survival data and clinical trials. In addition, there is a "subject matter" component in the M.S. in Biostatistics, consisting of the Public Health core courses as well as a consulting requirement. These are key components in training for Biostatistics, but are not requirements in the M.S. in Statistics.

D. Provide a sequenced course of study for all majors, concentrations, or areas of emphasis within the proposed program.

Semester I (Fall):

PHC 6xxx Biostatistical Methods I
STA 6326 Introduction to Theoretical Statistics I
PHC 6001 Principles of Epidemiology in Public Health

Semester II (Spring):

PHC 6xxx Biostatistical Methods II
STA 6327 Introduction to Theoretical Statistics II
Public Health Core (PHC 6102, 6313 or 6410)

Semester III (Fall)

STA 6177 Survival Analysis and Clinical Trials
Two Biostatistics electives or
One Biostatistics Electives and STA 6092

Semester IV (Spring)

Three Biostatistics electives or
Two Biostatistics Electives and STA 6092

E. Provide a one- or two-sentence description of each required or elective course.

PHC 6XXX: Biostatistical Methods I: This course covers linear models methodology including simple and multiple regression and anova of variance including factorial and block designs.

PHC 6XXX: Biostatistical Methods II: This course covers regression for categorical data, random effects models for correlated data, nonparametric and semiparametric regression.

PHC 6001: Principles of Epidemiology in Public Health: This course covers epidemiology methods used in research studies that address disease patterns in community and clinic-based populations. It includes distribution and determinants of health-related states or events in specific populations and application to control of health problems.

PHC 6102: Introduction to Public Health Administrative Systems: This course provides an overview of the public health system, including public health concepts and practice and health care delivery and financing. It focuses on understanding the organization and administration of health services, structure and functions of U.S. public health system, and health insurance.

PHC 6313: Environmental Health Concepts in Public Health: This course covers major topics in environmental health, including sources, routes, media, and health outcomes associated with biological, chemical, and physical agents in the environment. It also covers the effects of agents on disease, water quality, air quality, food safety, and land resources, and the current legal framework, policies, and practices intended to improve public health.

PHC 6406: Psychological, Behavioral, and Social Issues in Public Health: This course covers health behavior from an ecological perspective and considers primary, secondary and tertiary prevention across a variety of settings. It incorporates and compares behavioral science theory and methods regarding intervention and evaluation approaches.

STA 6092: Applied Statistical Practice: This course covers communication, management, organizational, computational, and statistical thinking skills necessary to consulting in statistics.

STA 6177 Survival Analysis and Clinical Trials: This course covers survival analysis, Kaplan-Meier estimates, proportional hazards model, related tests, phase I, II, and III clinical trials, designs and protocols.

STA 6326 Introduction to Theoretical Statistics I: This course covers theory of probability including probability spaces, continuous and discrete distributions, functions of random variables, multivariate distributions, expectation, conditional expectation, central limit theorem, useful convergence results, sampling distributions, distributions of order statistics, and empirical distribution function.

STA 6327 Introduction to Theoretical Statistics II: This course covers estimation and hypothesis testing. Sufficiency, information, estimation, maximum likelihood, confidence intervals, uniformly most powerful tests, likelihood ratio tests, sequential testing, univariate normal inference, decision theory, analysis of categorical data.

- F. For degree programs in the science and technology disciplines, discuss how industry-driven competencies were identified and incorporated into the curriculum and identify if any industry advisory council exists to provide input for curriculum development and student assessment.**
- G. For all programs, list the specialized accreditation agencies and learned societies that would be concerned with the proposed program. Will the university seek accreditation for the program if it is available? If not, why? Provide a brief timeline for seeking accreditation, if appropriate.**

Biostatistics is considered a core area of public health. The Council on Education for Public Health maintains the accreditation for Schools of Public Health. In 2003, the College of Health Professions changed its name to the College of Public Health and Health Professions and began the process to seek accreditation as a college of public health. An accreditation site visit occurred in September 2008 with a final decision made in late spring 2009.

- H. For doctoral programs, list the accreditation agencies and learned societies that would be concerned with corresponding bachelor's or master's programs associated with the proposed program. Are the programs accredited? If not, why?**

N/A.

- I. Briefly describe the anticipated delivery system for the proposed program (e.g., traditional delivery on main campus; traditional delivery at branch campuses or centers; or nontraditional delivery such as distance or distributed learning, self-paced instruction, or external degree programs). If the proposed delivery system will require specialized services or greater than normal financial support, include projected costs in Table 2. Provide a narrative describing the feasibility of delivering the proposed program through collaboration with other universities, both public and private. Cite specific queries made of other institutions with respect to shared courses, distance/distributed learning technologies, and joint-use facilities for research or internships.**

The program will be delivered in the traditional manner of graduate education: on-campus work and seminars. Being in a health science center and an academic environment is integral to proper training in Biostatistics, which involves a hands-on consulting requirement. Thus, it would not be appropriate to offer this program through a distance learning mechanism.

IX. Faculty Participation

- A. Use Table 4 to identify existing and anticipated ranked (not visiting or adjunct) faculty who will participate in the proposed program through Year 5. Include (a) faculty code associated with the source of funding for the position; (b) name; (c) highest degree held; (d) academic discipline or specialization; (e) contract status (tenure, tenure-earning, or multi-**

year annual [MYA]); (f) contract length in months; and (g) percent of annual effort that will be directed toward the proposed program (instruction, advising, supervising internships and practica, and supervising thesis or dissertation hours).

Please see Table 4.

- B. Use Table 2 to display the costs and associated funding resources for existing and anticipated ranked faculty (as identified in Table 2). Costs for visiting and adjunct faculty should be included in the category of Other Personnel Services (OPS). Provide a narrative summarizing projected costs and funding sources.**

Funding for the M.S. program (\$172,665 year 1; \$198,269 year 5) is based on funding already allocated to our college for development of our public health expansion. Therefore, existing resources will be used to support the M.S. program.

- C. Provide the number of master's theses and/or doctoral dissertations directed, and the number and type of professional publications for each existing faculty member (do not include information for visiting or adjunct faculty).**

The table below contains information on publications and dissertations supervised by the faculty members who will be involved in the program (see DCU Table One). The program faculty consists of the biostatistics faculty of the Department of Epidemiology and Biostatistics in the College of Public Health and Health Professions, along with specific faculty members from the College of Agricultural and Life Sciences and the College of Liberal Arts and Sciences and other Public Health disciplines.

Faculty	Master's theses	Ph.D. theses	Collaborative Publications	Theory & Methods Publications
Mike Daniels	0	4	14	38
Babette Brumback	1	1	6	15
Amy Cantrell	0	0	0	3
Xiaomin Lu	0	0	0	3
Ning Li	0	0	3	2
Mary Christman	7	2	22	14
Hani Doss	0	6	3	26
Jim Hobert	0	3	-*	31
Nabih Asal	10	11	57	-

* Indicates unable to differentiate into collaborative and methods publications.

D. Provide evidence that the academic unit(s) associated with this new degree have been productive in teaching, research, and service. Such evidence may include trends over time for average course load, FTE productivity, student HC in major or service courses, degrees granted, external funding attracted, as well as qualitative indicators of excellence.

The current tenure track faculty members within the Division of Biostatistics in the Department of Epidemiology and Biostatistics in PHHP have been quite productive. With respect to teaching and advising, the faculty members have taught on average about three courses per year and over the period from 2006-2008, served as the primary advisor on two Ph.D. (in Statistics) graduates and on the committees of many more Ph.D. students. Funding for biostatistical methodology and collaborative research was obtained from NIH and CDC. The faculty members have averaged about 2.5 publications per year. They have also served on the editorial boards of top biostatistical journals, including Biometrics and the Journal of the American Statistical Association.

The faculty members in the Department of Statistics in the College of Liberal Arts and Sciences involved in the program have also been very productive over the last three years (2006-2008). With respect to teaching and advising, the participating faculty members teach on average about 3 courses per year and over the period from 2006-2008, served as the primary advisor for 4 Ph.D. graduates. Over the same period, funding for development of new statistical methodology

has been received from NIH, NSF, and USDA and the faculty members have averaged about 3 publications per year. They have served as officers in national bio/statistical organizations, including the American Statistical Association (ASA) and the Eastern North American Region (ENAR) of the International Biometrics Society (IBS), and served on editorial boards of top statistics and biostatistics journals.

X. Non-Faculty Resources

- A. Describe library resources currently available to implement and/or sustain the proposed program through Year 5. Provide the total number of volumes and serials available in this discipline and related fields. List major journals that are available to the university's students. Include a signed statement from the Library Director that this subsection and subsection B have been reviewed and approved for all doctoral level proposals.**

The HSC library system already supports the Ph.D. in biostatistics, and these resources are sufficient to support the M.S. program, as well.

The University Library System, made up of 9 libraries, constitutes the largest information resource in the State of Florida. It contains more than 4,000,000 volumes, 1,000,000 government documents, 4,200,000 microforms, and 550,000 maps and images. In addition, the Libraries provide over 425,000 links to online resources, including e-books, databases, government documents, and full texts of journals. The Digital Library Center is developing the UF Digital Collections and contributes to the Publication of Archival, Library & Museum Materials (PALMM) initiative of the State University System. All of the libraries serve the university's faculty and students; however, each has a special mission to be the primary support of specific colleges and degree programs. Six are in the system known as the George A. Smathers Libraries of the University of Florida. The other two (Health Sciences and Legal Information) are attached to their respective administrative units.

The University of Florida Health Science Center (HSC) Library serves as a primary information center for the staff, faculty and students within the Health Science Center. The University of Florida Health Science Center has expanded into the most comprehensive academic health center in the Southeast. The HSC now encompasses six colleges (Dentistry, Medicine, Nursing, Pharmacy, Public Health & Health Professions, and Veterinary Medicine), a statewide network of affiliated hospitals and clinics, including Shands Hospital as the flagship teaching hospital, and the neighboring Veterans Affairs Medical Center of Gainesville.

The HSC Library is part of the National Network of Libraries of Medicine and has an extensive public computing area that provides access to MEDLINE, CINAHL, Web of Science (Science/Social Science Citation Indexes), Health Reference Center, AIDSLINE, TOXLINE, Dissertation Abstracts International, Journal Citation Reports, the Cochrane suite of Evidence-Based Medicine resources, and multiple additional databases available through Cambridge Scientific Abstracts, EbscoHost and WilsonOmniFiles. Remote library access is provided through a campus-wide fiber optic backbone, proxy and dialup services and a downloadable Virtual Private Network software package. Classes on database searching, catalog instruction and use of bibliographic software packages such as EndNote and RefWorks are taught each

semester for UF faculty, staff, and students. These classes can help to improve library and information searching skills. Some classes are taught through course-integrated instruction while others are offered for the whole UF community. Several private-study rooms can be reserved for group discussion or private work, as well as the primary student study area--available 24/7--called the "blue room."

The HSC Libraries' collection supports instruction and research for the six HSC colleges. The Collection Management department orders all formats of materials and evaluates the quality and use of the materials received. The HSC Libraries provide public access to electronic resources in the Informatics Lab, located on the second floor. There are approximately 89,660 books and 251,090 journal volumes. There are an estimated 110,000 total number of journal volumes and 30,000 books (monographs). The libraries currently hold about 500 books and 2000 journal volumes on statistics and biostatistics.

The University of Florida has an extensive library of reference materials relevant to the biostatistics program. There are more than 60 journal titles currently listed in the UF libraries covering both statistical and biostatistical training. The top seven titles are listed below.

- Biometrics*
- Biometrika*
- Biostatistics*
- Journal of the American Statistical Association*
- Journal of the Royal Statistical Society, Series B*
- Journal of the Royal Statistical Society, Series C*
- Statistics in Medicine*

B. Describe additional library resources that are needed to implement and/or sustain the program through Year 5. Include projected costs of additional library resources in Table 3.

None.

_____ See attached letter _____ 9/08/08 _____
Library Director Date

C. Describe classroom, teaching laboratory, research laboratory, office, and other types of space that are necessary and currently available to implement the proposed program through Year 5.

The Biostatistics Program benefits from Health Science Center educational resources available to the College of Public Health and Health Professions. The majority of classroom teaching will be scheduled in the HPNP Complex. The HPNP building is a state-of-the-art teaching facility that opened for student use in 2003. HPNP is equipped with classrooms and teaching labs ranging in size from 20 seats to 139 seats, plus a 500-seat auditorium and 76-seat distance learning lab. The smaller classrooms have moveable seats and are designed for discussion groups and teaching labs. All HPNP classrooms are equipped with a broad range of audio-visual

services, including a podium with an enclosed, networked PC, already attached to one or more ceiling mounted projectors. The current classroom space is sufficient for existing teaching. The faculty office and research space for the Biostatistics graduate program include 5 faculty offices for the Division of Biostatistics, 11 for the department as a whole, 4 research labs, 2 staff offices, 1 multipurpose room, and accessible conference rooms.

- D. Describe additional classroom, teaching laboratory, research laboratory, office, and other space needed to implement and/or maintain the proposed program through Year 5. Include any projected Instruction and Research (I&R) costs of additional space in Table 2. Do not include costs for new construction because that information should be provided in response to X (J) below.**

No additional facilities are anticipated for this program. The current infrastructure of the college provides adequate instructional support.

- E. Describe specialized equipment that is currently available to implement the proposed program through Year 5. Focus primarily on instructional and research requirements.**

All students at the University of Florida are required to have access to a computer with minimum specifications for coursework. This access will satisfy the equipment needs for the program outside of the classroom. Classrooms are fully equipped to meet most program needs during classroom-based coursework. Faculty members have access to a wide variety of teaching facilities to meet educational goals. As noted above, standard equipment in each classroom includes a podium and computer access to the web as well as PowerPoint presentations and PDF presentations. The College of Public Health and Health Professions provides staff who are capable of diagnosing and repairing common audiovisual problems on-site and have access to a cache of commonly used equipment (e.g. DVD players, VCRs, video recorders, etc) to address audiovisual needs not met by the equipment already in the classrooms.

- F. Describe additional specialized equipment that will be needed to implement and/or sustain the proposed program through Year 5. Include projected costs of additional equipment in Table 2.**

No additional equipment is anticipated for this program.

- G. Describe any additional special categories of resources needed to implement the program through Year 5 (access to proprietary research facilities, specialized services, extended travel, etc.). Include projected costs of special resources in Table 2.**

None

- H. Describe fellowships, scholarships, and graduate assistantships to be allocated to the proposed program through Year 5. Include the projected costs in Table 2.**

Anticipated primary sources of support include research assistantships from externally funded faculty collaborative research and teaching assistantships (specifically in the undergraduate BHS program and the MPH program).

- I. Describe currently available sites for internship and practicum experiences, if appropriate**

to the program. Describe plans to seek additional sites in Years 1 through 5.

N/A.

- J. If a new capital expenditure for instructional or research space is required, indicate where this item appears on the university's fixed capital outlay priority list. Table 2 includes only Instruction and Research (I&R) costs. If non-I&R costs, such as indirect costs affecting libraries and student services, are expected to increase as a result of the program, describe and estimate those expenses in narrative form below. It is expected that high enrollment programs in particular would necessitate increased costs in non-I&R activities.**

None

**TABLE 1-B
PROJECTED HEADCOUNT FROM POTENTIAL SOURCES
(Graduate Degree Program)**

Source of Students (Non-duplicated headcount in any given year)*	Year 1		Year 2		Year 3		Year 4		Year 5	
	HC	FTE	HC	FTE	HC	FTE	HC	FTE	HC	FTE
Individuals drawn from agencies/industries in your service area (e.g., older returning students)	0	0	0	0	0	0	0	0	0	0
Students who transfer from other graduate programs within the university**	0	0	0	0	0	0	0	0	0	0
Individuals who have recently graduated from preceding degree programs at this university	1	.75	1	.75	2	1.5	4	2.81	4	2.81
Individuals who graduated from preceding degree programs at other Florida public universities	1	.75	2	1.5	2	1.5	3	2.06	4	2.63
Individuals who graduated from preceding degree programs at non-public Florida institutions	0	0	0	0	1	.75	1	.75	1	.75
Additional in-state residents***	0	0	0	0	0	0	0	0	0	0
Additional out-of-state residents***	0	0	1	.75	2	1.5	3	2.25	6	4.31
Additional foreign residents***	0	0	0	0	0	0	1	.75	3	2.25
Other (Explain)***	0	0	0	0	0	0	0	0	0	0
Totals	2	1.5	4	3.0	7	5.25	12	8.62	18	12.75

* List projected yearly cumulative ENROLLMENTS instead of admissions

** If numbers appear in this category, they should go DOWN in later years.

*** Do not include individuals counted in any PRIOR category in a given COLUMN.

**TABLE 2
PROJECTED COSTS AND FUNDING SOURCES**

Instruction & Research Costs (non-cumulative)	Year 1						Year 5				
	Funding Source					Subtotal E&G and C&G	Funding Source				Subtotal E&G and C&G
	Reallocated Base* (E&G)	Enrollment Growth (E&G)	Other New Recurring (E&G)	New Non-Recurring (E&G)	Contracts & Grants (C&G)		Continuing Base** (E&G)	New Enrollment Growth (E&G)	Other*** (E&G)	Contracts & Grants (C&G)	
Faculty Salaries and Benefits	0	148,139	0	0	0	\$148,139	0	166,733	0	0	\$166,733
A & P Salaries and Benefits	0	0	0	0	0	\$0	0	0	0	0	\$0
USPS Salaries and Benefits	0	12,026	0	0	0	\$12,026	0	13,536	0	0	\$13,536
Other Personnel Services	0	0	0	0	0	\$0	0	0	0	0	\$0
Assistantships & Fellowships	0	0	0	0	0	\$0	0	0	0	0	\$0
Library	0	0	0	0	0	\$0	0	2,000	0	0	\$2,000
Expenses	0	12,500	0	0	0	\$12,500	0	16,000	0	0	\$16,000
Operating Capital Outlay	0	0	0	0	0	\$0	0	0	0	0	\$0
Special Categories	0	0	0	0	0	\$0	0	0	0	0	\$0
Total Costs	\$0	\$172,665	\$0	\$0	\$0	\$172,665	\$0	\$198,269	\$0	\$0	\$198,269

*Identify reallocation sources in Table 3.

**Includes recurring E&G funded costs ("reallocated base," "enrollment growth," and "other new recurring") from Years 1-4 that continue into Year 5.

***Identify if non-recurring.

Faculty and Staff Summary

Total Positions (person-years)	Year 1	Year 5
Faculty	1.02	1.02
A & P	0	0
USPS	0.25	0.25

Calculated Cost per Student FTE

	Year 1	Year 5
Total E&G Funding	\$172,665	\$198,269
Annual Student FTE	1.5	12.75
E&G Cost per FTE	\$115,110	\$15,551

**TABLE 4
ANTICIPATED FACULTY PARTICIPATION**

Faculty Code	Faculty Name or "New Hire" Highest Degree Held Academic Discipline or Speciality	Rank	Contract Status	Initial Date for Participation in Program	Mos. Contract Year 1	FTE Year 1	% Effort for Prg. Year 1	PY Year 1	Mos. Contract Year 5	FTE Year 5	% Effort for Prg. Year 5	PY Year 5
A	Mike Daniels, Ph.D. (Bio) - Statistics	Professor	Tenured	Fall 2009	12	1.00	0.25	0.25	12	1.00	0.25	0.25
A	Babette Brumback, Ph.D. Biostatistics	Ast. Prof	TT	Fall 2009	12	1.00	0.15	0.15	12	1.00	0.15	0.15
A	Xiaomin Lu, Ph.D. Biostatistics	Ast. Prof	TT	Fall 2009	12	1.00	0.15	0.15	12	1.00	0.15	0.15
A	Ning Li, Ph.D. Biostatistics	Ast. Prof	TT	Fall 2009	12	1.00	0.15	0.15	12	1.00	0.15	0.15
A	Amy Cantrell, Ph.D. Biostatistics	Lecturer	Non TT	Fall 2009	12	1.00	0.15	0.15	12	1.00	0.15	0.15
A	Jim Hobert, Ph.D. Statistics	Professor	Tenured	Fall 2009	9	0.75	0.05	0.04	9	0.75	0.05	0.04
A	Hani Doss, Ph.D. Statistics	Professor	Tenured	Fall 2009	9	0.75	0.05	0.04	9	0.75	0.05	0.04
A	Mary Christman, Ph.D. Statistics	Professor	Tenured	Fall 2009	9	0.75	0.05	0.04	9	0.75	0.05	0.04
A	Nabih Asal, Ph.D. Epidemiology	Professor	Tenured	Fall 2009	12	1.00	0.05	0.05	12	1.00	0.05	0.05
Total Person-Years (PY)								1.02				1.02

Faculty Code	Source of Funding	PY Workload by Budget Classification			
		Year 1	Year 5		
A	Existing faculty on a regular line	Current Education & General Revenue	1.02	1.02	
B	New faculty to be hired on a vacant line	Current Education & General Revenue	0.00	0.00	
C	New faculty to be hired on a new line	New Education & General Revenue	0.00	0.00	
D	Existing faculty hired on contracts/grants	Contracts/Grants	0.00	0.00	
E	New faculty to be hired on contracts/grants	Contracts/Grants	0.00	0.00	
Overall Totals for		Year 1	1.02	Year 5	1.02

Subject: RE: biostats
From: Betsy Shenkman <eas@ichp.ufl.edu>
Date: Thu, 18 Sep 2008 11:57:49 -0400
To: "HANSON, STEPHANIE L." <shanson@PHHP.UFL.EDU>
CC: "Perri, Michael G" <mperry@PHHP.UFL.EDU>, "Daniels,Michael Joseph" <daniels@PHHP.UFL.EDU>, "Good, Michael" <mgood@UFL.EDU>, "Muller,Keith E" <keith.muller@biostat.ufl.edu>, Sam Wu <samwu@biostat.ufl.edu>

Hi Stephanie,

Thank you for the follow up. We are interested in teaching electives and participating in committees for both the PhD in Biostat and the MS in Biostat Programs. I know we submitted electives for the PhD in Biostat quite awhile ago for consideration and are still working to get these approved through Dr. Daniels. But it has been quite some time in this process and we are hoping that we can work with Dr. Daniels more expeditiously to resolve any outstanding issues.

We of course would like to participate in the MS in Biostatistics Program as well. Keith Muller (our Division Director) and Sam Wu (our Biostatistics Educational Coordinator) are copied on this email so that they can follow up with Dr. Daniels on the MS in Biostatistics as well as the outstanding electives that have been under review for awhile for the PhD in Biostatistics. I know that the three of them met recently about the electives and I am hoping we can resolve this soon.

We have quite a few research projects that would be great for both levels of students (PhD and MS students) and we can develop a comprehensive list.

I think this is a great opportunity for collaboration that will be helpful for both faculty groups.

Thank you again,

Betsy

From: HANSON, STEPHANIE L. [mailto:shanson@PHHP.UFL.EDU]
Sent: Thursday, September 18, 2008 8:41 AM
To: Betsy Shenkman
Cc: Perri, Michael G; Daniels,Michael Joseph; Good, Michael
Subject: biostats

Hi Betsy, Dr. Perri indicated that he had spoken with Dr. Good about our biostatistics master's proposal and that Dr. Good expressed interest on behalf of your department in offering electives for this program. I think this will work very well. Dr. Daniels submitted the proposal to me, and as currently designed, the curriculum includes the following: 15 credits of core biostats courses (6 credits methods, 6 credits theory, and 3 credits survival analysis), 6 credits of core public health courses (epi plus either admin, enviro health, or psychosocial), 3 credits of a consulting/cognate area, and 12 credits of biostatistics/statistics electives. I think there will be many students who will be interested in the types of electives your department could offer. I also think there is an additional opportunity for collaboration. As part of the program, students take

STA 6092, which is the consulting requirement. For this course, students have to gain experience in planning an experiment and establishing a collaboration with an investigator. I definitely think some students would opt to complete their cognate requirement with your group if you have faculty you think would be interested in serving in this capacity. If you are interested in these aspects, please let me know and I can ask Dr. Daniels to add your college as a collaborator in the proposal for electives and/or the cognate component. I spoke with him yesterday about these changes and he is supportive as well. If you would like to proceed, what I would suggest is that after the proposal is approved, Dr. Daniels and you meet to discuss the opportunities in your college and create a communication mechanism for the students regarding these opportunities. Ultimately, I think it would be useful to develop a list of projects for the cognate area that students could review, discuss with the faculty involved, and make a selection. Although the electives would already be available in the graduate schedule of courses, I would also suggest we keep a list of active course electives that we can give the students as they make course selections and develop their plans of study with their supervisory committee. Dr. Daniels and you could meet periodically to update the project and elective list to ensure we are giving students up-to-date material. These latter points you and Dr. Daniels could work out as you two may have other ideas, but I think your involvement can definitely broaden the students' training. Please let me know what you think.
Stephanie

College of Liberal Arts & Sciences
Office of the Dean

2014 Turlington Hall
PO Box 117300
Gainesville, FL 32611-7300
352-392-0780
352-392-3584 Fax

30 September 2008

Michael Perri, Dean
P.O. Box 100185
College of Public Health and Health Professions
Campus

Dear Michael:

I am happy to provide this letter of support for the establishment of the MS program in biostatistics in the College of Public Health and Health Professions (PHHP). As indicated in the proposal, several of the faculty from the Department of Statistics in the College of Liberal Arts and Sciences have collaborated in program design and will continue to play an important role in student teaching and mentorship.

We look forward to strengthening our teaching and research collaboration with PHHP as this program moves forward.

Sincerely,



Paul D'Anieri
Dean

PD/eb

R. Kirby Barrick, Dean

December 5, 2008

Dr. Michael G. Perri, Interim Dean
College of Public Health and Health Professions
101 S. Newell Drive
PO Box 100185
Campus

Dear Mike:

Thank you for your informative letter regarding the proposed Master of Science in Biostatistics. The information you shared, coupled with further discussion with Dr. Linda Young, has provided adequate reason for me to offer that the College of Agricultural and Life Sciences does not object to the proposal and proposed name of the degree.

Best wishes in your quest for approval.

Yours truly,



R. Kirby Barrick
Dean

cc: Linda J. Young
Mark W. Rieger
R. Elaine Turner