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Board of Regents Academic & Student Affairs Committee Agenda

**Wednesday, September 24, 2003
Meeting at 9:30 a.m.
Claiborne Building
The Louisiana Purchase Room
1201 North Third St., First Floor
Baton Rouge, Louisiana**

AGENDA ITEM IV A

PROGRESS REPORT ON CONDITIONALLY APPROVED PROGRAM

NICHOLLS STATE UNIVERSITY

M.S. IN MARINE AND ENVIRONMENTAL BIOLOGY

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M.S. IN MARINE AND ENVIRONMENTAL BIOLOGY

BACKGROUND INFORMATION

At its meeting on February 28, 2002, the Board of Regents took the following action:

Conditional approval is granted for the proposed M.S. in Marine and Environmental Biology (CIP Code 26.0607) at Nicholls State University, effective in the Fall semester of 2002. By August 1, 2003, the University shall submit to the Commissioner of Higher Education a report updating progress toward resolving weaknesses and problematic areas which external consultants identified. In addition, this report shall provide substantive evidence that resources of the Louisiana Universities Marine Consortium are being fully utilized to effect maximum program development and growth.

STAFF SUMMARY

The unresolved concerns of the External Review Committee (ERC) and staff can be divided into five broad categories: faculty teaching loads, curricular issues, graduate program policies and procedures, program support, and formal arrangements with Louisiana Universities Marine Consortium (LUMCON).

Faculty Teaching Load

Need to reduce existing faculty teaching load:

Three tenure track faculty have been added to the program since the proposal was written and evaluated. One of these positions was vacant due to a resignation, one to a retirement and one had been requested for the new program. As suggested by the ERC report, Nicholls has added three M.S. and one B.S. instructors, as well as part time lecturers to reduce the burden on four graduate faculty members to six contact hours.

Additionally, the provision of eight funded Graduate Teaching Assistantships (GTA) at \$8,000 each plus tuition waiver by year two of the program has provided support for the very large service biology laboratories and biology majors' freshman laboratories. GTAs must have a minimum of 18 graduate credit hours in the field before they can teach a course.

Need for more faculty:

A request for another M.S. instructor will be made for Spring 2004 and another for Fall, 2004 to release research faculty from the very large departmental service load in nursing anatomy and physiology laboratories. A new research professor position will also be requested for the Fall, 2004 if more than 25 graduate students (the maximum number that the current departmental graduate research faculty can support) is exceeded. The department has also hired M.S. and Ph. D. credentialed industry professionals as part time lecturers (PTL) to team-teach a recommended graduate course with one of the new faculty members. The program will seek approval for other qualified PTL to teach freshmen lectures and laboratories and other biology laboratories to free graduate faculty for graduate courses.

Additionally, as a component of Nicholls' participation in a National Institute of Health (NIH) COBRE project, the department will receive the services of a full-time resident Ph. D. who will teach, conduct research, and mentor students within the program. The salary for this four year appointment will be provided completely by the NIH.

As the program grows, the University will address the need for additional M.S. instructors and /or Assistant Professors.

Curricular Issues

Several revisions in the curriculum were recommended by the ERC so that the program leads to a broad well-integrated knowledge of the discipline. Six new courses have been developed, with a seventh in progress. Four of the new courses have been or are currently being offered. Three more are projected for 2004. Syllabi for all new or revised courses were provided. The amount of time spent by graduate students in the program on directed research was clarified. The exact terms and conditions of internships were formalized. The "internship performance assessment" protocol was included in the Progress Report.

Graduate Program Policies and Procedures

The ERC indicated in their report that several requirements were appropriate for assuring

a program of high quality. Nicholls addressed all issues satisfactorily. Policies were established and procedures developed. Copies of assessment forms, thesis instructions, guidelines for oral comprehensive examination and other documents were included in appendices of the Progress Report.

Program Support

Need for resources for implementation of the program:

The NSU administration has committed to offering start-up packages for new faculty members. The University has provided some equipment for new faculty. The three replacement faculty members have each received new research level computers (\$1,800 each) and will receive approximately \$12,500 of start-up equipment and supplies and newly renovated research laboratories dedicated to their research programs. Three existing graduate faculty also received new research quality computers, at the expense of \$5,400. A great deal of the originally budgeted research items in the M.S. proposal has been purchased with grants from BOR LEQSF and the National Science Foundation (NSF). Some of this equipment constituted a portion of two start-up packages.

Since the inception of the program, the University has approved a total of \$269,178 funding for remodeling and funding of new space for laboratories and offices in Gouaux Hall. This renovation will be completed in three phases. Phase I renovations included converting Room 206 into a wet lab to support both the Department of Nursing's specific degree requirements and some of the undergraduate biology program's teaching laboratory requirements as well as converting Room 210 into an environmental biotechnology research lab. Phase I has been completed. The wet lab now contains two enclosed climate controlled chambers and an exterior cistern for collection of rainwater for the fish tanks. The facility is shared by several faculty for maintenance of aquatic animals, including oysters, fiddler crabs, fish, amphibians, sea urchins, large garfish broodstock and larval fishes.

Completion of Phase II in 2003 will provide additional aquaculture and wet lab facilities in Room 303 as well as refurbishing Room 302 into two laboratories, one for environmental toxicology and one for molecular biology instrumentation.

Phase III of the renovations, expected to begin in the spring of 2004, will include renovations of office space from Engineering Technology to house about 20 graduate students.

In the 2002 academic year, the University supported the program with \$33,000 for the construction of a 24-ft aluminum research vessel, the *RV Miss Dee*, equipped with a 200hp Yamaha outboard engine, together with \$9,000 for the purchase of site licenses for the GIS software and nine GPS units for teaching and research. The vessel and electronic

equipment are in use and actively support the research of several faculty.

Need for ongoing support of the program:

The department will continue to submit equipment grants to the Nicholls Information Technology Support Fund and the Board of Regents Support Fund. Departmental faculty received five LEQSF awards in the spring, 2003 totaling \$236,000. The faculty will continue to seek federal monies awarded for proposals to the National Science Foundation, etc.

An endowed professorship established by Mr. and Mrs. Jerry Ledet will be awarded to a Biology graduate research faculty member in the fall of 2003. The Louisiana Shrimp Association has also established an endowed professorship in Marine Biology; it is anticipated that this professorship will be awarded by the fall of 2004. Members of the industry and agency partnerships have expressed the possibility that they would support graduate assistantships.

In the spring of 2003, the department received a donation of over \$50,000 in chromatographic and spectrophotometric surplus equipment from Bassell Chemical of Norco, LA.

Need for additional secretarial support:

The University has not yet provided additional secretarial support for the M.S. program. However, the additional burden of the graduate program is not yet insurmountable; the University is committed to addressing this issue as the graduate program grows in subsequent years.

Formal Arrangements with LUMCON

The University previously granted adjunct status to all LUMCON faculty, which facilitates not only scholarly interactions between NSU and LUMCON and sharing of facilities, but enables LUMCON faculty to serve as mentors to University graduate students.

Undergraduate students in the Marine Biology concentration are required to take one of the LUMCON summer session courses for their degree. Many of the undergraduate courses require field trips that utilize the LUMCON facilities. One departmental faculty member teaches two courses at LUMCON each summer, while another does his research there weekly. Graduate students in Marine and Environmental Biology (MEB) are required to take at least one graduate course at LUMCON during intersession or in the regular summer session. The new course *Wetlands Plant Biology* was offered at LUMCON during the 2003 summer intersession. All full time MEB graduate students

took the course. As mentioned above, LUMCON faculty Chris Finelli is developing an additional new course for the MEB program which will be taught at LUMCON.

Graduate students are required to attend a fall weekend retreat at LUMCON with field excursions into the marsh and estuary and individual short presentations by University graduate faculty and LUMCON faculty on their research. This retreat was organized to introduce new graduate students to the marine and estuarine environment, to LUMCON's facilities, to the graduate faculty's research projects and interests, and to existing graduate students.

NSU has sponsored further collaborative activities with LUMCON faculty at the forefront of education reform. Dr. Ferrara is participating in Centers for Ocean Science Education Excellence (COSEE), a long term federally funded program to mentor K-12 teachers which is coordinated by Dr. Jessie Kastler at LUMCON. Department faculty collaborated with LUMCON in the Faculty Institutes Reforming Science Teaching (FIRST) program, sponsored by the National Science Foundation and coordinated through and conducted at LUMCON.

The M.S. program graduate students undertook several service roles through and on behalf of LUMCON. Students visited the LUMCON laboratories at Port Fouchon, LA on three occasions in 2002-03 to undertake community projects. Students also worked with LUMCON faculty support staff at the LUMCON Open House.

STAFF ANALYSIS

The staff observes that Nicholls State University has addressed most previously unresolved issues and concerns. Implementation of the M.S. program in Marine and Environmental Biology is a significant undertaking for the Department of Biological Sciences as well as the University and tremendous accomplishments have been made prior to and during the first year of this program. Indeed, the number of graduate students enrolled in the program has exceeded projections. A full complement of students may be present by the fall of 2004, two full years ahead of schedule. The Department has determined that the maximum number of students that can be accommodated by the twelve graduate faculty is 25.

Concerns that remain:

1. There is a need for further reduction of faculty teaching load. Presently, only 4 of the 12 graduate faculty have 6 or fewer contact hours. Additional instructors, graduate teaching assistants, part time lecturers or tenure track faculty are needed to resolve this issue. Graduate faculty will have the additional demands of research/thesis advising, oral examination development and assessment as the program becomes more established.

2. The eight GTA funded at \$8,000 each plus tuition waiver (\$86,400 annually) will support less than half of the complement of graduate students anticipated for this program and at significantly lower levels than are needed to compete for top students from across the nation. The staff notes that presently there is no external support for graduate students. It would be advisable for faculty to include graduate student support in future grant proposals so that graduate students could rotate from teaching assistantships onto grant-supported research assistantships. This would maximize learning experiences, allow for more students to be supported financially, as well as reduce the amount of time needed to complete the supervised research project to satisfy degree requirements. As the program develops, a Board of Regents Graduate Fellowship could be sought to attract and support truly outstanding candidate.

3. Additional clerical support is essential. As the first group of students complete requirements for degree and graduation, proper submission of theses and forms may become a burden on existing support staff. As the number of students increases, “paperwork” will increase accordingly. It would also be helpful, especially to new faculty establishing their research programs and seeking funding, if clerical assistance was available.

STAFF RECOMMENDATION

The staff recommends that the Academic and Student Affairs Committee receive the AY 20022003 Progress Report from Nicholls State University Relative to the Implementation of the M.S. program in Marine and Environmental Biology. The next progress report shall be due October 1, 2004.