Attachment to Resolution #14-09/10-EX

HUMBOLDT STATE UNIVERSITY

M E M O R A N D U M

Date: December 8, 2009

To: Academic Senate Executive Committee

From: Integrated Curriculum Committee

Re: Proposed Restructuring of Biometry Minor Program

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The Program Prioritization process resulted in a number of programs being placed in Category I, Enhance, and Category IV, Restructure or Eliminate. On 23 March 2009 Interim Provost Snyder released his recommendations regarding the future of all of the programs in Category IV and some of those in Category I. These programs were requested by the temporary Academic Planning Committee (APC) to submit a Report responding to the prioritization categorization and the Provost's recommendations to the newly formed Integrated Curriculum Committee (ICC) by 14 Sept. 2009.

This fall, the ICC assumed responsibility for completing the Post-prioritization process. The committee followed the process outlined by last year's ad hoc APC (links to pertinent documents can be found at the end of this memo). The ICC's Academic Master Planning Subcommittee (AMP) was assigned to complete an in-depth review of the program proposals and responses, and make a recommendation to the ICC for programs in Prioritization Category 4 using a university-wide perspective. To accomplish this, the AMP reviewed the recommendations of the prioritization task force, deans, and the provost, program responses to the prioritization report, program proposals requested by the APC and all pertinent documents submitted, and met with a program representative to discuss the proposals and recommendations. The AMP recommendation was then developed and referred to the ICC for discussion.

The AMP/ICC used the following guidelines when formulating the recommendation provided below.

- Begin with the Prioritization Task Force recommendation as the starting point.
- Review Prioritization criteria: alignment with HSU mission and vision, program quality, cost effectiveness, and program demand
- Determine whether the program response provides a compelling case for overriding the recommendations of Prioritization Task Force, Deans, and Provost.
- Consider the ramifications for other programs of overriding Category 4 recommendations, given the original goal of prioritization to change the campus program mix, combined with the current budget crisis and the need to reduce Academic Affairs' base budget.

In placing the Biometry program in Category IV, the Program Prioritization Task Force noted a "Need to re-evaluate minor requirements given low enrollments in some courses. Review in broader context of statistics courses university-wide." They also noted that "Elimination of the minor would not result in cost savings." In their response, the Department agreed that a restructuring of the minor might increase student demand. The Dean's and Provost's recommendations also supported reorganization of the minor, although the Provost also emphasized the need for appropriate benchmarks for judging the success of any such reorganization.

As directed in a memo sent from the Academic Planning Committee on April 29, 2009, a planning report for restructuring the major was submitted to the ICC on Sept 8, 2009, by a Biometry committee headed by Rob Van Kirk, and followed by a more formal proposal on Sept. 29. After reviewing the proposal, the AMP subcommittee of the ICC asked for some clarification of certain points, and a revised proposal along with a letter with these clarifications was submitted on Oct. 23.

In their proposal, the Biometry faculty suggested renaming the minor "Applied Statistics" and reclassifying all of the BIOM courses as STAT courses. To broaden the appeal of the minor to students outside of the sciences, they incorporate several courses from Business and Psychology as options within the minor. In the accompanying response to the ICC, they state a goal of meeting the following benchmarks:

- Graduate 5 students per year with a minor in Applied Statistics.
- Attain this rate of graduation within 3 years.

They proposed to assess the status of the restructured minor in the fall of 2013, in its fourth year of existence. At a minimum, this assessment will include reporting the number of students currently enrolled in the minor, the number who graduated with the minor, the majors of those students, and the particular courses those students took to satisfy the requirements of the minor.

After due consideration of the proposed restructuring, the AMP felt that the Biometry faculty had done an excellent job addressing the concerns of the Prioritization Task Force, and the questions raised in the AMP discussions, and recommended to the ICC that the proposed restructuring and renaming of the "Biometry" minor as "Applied Statistics" be approved, with a status assessment of the program to be carried out in fall of 2013.

As part of their proposal, the Biometry program submitted a number of curriculum and program change forms to the ICC. Some of these were directly related to the revision of the minor while some reflect general housekeeping (getting rid of courses that are no longer taught, etc.). After considerable discussion, the AMP recommended approval of the modified package of changes put forward by the program. The ICC concurs with the AMP conclusions and recommends that the Senate approve all the changes related to the Biometry minor becoming Applied Statistics.

The specific recommended changes are the following (with the proposal number included):

09-169: Summary of the Proposed changes to the minor. Change the name from "Biometry" to "Applied Statistics." Renumber and rename and update catalog descriptions of five existing courses (with no change in broad learning outcomes). Create "piggyback" Grad/Undergrad versions of two existing Grad courses (and renumber and rename). Reduce the calculus requirement for the minor, add more statistics courses from other departments to the list of options for the minor. Delete special topics and directed study courses in Biometry.

09-170 BIOM 109: Introductory Biometrics – change to "STAT 109: Introductory Biostatistics"

09-171: STAT 323: Probability and Statistics I - title change to "Probability and Statistics" (because no Prob and Stats II exists).

09-172: BIOM/STAT 333: Intermediate Statistics – change to "STAT 333: Linear Regression/ANOVA Models," new course description offering more information about course content than old description, no change in broad learning outcomes

09-173: STAT 404: Multivariate Statistics – New undergraduate piggyback version of STAT 504 (see 09-174)

09-174: BIOM 508: Multivariate Biometry – change to "STAT 504: Multivariate Statistics," new course description to reflect the fact that this will become a piggyback grad/undergrad course.

09-175: BIOM 406: Introduction to Sampling Theory – change to "STAT 406: Sampling Design and Analysis," clarified course description, no change in broad learning outcomes

09-176: BIOM 506: Introduction to Sampling Theory – change to "STAT 506: Sampling Design and Analysis"

09-177: BIOM 408: Experimental Design and ANOVA – change to "STAT 409: Experimental Design and Analysis" (see piggyback grad version in 09-178)

09-178: BIOM 608: Experimental Design and ANOVA – change to "stat 509: Experimental Design and Analysis," course description change to reflect piggyback with STAT 409 (see 09-177)

09-179: STAT 410: Modern Statistical Modeling - New undergraduate piggyback version of STAT 510 (see 09-180)

09-180: BIOM 510: Model Selection and Inference – change to "STAT 510: Modern Statistical Modeling," new course description to reflect the fact that this will become a piggyback grad/undergrad course. (See 09-179)

09-181: SCI 530: Environmental Systems Date Collection and Analysis – change to "STAT 630: Date Collection and Analysis," clarified course description, number change makes this a grad-only course. (This course in not part of the minor.)

09-182: BIOM 199: Supplemental Instruction in Applied Statistics – delete the course. It is no longer taught.

09-183: BIOM 480: Special Topics in Biometrics – delete the course. There is already a STAT version of the course.

09-184: BIOM 499: Directed Study – delete the course. There is already a STAT version of the course.

09-185: BIOM 580: Special Topics in Biometrics – delete the course. There is already a STAT version of the course.

Links to relevant documents:

Prioritization Process Site
http://www.humboldt.edu/~aavp/Prioritization.html

Biometrics Program Change Proposal - ICC Sharepoint Site
https://its-sharepoint.humboldt.edu/sites/dold/icc/Shared%20Documents/40_Subcommittee%20-Under%20Examination/40.3_AMP%20Subcommittee%20-%20Under%20Examination/09-169%20Biometry_Program_chg.pdf

Biometry Response to ICC questions – ICC Sharepoint Site
https://its-sharepoint.humboldt.edu/sites/dold/icc/Shared%20Documents/Forms/AllItems.aspx?RootFolder=%2fsites%2fdold%2ficc%2fShared%20Documents%2fGeneral%20Resources%2fPost%20Prioritization%20Reports%2fPR%2d003%20BIOM%20Documents&FolderCTID=&View=%7b26B6770D%2d06F3%2d4469%2d9473%2dF70C87A38D97%7d

Appendix: The relevant sections of the Prioritization Report, Program Response, and Dean's and Provost's recommendations (cut and pasted from the documents referenced above):

Prioritization Report:

Biometrics. 4
Need to re-evaluate minor requirements given low enrollments in some courses. Review in broader context of statistics courses university-wide. Elimination of minor would not result in cost savings.

Program Response:

BIOMETRY The participating faculty in the Biometry program (Rizzardi, Kim, Van Kirk, Hankin, George, and Crawford) agree with the Academic Prioritization Task Force's recommendation to rethink and restructure the minor program in Biometry. While the *courses* offered under the BIOM prefix are seeing increased demand from undergraduate and graduate students in the biological and natural resource sciences, the minor *program* has seen little or no demand from these same students. Many more students in the CNRS are studying statistics beyond the elementary level, yet very few appear to be pursuing a comprehensive program of study in statistics. We believe a more strategic offering of courses will encourage a greater number of students to engage in a comprehensive study of statistics. The consequence of such offerings will increase HSU's graduation of biological and natural resource scientists who possess a strong quantitative preparation that is both desirable and marketable. The Biometry faculty will take this opportunity to discuss broadly the state of statistics education at HSU and generate options for programs that are responsive to student needs. We propose by the end of the fall 2009 term to disseminate and discuss a reformulation of the Biometry program. We believe that we can do so within current fiscal constraints.

Dean's Recommendations:

Biometrics- This minor consists of courses offered by a number of departments that will continue to be needed. The biometry program is well articulated with many other programs in the college. Because faculty from fisheries, forestry, wildlife and oceanography frequently

participate in the teaching of the biometry program, the SFRs in those programs are sometimes depressed because the FTES goes to mathematics. Some students will continue to seek the minor for employment advantages. The committee responsible for this program is already meeting to redesign the experience. **I recommend we wait to see what emerges from the reorganization effort.**

Provost's Recommendations:

Biometrics: I recommend that faculty teaching in this program work with the Dean to develop a plan to restructure this program. The plan needs to include benchmarks, with a timeline and numbers of students, for judging success in the program. Once that plan is developed, it should go to the APC for evaluation and recommendation. This plan should be developed by the end of the semester.