

**Memorandum of Understanding  
Second Revision  
2004 Program Review of Mathematics Department  
College of Arts and Sciences  
November 15, 2005**

Members of the Mathematics Faculty met with the Division Director of Natural Sciences, the Dean of the College of Arts and Sciences, and the Vice Chancellor for Academic Affairs on September 26, 2005, to continue dialogue regarding the Mathematics Department program review of November, 2002. Upon completion of the meeting and receipt of the revised Memorandum of Understanding, the Mathematics Department Chair requested four revisions be made to the Memorandum of Understanding. This second revision is based on the following: the request by the Math Chair dated September 30, 2005; the Revised Memorandum of Understanding of September 26, 2005; the Memorandum of Understanding of November 18, 2004; the report by the Mathematics Department (on file); the report by the external reviewer (on file); and recommendations from the UH Hilo Faculty Congress Assessment Support Committee (on file). Summary Points and a Plan of Action follow.

**SUMMARY POINTS**

- There is an immediate need to fill one more tenure-track position because of a failed search from the 2003-2004 academic year.
- The Math Tutoring Lab continues to fulfill a crucial role in the success of students in mathematics classes, whether students are majors or are taking math as a service class.
- Mathematics course enrollment has grown as the need for service courses from other majors has grown.
- Funding for the mathematics program for the past few years has come almost solely from the General Fund and other departments' funded grants. This funding has proved to be inadequate to support the program that faculty and students desire.
- The Math Tutoring Lab has become more expensive to operate as it has experienced an increase in student use, thus requiring more tutors, and an increase in student wages paid to tutors--both positive features--yet costly ones.
- The department has made some progress on the measurement of learning objectives and student outcomes, and this effort continues to be in the development stage.
- The department has responded to university-wide concern for remediation of mathematics skills of incoming students by recreating Math 103 and assigning tutorial support to the course.
- The department has responded to some of the needs of future mathematics public school teachers by developing a math track built around current National Council of Teachers of Mathematics standards for secondary education.

## **PLAN OF ACTION FOR THE MATHEMATICS DEPARTMENT**

1. Work with the Dean of the College of Arts and Sciences and appropriate personnel to fill as soon as possible a tenure-track position left vacant after a failed search in 2003-2004.
2. Work with administration to plan for a mathematics-dedicated classroom that will hold comfortably 40 students and will be a “smart” classroom with appropriate technology for instructional purposes.
3. The College and the University will commit to prioritizing the needs of the Math Lab at the same time that the Mathematics Department will commit to investigating a variety of ways to offer tutoring services (e.g. internships for math majors, mastery learning models, chat rooms, peer tutors). It is essential that these services show evidence of instructional and cost effectiveness and of producing desired learning outcomes for students.
4. Continue to cooperate with various university programs and units on future grant opportunities.
5. Concentrate on development of a viable plan to measure the learning outcomes of mathematics students. This plan should address the question, “What evidence do we have that the department contributes to the improvement of math proficiency in both prepared and under-prepared students?” This development should include *both internal and external* measures of success, like the ones currently utilized, such as Hawaii Praxis exam scores of UHH elementary education students and secondary mathematics students and other external, standardized exams.
6. Continue to work with the university-wide campus to address the needs of mathematics remediation for incoming students.
7. Develop a plan that involves the mathematics faculty in recruiting and attracting more students to become mathematics majors. This plan might include, but not be limited to, more visibility in the public schools as the department indicated in its review.
8. Continue past practices of the department and develop new ways to encourage a math “ohana” for students and faculty alike.
9. Continue conversation with the College of Business and Economics to resolve issues surrounding Math 115 to the satisfaction of all parties.

**SIGNATURES**

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Mitchell Anderson, Chair and Associate Professor Date

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Raina Ivanova, Associate Professor Date

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Shuguang Li, Associate Professor Date

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Olga Cordero-Brana, Assistant Professor Date

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Ramon M. Figueroa, Assistant Professor Date

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Robert Garry, Instructor Date

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Nadine Wolff, Instructor Date

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Don E. Hemmes, Director, Division of Natural Sciences, Professor Date

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Randy Hirokawa, Dean, College of Arts and Sciences, Professor Date

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Stephen Hora, Interim Vice Chancellor for Academic Affairs, Professor Date