

Memorandum of Understanding
2004 Program Review of Chemistry Department
College of Arts and Sciences
December 16, 2004

Members of the Chemistry faculty, the Division Director of Natural Sciences, and the Interim Dean of the College of Arts and Sciences met with the Vice Chancellor for Academic Affairs on December 16, 2004, to review and discuss issues resulting from the Chemistry Department program review of Fall, 2002. The report by the Chemistry Department (on file), the report by the external reviewer (on file), and recommendations from the UH Hilo Faculty Congress Assessment Support Committee (on file) were the basis for the discussion. The group agreed upon the summary points and action plan that follow:

SUMMARY POINTS

- The number of students in service courses offered by the department is increasing rapidly due largely in part to increases in natural science majors, especially marine science and biology. This number is creating some challenging teaching and research loads for current chemistry faculty.
- Low student enrollment in the chemistry major is an important concern of the department.
- Problems with the amount and quality of basic laboratory equipment continue to plague the department.
- Curriculum revisions must be revisited in order to reflect both a better path toward graduate school for majors and current issues that attract research dollars, needs of the state, and student interest.
- Funding and specialized equipment for the chemistry program in the past two years has improved through faculty's acquisition of grant monies.
- Assessment of student learning needs to rise to a level where it can guide department decision-making.
- Recruitment of highly qualified faculty in chemistry is difficult.
- The department has developed good energy through self-evaluation and commitment to quality education.

PLAN OF ACTION FOR THE CHEMISTRY DEPARTMENT

1. Work with appropriate personnel to fill a faculty position in chemistry when the provisionally approved College of Pharmacy is in the recruitment phase.
2. Develop some options to recruit highly-qualified students to become chemistry majors, including, but not limited to, closer ties to the K-12 school systems via individual contacts and the College of Continuing Education and Community Service.

3. Continue to work with the Director of the Division of Natural Sciences via appropriate channels to help resolve issues regarding needs for basic chemistry laboratory equipment.
4. Revise the curriculum for chemistry majors to include a capstone course, a revision that will allow the department to offer one B.S. degree to replace one of its two B.A. degrees. This B.S. degree should serve chemistry majors better in regard to qualifying them for graduate studies.
5. Shift the focus of the B.A. degree in chemistry to a greater thrust in the study of natural products and the environment. This thrust will take advantage of current research potential, student interest, and the needs of the state of Hawaii.
6. Continue to increase funding for the department by exploring potentially lucrative grant opportunities where UHH can be competitive, i.e. grants that target institutions with high numbers of students who (a) are first generation students, (b) have family income that falls below 150% of federal poverty guidelines, and (c) are underrepresented as a population.
7. Concentrate on development of a viable assessment plan to measure the learning outcomes of chemistry students. This plan should address the question, "What evidence do we have that the department contributes to the improvement of chemistry and science proficiency in both chemistry majors and students from other majors?" This development should include *both internal and external* measures of success, with the data driving departmental decisions.
8. Use the interests of faculty to involve highly-qualified students in faculty research. This strategy has the potential to recruit more students to the chemistry major as well as to offer positive learning experiences for all students.
9. Increase the supervision of laboratory courses taught by lecturers in order to guarantee appropriate expertise in the oversight of health and safety concerns.
10. Rely on UH Manoa and other better-funded entities for the use of highly-specialized technical equipment that is costly to purchase and equally costly to maintain until the department reaches a point where it is financially feasible to do otherwise.
11. Consider strategies to become more cost-effective, including investigating the use of laboratory fees to alleviate the high cost of chemistry laboratories.
12. With other departments in Natural Sciences, develop a consistent set of course offerings over a two-four-year cycle that students can depend on.
13. Build on the momentum and energy brought by new faculty and continuing faculty over the past two years to market a re-energized department and to continue the good work already begun in self-reflection and evaluation.

SIGNATURES

Earnest B. Kho, Chair and Associate Professor, Chemistry Date

Jene-Pierre Michaud, Assistant Professor, Chemistry Date

Charles Simmons, Associate Professor, Chemistry Date

Debra A. Weeks, Assistant Professor, Chemistry Date

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

Stephen Hora, Interim Dean, College of Arts and Sciences, Professor,
Management Sciences and Statistics Date

Christopher Lu, Vice Chancellor for Academic Affairs, Professor Date