The report of the Department of Chemistry and the Chair’s response to it provide an excellent foundation for the review of the department’s achievements and goals. We thank the Chair, Dr. A. L. Baumstark, and the department for their efforts, and we especially commend the self study committee and its chair, Dr. David Wilson, for the considerable thought and time that they devoted to this important endeavor.

The Dean’s Office enthusiastically acknowledges and amplifies that the Chemistry Department is an exemplary program at our University and has compiled an impressive record. Some noteworthy items are the following:

- In instruction, the Chemistry Department has a major and growing role. Between FY2001 and FY 2005, credit hours in Chemistry increased from 12,570 to 20,080 (a 60% increase!), and the number of Chemistry majors increased by 78%. The quality of instruction, both at the undergraduate and graduate levels, is very high. For example, all undergraduate majors have the opportunity, in fact are required, to perform individual research projects. Doctoral and postdoctoral trainees are receiving exceptional training and are moving into top-level positions in academia and industry. Additionally, Chemistry has been highly effective in training minority students. From 2001 to 2005, 26% of B.S. graduates were African-American, and 62% of all graduate students and 38% of doctoral students were African-American or other minorities.

- In research, Chemistry is a leader in the university. Its faculty are recognized as international and national leaders in their respective disciplines. This is reflected in external funding that has steadily increased to its current level of $5.1 M, which is more than double that of FY2001. The number of publications of its faculty has also doubled over that time. Chemistry has a relatively focused research area – chemical biology, which includes programs in Biosensors and Diagnostics, Biomolecular Structure and Interactions, and Drug Design, Discovery, and Development. Chemistry plays important roles in several GSU interdisciplinary programs, including the Molecular Basis of Disease Program, Brains & Behavior Program, Biocomputing Initiative, and Center for Biotechnology & Drug Design.

- In service, faculty are serving on review panels and reviewing for granting agencies, and editing and reviewing for journals. Several Chemistry faculty have major service roles within the College and University. The NSF Center for Workshops in the Chemical Sciences has been training chemistry instructors from across the country in workshops for over 10 years.

The external review team’s visit provides the department and the Dean’s Office with an excellent opportunity to review the department’s progress and to sharpen our vision for its future. To this end, we will focus here primarily on the goals put forward by the department in its self study and leave specific decisions about new resources until the action plan is formulated during later steps in the program review process. The Dean’s Office is pleased with the direction that department is taking and agrees with many of the recommendations in the report. In particular, we strongly support continuing to hire productive faculty, to provide additional support staff, and to enhance
the graduate and undergraduate programs. We focus below on two major areas where we believe that further information and analysis would be useful as we plan for the department’s future. We hope that the external review team will be able to help us gain greater clarity concerning these matters.

1. The size and composition of the faculty. Chemistry currently has 24 full-time regular faculty, 19 of whom are in tenure-track appointments and 5 of whom are non-tenure track lecturers. In addition, 3 visiting lecturers help to staff the undergraduate courses. We fully endorse the department’s desire to increase the size of the research-active tenure-track faculty. Some of the new faculty positions within the Brains & Behavior program, the Molecular Basis of Disease Program, and the Eminent Scholar initiative (which seeks one Scholar in each of three areas: neuroscience, infectious disease, and bioinformatics) will likely reside in the department. Moreover, we expect that additional positions will be specified in the action plan that derives from this program review.

The prospect of increased hiring raises several issues on which we seek guidance from the External Review Committee. In particular, we welcome advice about how best to balance and time the hiring of new tenure-track faculty over ranks and across areas within the department. In addition, we seek input about whether or not to increase the number of lecturer appointments. Two recent trends are relevant to our considerations. First, the demand for undergraduate chemistry courses has increased dramatically at GSU over the last 5 years. We think this is related to the strength of our interdisciplinary natural science programs and to the increased interest in careers in health and biomedical sciences and in technology-related positions. As we plan for an expansion of the faculty, it would be helpful to know if our large increases reflect nationwide trends and whether it is expected to continue at the rapid rate we have experienced. Second, until recently, the lack of space for research laboratories has shaped recruitment. Fortunately, this limitation will lessen significantly when two new buildings in our planned Science Park, a Science Teaching Laboratory Building and a Science Research Building, come on line in approximately 3 years. The addition of an Economic Development Incubator and other facilities to the Science Park in the not so distant future will also likely provide new research spaces. Thus we can consider a range of options related to the composition of the faculty.

2. Support for faculty and graduate students. As the self-study and chair note, the department is faced with serious support issues that will need to be addressed in the next action plan. We agree with their analyses. In particular, we are concerned that the demands have grown far faster than resources. We are committed to continuing to work with the department to develop strategies to lessen the disparity. We are optimistic that some of the concerns are being met, as is evident by the recent increase of research support to graduate students through the Area of Focus initiatives (Molecular Basis of Disease, and Brains & Behavior). But others are troubling, especially those related to salary. We agree fully that we will need to offer competitive salaries and attractive start-up packages as we seek to attract new tenure-track faculty. However, as we do so, this will compress and perhaps invert salaries of current faculty, both tenure-track and non-tenure track. We must develop new ways to provide increased compensation for accomplished faculty at a time when the state has appropriated far too little for raises and benefits. We welcome suggestions about new models, such as salary incentives using foundation funds, which might help address some of the current concerns. We also see a need to be sure that current faculty are
not stretched over the limit as we seek to hire and mentor new faculty. Assuring that service obligations are accounted for in faculty workloads is one strategy that might help address this concern. In addition, we find particularly compelling the department’s well reasoned requests to hire more support staff to assist in administrative functions associated with the research enterprise, including grants production and management, compliance with federal regulations in safety and animal care, and technical staff to run core facilities major equipment and computer technology. We also agree that it is crucial to provide adequate instructional staff to help coordinate the growing number of undergraduate laboratories.

In addition to suggestions about creative ways to provide additional support, we welcome suggestions about how the department might shift energy away from activities, at least during the period of time when they remain short staffed. We note, for example, that the size of the M.S. program is proportionally larger than almost all of the comparison departments, leading us to ask about the benefits and costs of decreasing the size of the program. We also note that given that undergraduate enrollment in chemistry classes has increased continuously and sometimes dramatically over several years, there is an increased need for undergraduate teaching laboratories. Current programming for chemistry teaching laboratories in the Science Teaching Laboratory Building may not be sufficient for sustaining this growth, and plans for use of space in the science buildings, old and new, need to be carefully considered. But might there also be ways to modify the curriculum to balance, at least in part, the space needs fueled by growing student demand?

The Dean’s Office again congratulates the Department of Chemistry on its development since the last academic program review, and we thank it for its thorough and thoughtful review. We also look forward to the external reviewers’ visit and to working with the Department on an action plan that will make many of their goals achievable in the next five years.

Lauren B. Adamson, Dean 1/3/06
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