

UA Transformation Proposal

Creation of: The Department of Chemistry and Biochemistry

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Reorganization units and academic programs:

Department of Chemistry

BA, BS, BSC (Science Ed, Chem Emphasis) MA, MS, PhD

Department of Biochemistry and Molecular Biophysics

BS, MS, MS in Gen Bio (Secondary Teachers), PhD, COM teaching

Formation of the UA Department of Chemistry and Biochemistry

We propose that the Department of Chemistry and the Department of Biochemistry and Molecular Biophysics merge into a new unit called the Department of Chemistry and Biochemistry. The separate Department of Chemistry and Department of Biochemistry and Molecular Biophysics bring to the table tremendously complementary strengths in many measurables of success and productivity (see Table 1). Since their split in 1977, the inability to build on these complementarities has largely represented a hindrance to growth and has held back recognition of excellence of the two units.

	Biochemistry	Chemistry	Chemistry & Biochemistry
Faculty FTE (tenured/tenure track)	15	29	44
Student Credit Hours (Fall 2008)	4175 +1895 COM	17,298	21,350 (+1895 hrs COM)
Degrees	BS, MS, PhD MS Biology Teachers	BA/BS, MA/MS, PhD	
Undergraduate Majors	433	231	664
PhD Students	31	182	213
Current Cross-appointments with other UA units	23	24	Physics, Opt. Sci, Plan. Sci./LPL, Astronomy, MCB, Physiology, Nutr. Sci, BIO5, ARL; Teacher Prep, EEB, PLS, Mat. Sci., Med Chem., Diabetes Ctr, Cancer Ctr, Biomed. Eng.
Grant Expenditures	\$5,217,159	\$12,290,164	\$17,407,323

The Department of Chemistry and the Department of Biochemistry and Molecular Biophysics both have a long history of addressing critical problems in medicine, the life sciences, optics, materials science, manufacturing, sustainability and alternative energy sources. The merger of these two departments into a new Department will significantly strengthen the position of the U. of A. and will allow growth in key strategic areas including molecular interconnections of life and intervention in disease, harnessing biology, as well as sustaining resources for solving energy deficits and global warming. The merger will allow us to move forward with solutions that will help the State of Arizona and its emerging industries to maintain economic growth and quality of life in the face of increasing environmental and economic constraints.

- Discussion of any changes or eliminations of the existing undergraduate and graduate programs

There will be only two immediate changes in degree programs at either the undergraduate or graduate levels. The BA in Biochemistry will be eliminated because student enrollments are lower than required by ABOR; the vast majority of majors graduate with a BS. The MS in General Biology for Secondary Teachers degree title will be moved from EEB to the new Department of Chemistry and Biochemistry. This degree title was used for convenience many years ago when there was a Department of General Biology (now Ecology and Evolutionary Biology). Biochemistry and Molecular Biophysics has administered this degree for several years; the courses for this program, including distance learning courses, are housed in Biochemistry and will now be housed in the Department of Chemistry and Biochemistry. The faculty will discuss in the coming year opportunities for graduate course changes that may lead to economies of size but still retain the curricular goals. The Graduate College has been asked to consider decreasing the number of graded graduate courses required for a PhD, allowing well-prepared students to finish more quickly.

- Clear explanation of how the consolidation will strengthen the unit's teaching, service, and research or creative activities

This proposed merger unifies the teaching of the chemical and biochemical sciences on campus, increasing flexibility within the teaching ranks and greater consistency of pedagogy. Such flexibility allows for greater ability not only to ensure proper coordination of course/instructor offerings but also greater opportunities for flexible instructional loading to allow for large project and grant management within the faculty. While strengthening the availability and consistency of undergraduate and graduate offerings this will undoubtedly increase our ability to attract the very large and long term funding associated with national centers and program projects. At the same time, this structure will greatly improve our attractiveness with regard to the nation's best faculty/teaching candidates.

What begins as the largest Ph.D. educational program on campus will become stronger in both size and quality. In addition to Ph.D. degrees in Chemistry and Biochemistry, existing joint graduate training programs for students at the interface of different fields, including the Biological Chemistry Program (Chem, Biochem, Med Chem) and the Biochemistry and Molecular and Cellular Biology Program (BMCB), will continue. Our increased national stature and visibility will greatly improve our ability to recruit both top faculty as well as the very best graduate student prospects in the nation. This stronger graduate pool directly correlates to improvement in the teaching of undergraduate laboratory science through a higher quality teaching assistant pool. Not only do the undergraduates directly benefit but the stronger graduate research pool will translate into a greater competitive edge for principal investigators in obtaining national funding. In addition, the two combining units bring some of the largest undergraduate research opportunities together into a stronger and higher quality program. Education through research will have no equal on campus.

The combined Department of Chemistry and Biochemistry will continue to provide Research Support Services to the more than 37 campus units that currently use these services. The merger will provide efficiencies in supervision/budget management of these units. Centralization of the teaching support office, business center, and administrative pool will better support faculty teaching and grant submissions. The Department will be a "university department", as members of both the College of Science and College of Medicine and will continue to contribute to Medical School teaching and leadership in continued development of

the Medical School curriculum. The Department will also continue to provide distance learning opportunities for science teachers across Arizona and elsewhere.

- Explanation of how the consolidation will raise the unit's and the university's ranking or reputation

As a combined Department of Chemistry and Biochemistry, the new unit would immediately move to near the top 10 nationally in the Chemistry rankings for combined private and state universities (based on federal support; out of over 190 Ph.D. granting chemistry departments nationally). Among the combined state and private universities the unit would immediately be near the top 10 in federal grant expenditures. It is critical that hiring of top faculty resume, targeting a faculty quality expectation commensurate with this peer group. If this is successful we will for the first time in UA history be recognized as a world class university program in Chemistry and Biochemistry continuing to catalyze research, execute teaching and provide critical service across the UA. This Department will be capable of supporting a superb class of graduate and undergraduate researchers, teach at the highest levels of the art, and provide the trained workforce in the chemical sciences and in support of the expanding bioindustry commensurate with both the projected needs and aspirations of the State of Arizona.

- Discussion of the meetings that your team held to vet this proposal with faculty, students, appointed personnel, staff, and relevant external constituents.

Discussions of the merger have now been conducted at all levels of internal governance of the respective departments including multiple meetings of the full faculties. Following submission of the white paper to the Dean of Science on 8 October there were multiple meetings of the combined full faculties and working subgroups who discussed and wrote white papers to define how the combined units will operate. These seven Implementation Planning Committees centered individually on the topics: Departmental Staffing/Organizational Structure (Joint Executive Committees for the two departments), Faculty Issues, Current Tenure Track Grandfathering, Graduate Program, Degree Programs/Teaching Loads, Freshman Curriculum/UG Advising/Distance Learning & Teacher Ed, and Research Support Services. White paper reports were submitted on December 2 from each of the latter six committees.

Following the distribution of these white papers, three full faculty meetings were held for discussion. At these, the consensus was formed to construct a department administration that will have Mark Smith as Chair and Vicki Wysocki as Co-Chair beginning January 1, 2009 until June 30, 2010. At that point, Vicki Wysocki will ascend to Chair and a new Co-Chair, who would be expected to become Chair in two years, would be appointed from the former Chemistry faculty (with the intention of alternating between Chemistry and Biochemistry faculty). This method will be reviewed in June 2014. In the period following the merger, faculty groups will be formed to further explore the details of improving teaching load distributions, correcting salary compression issues, and generating a hiring plan and vision for the new Department.

Meetings of the full staff, including appointed personnel, have occurred in each department with the respective Department Heads and multiple times in a combined group with both Heads. Certainly, the staff are concerned about reductions of personnel in the merger but also understand that these layoffs may in fact be lessened by the merger as opposed to experiencing the full across the board cuts predicted without transformation.

Department Head meetings with the full graduate program of each department have occurred. The graduate students appreciate that this merger will lead to immediate and long term improvement of quality and visibility of the program. They understand that all prior commitments will be met, preferably by providing “grandfather” clauses that reassure that the rules established at their entrance will be followed through to their graduations, and that the primary structure of the graduate programs will likely be unchanged for future generations of students. A combined group of student representatives responded in writing to the faculty and staff white paper on the graduate program, providing thoughtful and useful input. Information on the merger benefits and challenges have been relayed to the individual department advisory boards.

- Summaries of comments from the groups impacted by the reorganization along with a tally of the faculty votes for, against, or abstaining on the proposed transformation plan.

The formal faculty vote for merging to a combined Department of Chemistry and Biochemistry was held 10 – 11 December 2008. The vote tallies are as follows:

Faculty	# Faculty (>0 FTE)	Affirm	No	% Affirm
Chemistry	33	32	1	97%
Biochemistry and Molecular Biophysics	19	17	2	89%
Combined Faculty	52	49	3	94%

Note that any tenured or tenure-track faculty member with > 0.0 FTE was eligible to vote. There were no abstentions.

Budget Page

- This page should list the number of persons by category (staff members, appointed personnel, faculty, and administrators) in the existing units who will be impacted by the reorganization. Please indicate the positions that you expect will be eliminated or redefined during the reorganization. Information about the projected savings due to the reorganization should be provided.

This merger will lead to a redefinition of job responsibilities for the Business Office management and will likely include expansion to include budgeting. The position of Operations Manager in Chemistry will be redefined to focus primarily upon staff advocacy and management for the combined Department. The staffing in a combined IT group will be analyzed.

It is unlikely that these reorganizations will generate significant savings. More than a decade of budget cuts have led to two very productive, yet very staff-lean units where everyone is fully engaged. The merging does not lead to any reduction of tasks or elimination of programs and so to expect significant reduction of staff is not realistic.

In order to take this new unit to true top ten ranking will require an increase in filled faculty FTE of approximately 10% based upon both the size and research productivity in that peer group.