UA Transformation Proposal

Creation of:
The Department of Chemistry and Biochemistry

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Reorganization units:

Department of Chemistry

Department of Biochemistry and Molecular Biophysics
We propose that the Department of Chemistry and the Department of Biochemistry and Molecular Biophysics merge into a new unit best described as a 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 all 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. 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).

<table>
<thead>
<tr>
<th>Faculty FTE (tenured/tenure track)</th>
<th>Biochemistry</th>
<th>Chemistry</th>
<th>Chemistry &amp; Biochemistry</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15</td>
<td>29</td>
<td>44</td>
</tr>
<tr>
<td>Student Credit Hours (Fall 2008)</td>
<td>4175 +1895 COM</td>
<td>17,298</td>
<td>21,350 (+1895 hrs COM)</td>
</tr>
<tr>
<td>Degrees</td>
<td>BS, MS, PhD</td>
<td>BA/BS, MA/MS, PhD</td>
<td></td>
</tr>
<tr>
<td>Undergraduate Majors</td>
<td>433</td>
<td>231</td>
<td>664</td>
</tr>
<tr>
<td>PhD Students</td>
<td>31</td>
<td>182</td>
<td>213</td>
</tr>
<tr>
<td>Current Cross-appointments with other UA units</td>
<td>23</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Grant Expenditures</td>
<td>$5,217,159</td>
<td>$12,290,164</td>
<td>$17,407,323</td>
</tr>
</tbody>
</table>

This proposed merger unifies the teaching of the chemical 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 also continue to contribute to Medical School teaching and leadership in the Medical School curriculum, as well as providing distance learning opportunities for science teachers across Arizona.

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 this proposal to the Dean of Science on 8 October there are planned meetings of the combined full faculties and working subgroups who will define how the combined units will operate.

Meetings of the full staff, including appointed personnel, have occurred in each department with the respective Department 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.

At all levels, the positive aspects of the merger are recognized to far outweigh the potential negatives. The faculty appreciate the positives associated with the merger and are committed to work hard to ensure a collegial and sensitive merger which appreciates that in the beginning there will stand multiple inequities within the new Department. These include significant salary, teaching contact load, and staff support inequities between the different former faculties. The research productivity of the two faculty are on average quite comparable with nearly all faculty having significant federal funding of their research programs and both programs involving both graduate and undergraduate training.

In conclusion:

This merger leads to a nationally ranked Chemistry and Biochemistry Department poised within the top 10 of state universities while realizing certain economies of size. 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.

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.
Savings Budget

Merger to form the Department of Chemistry and Biochemistry

Approximately $200,000 in potential savings has been identified in consolidation of upper administration, and operations. These potential cuts do not, however, take into account optimization of core services that the unit provides to UA Campus and solving of inequities in staff support in the two combining units.