

January 6, 2012

Abigail Thompson, Chair
Executive Committee
College of Letters and Science

RE: Proposed Chemistry Majors - UPDATED

The Undergraduate Council (UGC) has reviewed and discussed the proposal from the College of Letters and Science to create the following three undergraduate majors:

- B.S. in Pharmaceutical Chemistry
- B.S. in Chemical Physics
- B.S. in Applied Chemistry

After careful review, the Undergraduate Council is pleased to approve the B.S. in Pharmaceutical Chemistry and the B.S. in Chemical Physics, noting that there was a clear and compelling rationale to shift these emphases into stand-alone majors and that there were no evident conflicts with other departments and majors at the university-wide level. Undergraduate Council looks forward to the establishment of these new majors for the Davis Division.

Undergraduate Council looks forward to reconsidering the proposed in B.S. in Applied Chemistry once concerns raised regarding coursework overlap with the College of Agricultural and Environmental Sciences have been successfully addressed.

Sincerely,

Jon Rossini, Chair
Undergraduate Council
Davis Division Academic Senate

Enc: **Letter from Professor Tjeerdema, Department of Environmental Toxicology**

Cc: Dann Trask, Assistant Dean, College of Letters and Science
Jacquelyn Gervay-Hague, Chair, Department of Chemistry, College of Letters and Science
Neil Schore, Department of Chemistry, College of Letters and Science
Linda Bisson, Chair, Davis Division Academic Senate
Gina Anderson, Executive Director, Davis Division Academic Senate
Patricia Boeshaar, Past Chair, Executive Committee, College of Letters and Science



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December 20, 2011

Professor Linda Bisson, Chair
Davis Division of the Academic Senate
402 Mrak Hall
University of California
Davis, CA 95616

Re: Proposed New Chemistry Majors

Dear Linda,

I am writing in response to an invitation from our colleagues in the Department of Chemistry for a letter of support for their request to upgrade the B.S. in Applied Chemistry – Environmental Chemistry Emphasis to a more formalized major in environmental chemistry. Unfortunately, we were not consulted during the development of the current Applied Chemistry major and the associated emphases. We were first made aware of the current Emphasis in Environmental Chemistry several years ago after it appeared in the catalog and had already been implemented.

With the campus goal of increasing undergraduate enrollments by several thousand students over the next few years, we applaud Chemistry's focus on increasing the choices in majors for new students. Increasing the diversity of offerings across campus will facilitate UCD's ability to attract a larger student pool. However, we believe it is also important to offer new majors that significantly differ from those currently available. Offering majors with significant overlap represents a duplication of effort and puts us in the position of competing for the same cohort of students. These considerations elicit both our support for and our concern regarding the new major.

We recognize environmental chemistry as a sub-discipline within chemistry, and that a well-designed curriculum would be advantageous to UCD. A major focused on the chemistry of the environment (e.g. geochemistry, water chemistry, atmospheric chemistry, soil chemistry, etc.) could potentially dovetail well with other programs across campus. In fact, in the areas of analytical chemistry and chemical fate it could dovetail well with our program. However, in creating a distinctive emphasis on toxic agents the new Chemistry major as currently designed would overlap ours by approximately 60% when considering both preparatory and depth subject matter coursework.

The B.S. in Environmental Toxicology, a blend of environmental chemistry and toxicology, has been popular with students at UCD for over 40 years. To our knowledge it was the first major of

its kind when originally developed, and over the years it has served to educate many of the toxicologists and environmental chemists in high-level professional positions today.

In recent years Chemistry has also introduced the B.S. in Applied Chemistry – Forensic Chemistry Emphasis, and we anticipate there may be a desire to convert it to a more formalized major as well. We harbor similar views on such a development, as our department is the campus host of the Forensic Science Graduate Group and our major offers an emphasis in forensic science that has been in place for nearly 10 years. In fact, a review of the Forensic Chemistry Emphasis reveals a course overlap with our major of some 65%.

Such high degrees of similarity of both Chemistry emphases with our major can be easily ascertained by a review of the sample schedules for both emphases currently available on the Department of Chemistry website, as both are heavily dependent on our courses. The excessive course overlap has already created difficulties, as it has required us in recent years to limit the course options available to both double majors and Chemistry students wishing to complete the Minor in Environmental Toxicology. To accommodate such students, Chemistry has either waived or substituted their major requirements.

As presented, we cannot support the request to upgrade the B.S. in Applied Chemistry – Environmental Chemistry Emphasis to a more formalized major in environmental chemistry (nor one in forensic chemistry if it has also been proposed). However, we would welcome the opportunity to work with Chemistry to assist in the development of new majors that are both complementary yet distinctly different from those currently available. The more diverse the choices of undergraduate majors, the larger the number of new students the campus will be able to attract in the future.

Please do not hesitate to contact me if you need further information.

Best regards,



Ronald S. Tjeerdema, Ph.D., D.A.B.T.
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Donald G. Crosby Endowed Chair of Environmental Chemistry

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