23 December 2014

TO:  Sarah Mangelsdorf, Provost

FROM:  John Karl Scholz, Dean

RE:  Request to Discontinue Undergraduate Degree Program: Bachelor of Science-Chemistry Course (Program Code 157)

CC:  Gery Essenmacher, Associate Dean for Student Academic Affairs, L&S
     Elaine Klein, Assistant Dean for Academic Planning, L&S
     Robert J. McMahon, Professor and Chair, Chemistry
     Jocelyn Milner, Associate Provost and Director, Academic Planning and Analysis
     Scott Owczarek, Registrar
     Nancy Westphal-Johnson, Associate Dean for Academic Administration
     Eric Wilcots, Associate Dean for Natural and Mathematical Sciences, L&S

On December 2, 2014, the L&S Academic Planning Council considered the attached request to discontinue the undergraduate degree program, Bachelor of Science – Chemistry Course. This degree program was created to provide an American Chemical Society certified pathway through a curriculum in Chemistry, Mathematics, and Physical Science. Because this curriculum could only be delivered by reducing the liberal arts breadth requirements normally required in L&S baccalaureate programs, it was created as a distinct degree program, rather than as a major combined with the L&S BA/BS requirements. As noted in the proposal, the ACS requirements have changed over time, but the BS-Chem Course requirements did not keep pace. Though the department initiated review of the program some years ago, that project languished. In contrast, the department has regularly evaluated and updated the much more vibrant and popular Chemistry major (major code 153). The undergraduate and graduate programs in Chemistry are currently engaged in an academic program review, which L&S expects to complete in Spring 2015.

Enrollments in the BS-Chem Course have been low for some time. This is not entirely surprising, given that the department has not included the program in the Undergraduate Catalog for several years. Only three students have completed the program in the past ten years. One current student is on track for a May 2015 graduation. If this request is approved, we believe the department will be able to serve any current students who may wish to pursue the program, because it is an advising pathway through courses that exist and are regularly offered. Our colleagues note, however, that students would be better served by the Chemistry major; they would also recommend that students who have stopped out and return to the university be directed to the Chemistry major rather than to this program.

The L&S APC unanimously approved this request, recommending that it might be discontinued at the earliest opportunity. If you have questions or comments, please feel free to contact Assistant Dean Elaine Klein (emklein@ls.wisc.edu).
DATE: November 30, 2014

TO: College of Letters & Science Academic Planning Council

FROM: Robert J. McMahon
Department of Chemistry

RE: Elimination of the Chemistry Course

The Department of Chemistry currently offers two routes to undergraduates studying chemistry: the Chemistry Major and the Chemistry Course. I write to seek approval to eliminate the Chemistry Course.

The Chemistry Major is a major within the College of Letters & Science and leads to a BS or BA degree. The Chemistry Course leads to a degree outside the College of Letters & Science. It lacks the liberal arts breadth of the Chemistry Major, but it is more comprehensive in chemistry, math and physical science requirements. The purpose of the Chemistry Course was to provide a path for students desiring a more rigorous curriculum and for those seeking certification of their degree by the American Chemical Society (ACS). Having fewer liberal arts breadth requirements leaves more room in a student’s schedule for extra chemistry and math courses. ACS certification provides a nationally recognized credential in the chemical sciences.

The Chemistry Course path no longer satisfies its intended purposes and it no longer serves students as well as it once did. Therefore, the Chemistry Undergraduate Curriculum Committee (chaired by Professor Ned Sibert) unanimously voted to recommend the elimination of the Chemistry Course. The committee’s recommendation was approved by the Department of Chemistry at a departmental meeting on November 11, 2014.

Reasons for Eliminating the Chemistry Course

The requirements for ACS certification of chemistry degrees have evolved over the past 20 years and the Chemistry Course has not kept pace. ACS certification now requires an inorganic chemistry lab and a biochemistry course, which are not part of the Chemistry Course curriculum. The foreign language requirements are antiquated, requiring German, Russian, Japanese or French. The breadth requirements are minimal, requiring just 6 credits of literature, 3 credits of social science, an English composition course and no bioscience.

In recent years, only a handful of students have graduated with the Chemistry Course. Figure 1 shows the number of students who graduated in the past 40 years with the various possible chemistry degrees – BA, BS, Chemistry Course and as an additional major from another college. While in the past 20 years,
48 students have graduated with the Chemistry Course, only three have graduated in the past ten years. Figure 2 shows the number of declared chemistry majors since 1986. We currently have just one declared chemistry course major, which is denoted CHC in the graph.

Figure 1. Chemistry Major Graduates by Degree

Figure 2. Declared chemistry majors at the end of each spring semester.
The Department of Chemistry implemented significant changes to its undergraduate curriculum, and the Chemistry Major, in 2002. The Department began the process of updating and revitalizing the Chemistry Course several years ago, but the project languished because of other priorities. We have now decided that revitalizing this path does not serve student interests in a meaningful way. Students have other options available to them within the other chemistry paths (BA, BS or AMAJ) if they desire a more rigorous chemistry curriculum. Students are able obtain ACS certification via these other paths by electing to take specific courses that satisfy both the requirements of the major and the ACS guidelines.

Notification of those affected

We have only one Chemistry Course major at this point in time. She has been notified in person about the plans to eliminate the path. She would prefer to see the major revitalized and continue. She was interested in learning Russian, so the foreign language requirement did not dissuade her from declaring. She was especially attracted by the fact that there are fewer breadth requirements, which allowed more time for additional chemistry courses.

Prospective majors will be notified via our departmental website of the plans to eliminate the Chemistry Course. Advising units and other campus offices (such as admissions) will also be notified of the plans via email announcements.

Teach-out Plan

The Chemistry Major Advisor has been working with one Chemistry Course student to ensure that she can complete the degree. The student is studying Russian to meet the foreign language requirement. She needed DARS exceptions to accept Chem 109 in place of the requirement for Chem 104 and to accept English 100 in place to a required English composition course which is no longer available. The student is on track to graduate in May 2015.

It is unlikely that we will have any new students declare the Chemistry Course in the next year, while we are undergoing the elimination process. The entrance requirements (according to the official DARS coding) are 15 credits in chemistry, completion of four semesters of math (Math 221, 222, 234 and 320), and completion of two semesters of calculus based physics. Most of our chemistry majors complete just the two semesters of math, except those in the College of Engineering, who will complete all four semesters. These students do not find the Chemistry Course path particularly attractive, because of the foreign language and English composition requirements.

In the unlikely event that a current student would like to declare the Chemistry Course, we will be able to accommodate them with appropriate DARS exceptions, as we have done for the one current student. These students should be referred to the Chemistry Major Advisor for assistance.

In the equally unlikely event that a re-entry student left UW-Madison while in the Chemistry Course major, we propose that they be re-admitted as a BS or BA chemistry major. The number of former students who could possibly be affected by the elimination of the Chemistry Course is very small. Since
1987, there have been just eight students who were in the Chemistry Course major and left without a UW-Madison degree. One is deceased and the remaining seven last attended in Spring 2005 or earlier. These students should also be referred to the Chemistry Major Advisor for assistance, if they re-enter UW-Madison.

Timeline and Advance Communication

It should be noted that, since the time of the 2003-2005 Undergraduate Catalog, the specific requirements for the Chemistry Course have not been published in the Undergraduate Catalog. Instead, the verbiage has stated that the degree was under revision and that interested students should consult the department. We have had only three Chemistry Course graduates during this time and, based on recent history, we do not expect to have many more students who are interested.

We propose that the Chemistry Course be eliminated as soon as possible. Students matriculating in Fall 2015 would be the last cohort eligible to declare the Chemistry Course Major. The Chemistry Department will begin communicating with advising units and other campus offices in the next month or so.