CCGB Meeting Agenda, February 20, 2009

1. Approval of minutes
2. Undergraduate announcements
3. Discussion of a proposal from the Math and Science Committee on criteria for evaluating math and science substitutions proposed by majors

CCGB Minutes, February 6, 2009

Ex-Officio: K. Dimiduk, B. East, L. Schneider
Other: J. Engstrom, B. Howland, M. Hutson, C. Pakkala, N. Peterson

Approval of Minutes: The minutes of the 1/30/09 CCGB Meeting were approved as written.

Undergraduate Announcements: M. Hutson said that today is the last day to add classes or change the grade option.

K. Dimiduk stated that HP is accepting applications for Faculty Innovation in Teaching grants. She offered to help write a proposal with faculty members who want to apply for the grant. The grant would supply 8 tablet PCs for faculty and administrators and 16 workstations. If we are to submit a proposal, we need faculty who are interested in using it and will write a proposal. D. Gries asked the CCGB representatives to mention the grant to faculty members within their departments.

Possible motion from Minors Committee on Changes to the CS Minor: L. Lee explained that currently there are 3 required courses in the minor and 3 courses that they can choose from among a group. The proposal is to remove the “CS/ENGRD 3220, CS 4210, or CS 4220” requirement and instead require 4 additional 3000+ CS courses. J. Cisne motioned to approve the changes. D. Gries seconded the motion. The motion passed with 1 abstention.

Possible Motion from the Engineering Courses Committee on Approving ECE 3100 as an Engineering Distribution Course: R. Bland said that the course has already been approved as a substitution course. It is approved for at least 2 and maybe 3 majors. It is a 4-credit course, but this is not seen as an obstacle. M. Louge said that originally distribution courses were taken by students in the Common Curriculum. A. Ruina said that if anything comes before the CCGB, it should not be a department-specific exception or addition. If we approve anything for the Common Curriculum, it should be accessible for everyone. We need to be consistent. R. Bland said that this course is accessible to sophomores as long as they have taken Math 294. Math 294 is a co-requisite for ENGRD 2700, the only other probability course.

M. Louge asked how accessible ENGRD 2700 is for non-majors. R. Bland replied that it depends on who is teaching it. He thinks that the course needs to be improved, and K. Dimiduk is helping with that. Having more alternative courses in that category can only help. J. Stedinger teaches CEE 3040 using the same text as ENGRD 2700, and that course is an acceptable substitution for the CEE and BEE majors. Currently that course is better delivered than ENGRD 2700, but J. Stedinger isn’t eager to expand the audience. T. Fine said that his recent experience with ENGRD 2700 is that it covers economics issues. ECE 3100 doesn’t cover economics, so the courses contain different subjects. M. Louge said that ABET doesn’t require statistics, so MAE might reconsider their requirement. The motion passed unanimously with 12 in favor.
Report from Chem/Bio Subcommittee and Discussion: J. Engstrom stated that he met with the Chemistry Department about CHEM 2090. Chemistry for engineers is a tricky topic. He is a member of the Graduate Field of Chemistry, which influences his thinking a bit. He became chair of the Chem/Bio Subcommittee in February 2008, but their first meeting was not held until August. He met with the fall instructor and Paul Chirik, but other committee members were unavailable. It was a fact-finding mission. At their second committee meeting in August, he met with the fall instructor and Al Molnar from ECE. Later in August he heard that the course wasn’t going well. The committee had a meeting on 15 January. Historically there have been fewer complaints about the spring course than the fall course. The course will have 2 instructors in the fall. K. Dimiduk was also at the meeting in January. There are a lot of different ideas on what should and can be done with the course. He met with the instructor on 4 February, and he seemed to think it was going okay. The enrollment is about 80 for spring; it was 480 in the fall.

The charge to the committee is to determine if a similar integration of math into CHEM 2070 and 2080 and bio courses in the core is appropriate, and they will determine an appropriate means of implementation. The first question is whether there a problem. Clearly there are issues with the course. He wanted to know the history of the course, i.e. what issues were involved and whether it has been successful or not. He came to the conclusion that it is not a perfect course, but versions of it have been better received than others. The course content might need to be adjusted per major. We can make recommendations to the Chemistry Department; it might help us achieve our goal. There will be some constraints placed by other courses and possibly students in other courses.

A. Ruina said that an issue was brought up of restrictions for students, i.e. who is allowed to take what course. J. Engstrom said that there are at least 3 versions of introductory chemistry. D. Gries said that when we eliminated CHEM 211, we wanted CHEM 207 for our students, but Chemistry wanted a separate course for engineering. We got CHEM 209, teaching the same material as 207 but we wanted it more mathematical. J. Engstrom said that non-ChemEs used to take CHEM 211, with people who needed lots of chemistry taking CHEM 207 and 208. Chemistry has some constraints; possibly scheduling issues and labs.

A new model would be to put ChemEs in CHEM 2090 with other engineering students but then they would take CHEM 2080. The same text is used in CHEM 2070 and 2090, the same topics are used, and CHEM 2070 is limited by a pool of “other” pre-med students (taught with very little math). CHEM 2080 contains more math. CHEM 2070 is currently 2 (50 minute) lectures a week but CHEM 2090 is currently 3 (50 min.) lectures per week. Chemistry said this was due to a scheduling issue and it might be difficult for them to do it differently. Unexpressed issues are the grading curve and workload. He has heard that CHEM 2090 is both too easy and too hard from a variety of sources.

Possible modifications expressed by the committee in August 2008 are: go back to the old system (more flexibility in the curriculum), add CHEM 2080 for ChemEs (this would involve staffing concerns for Chemistry), or tweak CHEM 2090 (quickest solution). The instructor has some good ideas for changes; we need to execute them. He asked Chemistry for course evaluations going back 3-4 years. He wanted to see some numbers for some key questions to see what historically occurs in the courses. He wanted to see if they were evaluated high or primarily involved complaints. He wondered if there was a culture issue with non-ChemEs with CHEM 2090/211. Maybe new students talked to higher-level students who didn’t like the course. We need to make the course better and keep it at a high level. He wondered if there was a correlation between the math content and course satisfaction among engineers in all of the courses. Some engineers love lots of math and some don’t. It seems a change was made to make a uniform freshman year. We need to balance the good with issues that have arisen. We will need to deter-
mine how success will be measured with the new system. There will be new instructors next fall: Frank Disalvo and Peng. The course should be better next year. The instructor in the fall was not the best; a lot of dissatisfaction is due to the instructor. We need to impress upon Chemistry that this course is important.

L. Pollack stated that she has received reports form colleagues that the commitment from chemistry in this course is important. She heard that Chemistry was no longer going to provide TAs. She heard that TAs were being eliminated for CHEM 2070. J. Engstrom said that he heard that there have been cutbacks for Chemistry, and he doesn’t know if they will be able to provide TAs for all of their courses. We don’t know whether we have any influence about that.

S. Baker said that the old system was broken. The changes made were an initiative of the faculty. One principle was they wanted fundamentals taught well. CHEM 211 didn’t work; they didn’t have all engineers take 2 CHEM courses. Students who took CHEM 211 retained little chemistry because the course was too packed. We wanted all engineers to take CHEM 2070 to retain chemistry, but CHEM 2070 was out because engineers blow the curve. We wanted another section of CHEM 2070 for engineers but they said no because they didn’t have the capacity for extra labs. The ultimate compromise was CHEM 2090, which should have the same content as CHEM 2070. Scheduling was an issue. Engineering wanted a course with a clear syllabus so students understood at the end what they were doing. Chemistry wondered what should be taught in CHEM 211, so they put everything in it.

M. Louge said that we know which subjects are important to everyone and we require them for a general background. It is a bad trend to eliminate TAs. If Chemistry refuses to assign TAs to which our students are entitled, the TA resources should be given to us and we can dole them out to Chemistry. J. Engstrom asked if we get any TA money for the math courses we teach. A. Ruina replied that we do. Preserving the freshman year is important. He is strongly in favor of tweaking CHEM 2090. K. Dimiduk said that because CHEM 2070 is supposed to not have math for pre-meds, Chemistry has put math topics in CHEM 2080. Chemistry has already selected topics that don’t use math.

S. Baker said that there are several experiments around the country where people are combining math and chemistry, as well as math and physics. We should look at courses and see if courses are using math. J. Engstrom said that math is not taught in CHEM 2070. S. Baker said that the initial effort was to find content for CHEM 211 that would be appropriate for engineers. It was a project that nobody wanted to tackle. The theory was that CHEM 2090 would be the only chemistry class if students needed only one. He will ask about the TA issue and whether Chemistry is willing to go to a mode with more contact in recitation instead of a third lecture.

R. Bland asked why there were 480 students in fall and 80 in spring in CHEM 2090. L. Pollack replied that it is because students get placed in Math 1910. In AEP they have reinforced the math pre- and co-requisites for physics. They brought math and physics into alignment and it is tough for students to break out of this. M. Duncan said that most students place out of Math 1910. M. Hutson said that many incoming students identify themselves as pre-med, so they are placed into chemistry in the fall semester. M. Duncan said that taking CHEM 2090 during the second semester throws the ChemE students off-track.

A. Ruina said that if student complaints were diminished, this topic would disappear. We need to get rid of complaints and make sure channels are open into CHEM 2080. B. East said that Chemistry needs to provide a good instructor if they are eliminating TAs. J. Engstrom said that the CHEM 2090 team next year should be much better. Some thinking was that Frank Disalvo has taught this course before and
Peng has not, so this will be a mentoring type of thing. L. Pollack asked how grading prelims and problem sets is currently done and whether office hours are offered. K. Dimiduk said that the lab TAs are doing this. J. Engstrom said that Chemistry has done large courses for a long time and has done them well. We need to communicate clearly to them what we need. A. Ruina stated that we don’t want to micromanage the class. Any micromanagement can lead to dissatisfaction. J. Engstrom said that he will investigate the TA support issue and go into more depth on a selected set of topics, hopefully working math in.

The meeting adjourned at 9:00 a.m.