CCGB Meeting Agenda, December 5, 2008

1. Approval of minutes
2. Undergraduate announcements
3. Vote on recommending a change in the GPA requirement for the Dean’s list
4. Charge to Chem/Bio subcommittee (Gries, Dimiduk)
5. Vote to add Kathy Dimiduk to the Chem/Bio subcommittee
6. Vote on proposal from CS to allow substitution of ECE 3100 for ENGRD 2700 (Bland; engineering courses subcommittee)
7. Charge to Math/Science Committee to articulate criteria for approving substitutions for core math or science courses.
8. Further discussion of Independent Major (Gries)

CCGB Minutes, November 14, 2008


Ex-Officio: K. Dimiduk, B. East, F. Shumway

Other: B. Howland, M. Hutson, M. Louge, C. Pakkala, N. Peterson

Approval of Minutes: Approval of the minutes of the 10/24/08 CCGB Meeting will be done at the December 5, 2008 meeting.

Undergraduate Announcements: A. Center said that the teaching of CHEM 209 still needs to be addressed. K. Dimiduk said that the class is improving and students are noticing the improvements as well. The recitation problem still needs to be resolved. D. Gries said that the Chem/Bio Committee needs to look at the recitation issue and work with Chemistry to resolve it. He will work on a charge with K. Dimiduk for this. M. Louge asked if any students take CHEM 207. K. Dimiduk replied that some BEE students end up in CHEM 207 because they are not perceived as being in Engineering.

B. East said that Advising is seeing lots of students in distress. Anything people can do to help would be great.

F. Shumway thanked everyone who helped with the Majors Fair. Approximately 80-90 students attended and it went well. R. Bland said that attendance appeared to be lower this year, possibly because students are receiving earlier information about the majors from their advisors.

Request from CS to Approve Substitutions for Terminal Physics Course and for Engineering Distribution course: D. Gries stated that Computer Science has requested substitutions for the terminal physics course, PHYS 2214. Their proposed substitutions are: CHEM 2080, MATH 4710, BTRY 4080 or ECON 3190. They would also like ECE 3100 to be a substitution for ENGRD 2700. He has information about the courses, including the syllabi.

S. Baker said that his understanding is that a substitution be an advanced math class. He asked if the math in the courses were advanced enough. D. Gries replied that departments can use an advanced math or science class, although “advanced” hasn’t been defined.

R. Bland asked if CS has looked at whether there will be overlap with the substitutions proposed. D. Gries said that he will talk to Lillian Lee about them.

A. Center said that we are chipping away at our structure. The more we do this, the less we need a CCGB. He asked if a roundtable could be held in the future and people from departments brought in to determine if the CCGB charter is valid. S. Baker replied that this was done with the Curriculum Review
Committee. People say that we need a strong core that everyone should take, but they want their majors to control everything. Locally they are willing to trade the core away for flexibility in their departments.

A. Ruina said that if we think that the substitutions are appropriate, from a core point of view substitutions should be allowed from other departments. Exceptions should not be department-specific; they should apply to the core.

Departments have a right to make their own requirements. S. Baker said that an entire discussion was held for 18 months to preserve the core. It is a contentious issue but was decided by the college faculty. There is a clear rule about this. M. Louge said that if we need a strong core, we shouldn’t be chipping away at it. E. Fisher agreed to put this issue aside for now.

**Poll of Majors on Whether it is Important to have Thermodynamics Covered in the Required Physics Sequence:** L. Pollack stated that a professor in Physics is worried about thermodynamics being squeezed out of the common curriculum. It is currently only taught in Physics 213 or 218. Traditionally it has been taught in Physics 213. The agreement has been that Physics teaches thermodynamics; it is not taught in Chemistry. The professor has only 2 weeks to teach thermo, which not enough time to cover the amount of material that needs to be covered. He is wondering if we need more thermo in the common curriculum or whether we don’t actually need it at all.

A. Ruina said that thermo used to be in Physics 112 but it was pushed out of there 10 years ago because the course was too packed. R. Bland said that there used to be a separate course for thermo, but it was eliminated.

L. Pollack asked the CCGB members to poll people within their departments to see if it is needed. If students need it for their curriculum, she will contact Physics and tell them to address it more effectively. A. Ruina said that his guess is that majors that care about it will teach their own course and that it won’t be included in the core. L. Pollack said that we need to decide if it is okay if we have students graduating from Engineering without thermo. Dimiduk said that CHEM 2080 covers some thermo. For fields that don’t have an upper-level thermo course, this course could be the only exposure to thermo for students.

S. Baker said that an alternative to just dropping thermo out would be best. A proposal should be submitted. MSE has a hard thermo class, and the more preparation the students have for that, the better.

L. Pollack said that she will convene the Physics Liaison Subcommittee to discuss the issue and generate some type of proposal. R. Bland said that thermo doesn’t matter to ORIE, but he has misgivings about students not having it. E. Fisher said that since thermo is currently being taught in a course required for mechanical engineering majors, the coverage in Physics 213 is not important to the mechanical engineering major. A. Center said that students would not be negatively affected in CBE, but engineers should understand thermo at a base level.

M. Louge said that distribution courses should be real distribution courses. We need to decide on a core basis for engineering students. S. Baker said that MSE has an entire series of ENGRD courses and counts on the fact that students heard about thermo in Physics 213. The idea of a common curriculum is not at odds with the majors. A. Ruina said that core courses should be a first step in someone continuing with topics. Whatever coverage there is of thermo should be a firm foundation for someone continuing with the topic.

S. Baker said that former students were surveyed to ask what is special about Cornell. The students said that fundamentals were considered important. This was the rationale for no longer allowing engineering students to use Chemistry 211.

L. Pollack said that the subcommittee will come back with a proposal regarding Physics 213 and 214 and alternatives.
Vote on Gries Proposal on Math Credits: The text of the motion is given below.

The core math requirement is currently Math 1910; Math 1920; Math 2930 or Math 2940; and a CCGB approved, 3-or-4 credit, math course designated by the major. The following rule applies to the transfer of courses from other institutions to satisfy this requirement. The total number of credits taken for the first three courses must be at least 11; otherwise, another math course is required. Transfer credit for a course equivalent to the fourth, CCGB approved, math course, must be 3 or 4 credits.

In the case of a Cornell student transferring in a course taken elsewhere, the judgment of equivalence to a Cornell course is made by a Math Department representative. In the case of a transfer student, the judgment is made by a person authorized to do so (e.g. a departmental Undergraduate Director).

D. Gries said that Math credits are allowed for courses taken elsewhere. The issue has to do with content vs. credit requirement. The motion tries to compromise. It applies only to students transferring credits in.

A. Ruina said that the primary issue is that we no longer have the leverage of forcing people to take a math class that we think they should take. E. Fisher said that she originally liked the current rule because she could use it to twist the arms of transfer students to take additional math courses. She has come around to the other view. If the math content of a course taught elsewhere is considered the same as one at Cornell by the Math Department, it is deemed acceptable.

A. Ruina said that he teaches a dynamics class with a lab. Other universities that teach that class don’t have a lab. Students that take the class elsewhere need to take the lab here and don’t get credit for it. Maybe we should accept transfer classes and tell students they need to do additional things.

E. Fisher said that as assoc. director for MAE she has the ability to approve or not approve transfer students’ math courses based on her view of their adequacy. She doesn’t need to use credit for leverage to get students to take additional courses.

R. Bland suggested that we should have a blanket exclusion of web-based courses. If we have transfer students coming in without affiliation and with math, he would like to get approval from a department.

L. Pollack said that she wants to keep credits where they are but her department feels it should be a knowledge-based requirement. There has to be a knowledge-based assessment of courses and students need to understand what is taught in a course.

Vote: in favor of the motion: 7. Against: 3. Motion passes.

Motion to change the GPA Requirement for Dean’s list from 3.4 to 3.5GPA: B. East discussed the Dean’s List charts, which showed the percentage of engineering students making the Dean’s List since fall 2003. She also distributed a Spring 08 Dean’s List chart with the number of students on the Dean’s List at the current 3.4 GPA cutoff along with a chart predicting the number of students that would make the Dean’s List at the suggested 3.5 GPA cutoff. She stated that Admissions data does not contain any one objective bit of data that predicts performance in engineering.

S. Baker presented the following motion:

The CCGB recommends to the Dean of Engineering that the grade point average for being on the Dean's List each semester be raised from 3.4 to 3.5. This change is requested to keep the fraction of students on the Dean's List, which has risen as high as 43%, to roughly the level that CALS and A&S aim for: up to 33% of the students.
F. Shumway suggested that if the Dean decides to okay this, we should make it effective with the spring semester. D. Gries said that the Engineering Handbook says that the Dean’s List is for 2008-09, so the change will not go into effect until fall 2009. E. Fisher said that the CCGB will vote on this issue at the next meeting.

**Preliminary Discussion of the Independent Major:** D. Gries said that the Independent Major has 20-25 students now. It is a safety net for some students. If a student can’t affiliate with a major, they affiliate with the I.M. with their Primary Area in the department where they wanted to affiliate. E. Fisher said that there is a concern about the use of the I.M. as a safety net. We could change the rules about entering the I.M. including GPA.

R. Bland said that he has had several communications with D. Gries about this issue. There has been a large increase in ORIE students who have been refused affiliation in ORIE but are taking the I.M. with ORIE as their Primary Area and are taking the same courses as majors. It is happening frequently and is a burden in ORIE. There is no point in having affiliation requirements if students can circumvent them by doing an I.M. Besides the students for whom the IM is a safety net, he also has great students who do very well in the I.M., and whose interests are what the I.M. was created for.

A. Center said that CBE has students that can’t cut it; they are put on probation, and they suggest that the students do an I.M. It is a safety net for the students. Maybe we are doing ourselves a disservice by letting the students continue and shouldn’t let them continue. R. Bland said that by the time ORIE is at the point that they consider a required leave, the students are already in their senior year.

E. Fisher suggested that a proposal be developed relating to the Independent Major. D. Gries agreed to work on a specific proposal.

The meeting adjourned at 9:02 a.m.