CCGB Meeting Agenda, May 8, 2009

1. Approval of minutes
2. Undergraduate announcements
3. Vote on approving new ENGRI course from MSE (Bland)
4. Discussion of pilot introductory chemistry class (Baker, Estroff)
5. Update on “Streamlining Curriculum” task force, and input from CCGB members (Renegar)
6. Vote on CCGB committee membership for next year (Fisher, Gries)

CCGB Minutes, May 1, 2009

Ex-Officio:  K. Dimiduk, L. Schneider, F. Shumway
Other:   B. Howland, M. Hutson, N. Oh, C. Pakkala, N. Peterson, J. Pierce, Z. Warhaft

Approval of Minutes: The minutes of the 4/17/09 CCGB Meeting were approved as written.

Undergraduate Announcements: F. Shumway announced that people should be aware that there are a lot of students in crisis now.

Presentation and discussion of a preliminary proposal for a sustainability requirement in the College of Engineering: Z. Warhaft stated that Julie Pierce and Noona Oh are from Kyoto Now. Kyoto Now was started in 2001 and began an initiative to look at buildings at Cornell to decide how to make them more efficient. J. Pierce and N. Oh are concerned that students are unaware of the implications of global warming and sustainability. Environmental issues need to be addressed now due to their great importance. J. Pierce and N. Oh want to work with faculty members on developing a sustainability requirement in Engineering over the summer and then present something to the CCGB in the fall. N. They have spoken with other colleges about sustainability. Wind technology is not as advanced in the U.S. as in other countries. Also, hybrid car development is not as prevalent in the U.S. The idea of sustainability should be exposed to everyone. Students need to be actively engaged in solving environmental problems. There is a substantial amount of environmental expertise on campus, and we should take advantage of it. Julie said that she wants to compile a list of courses on sustainability. She wants faculty help with compiling the list. They had various thoughts about how to incorporate this into the curriculum and feel that a list of courses is best.

D. Gries stated that having such a requirement is not without precedent. Engineering had a computing requirement (beyond CS100 or CS111x) in the 1980s. The requirement was eliminated it when it was obvious that all students already had computing experience.

L. Pollack asked what courses and levels would be on the list. J. Pierce replied that she could get at least one course from many departments. J. Cisne asked what courses students are taking now to educate themselves. J. Pierce replied that Energy Economics or Air Pollution Control is often taken. Z. Warhaft said that he started course Future Energy Systems a few years ago, which addresses global warming and other issues. W. Philpot said that a course exists in the City & Regional Planning Dept that deals with risk management in cities and their response to floods, which give students a valuable perspective.

E. Fisher stated that we constantly want to add things to the curriculum and it is often hard to do that. There is an issue with adding what we want and trying to fit it in. R. Bland said that he wants sustainability to be part of a suite of courses in engineering for the public interest. We haven’t made students
aware of the opportunities to serve the public good. We should do this in a broader way that just sustain-
ability to help encourage students to consider careers that don’t involve investment banking but do in-
volve the public interest. J. Cisne stated that the College of Engineering should take a leadership role in
this.

L. Pollack said that it would be helpful if the course list could be compiled and distributed to all faculty or posted on the engineering web page to make students aware of the courses that are out there. J. Pierce said that there is one list on the Cornell Sustainability website. Some courses dealing with energy are on the Engineering website. D. Gries said that there are 141 courses on the Sustainability website.

**Presentation and discussion of a draft motion on liberal studies categories:**
W. Philpot stated that there is some discomfort in fitting ENGRC 3350 in the liberal studies categories, particularly in putting the course in the Literature and the Arts category. He wondered if it would be reasonable to create a new category. The liberal studies committee presented a proposal to this effect. The plan is to have units discuss the proposal, and to have a CCGB vote in Fall 09. In the meantime, ENGRC 3350 would be approved on a temporary basis in the Literature and the Arts category for AY 09-10.

The proposal from the Liberal Studies Committee is: To create a “Communications in Engineering” category for the Liberal Studies requirement. The description of the category would be as follows:

Communications in Engineering (CE) Courses address Communication in the context of Engineer-
ing with an emphasis on (1) the needs and preparation of the audience, (2) the context of presenta-
tion, (3) the purpose of the communication, and (4) the identities of the communicators. The courses must be for a minimum of 3 (three) credits. Initially this category will be populated solely with ENGRC 3350 and ENGRC 3500. The rules governing the Liberal Studies require-
ment will remain unchanged, except that there will now be 7 categories rather than the current 6. This change will not affect any of the courses offered by the Communications Department in CALS.

M. Louge said that students say that they wish they had the experience of technical writing earlier in their time at Cornell. Students would be more articulate if we could ease them into technical writing prior to their junior or senior year. They mention this in their post-graduation surveys. He is in favor of the motion, but there is a broader problem: the students need to have better communication skills.

S. Baker said that there is a critical need for students to be able to both learn AND convey their know-
ledge. Students are required to write a technical paper, but they are terrible at it. The ability to write and communicate well is a great skill. The Liberal Studies is the right place to put the Communication courses.

R. Bland asked if any consideration had been given to requiring that the technical writing requirement be completed by the semester 4 or 5. If a course were taken early, they could use the writing skills in their later courses.

S. Baker said that it would be best for students to take a communications course in their second year. W. Philpot said that it would be overwhelming for the ENGRC to have all the students in one year.

B. Fisher suggested that the liberal studies committee consider writing the legislation in such a way that students could take only one of their liberal studies courses in the new CE category.
Possible discussion of proposed new ENGRI course: R. Bland stated that S. Baker is proposing a course on energy. The most recent title is *Materials, the future of energy*. He fully supports the course. S. Baker said that the word “future” is being contested. The course would ideally be offered next spring.

Announcement on postponement of action on guidelines for physics substitution: E. Fisher said that she had felt that there was some urgency on this issue, but L. Lee says that CS is prepared to withdraw their proposal for the time being and wait for some guidelines to be worked out during the summer and voted on in the fall.

Not on the agenda but discussed: E. Fisher: distributed copies of a letter from C. Ober regarding groups that he has assembled to discuss planning for budgetary reductions. Each academic unit has been charged with doing this. She wants input from the CCGB on questions that her team needs to address. James Renegar is planning to attend the next CCGB meeting and get input from everyone.

L. Pollack stated that, given the financial crisis, it might be good to re-evaluate how things are done.

R. Bland said that pressures of the budget could lead to fewer small courses, which dictates against the efforts to introduce more experiential learning to the courses.

Statement read by M. Louge: I have been concerned by the way the Common Curriculum Governing Board (CCGB) has recently functioned. Briefly put, I fear that the Board has resisted addressing real issues faced by our students, while summarily thwarting thoughtful ideas suggested by its committees or its members.

The CCGB was formed to administer the common core over a decade ago. The role of the common core is to provide breadth in the first two undergraduate years, while teaching subjects, such as Math, Physics and writing seminars, which should be shared by all engineers. CCGB is also charged with facilitating the integration of our freshmen into the Cornell environment through thoughtful and personable advising.

The expansion of knowledge in every major has put into question these simple ideas. Distributions courses, which were originally meant to be accessible to all students, have become prerequisites for upper-class courses, taught to an ever-narrower audience. Humanities and Social Science courses are now reorganized into arbitrary classifications, which require a well-maintained web site to monitor.

Several important problems are common to all majors, and therefore ought to be addressed by the CCGB. Freshmen 150 classes are reluctantly taught by some advisors and badly received by many students. Only a small proportion of freshmen stay with their original advisor. Information technology, whether introduced by Cornell, or simply adopted by students, has not made it easier to follow our advisees' progress, has reduced our contacts with them, and has made it less straightforward to administer constructive course evaluations. Advisor-approved electives have become de facto free electives in departments that ignore their rule, while being a frequent source of stress for students in departments that uphold them. Administrative rules prohibit the accounting of student contact hours for experiential learning, thus effectively discouraging the involvement of all-but-the-most selfless faculty members to advise vibrant, highly visible student-run projects.
In my observation, CCGB has shown symptoms of dysfunction. It is difficult to find members willing to address broad issues. Perhaps this is because recent proposals put forward by committees are likely to be dismissed by the full board (or by the college faculty) without much recognition for the time invested in preparing them.

For example, the thoughtful strategic exercise that examined the College curriculum reaffirmed the soundness of breadth in the engineering curriculum, but was eventually faced with reluctance by the College faculty to enact any tangible reform. Another example is the summary dismissal of a thoughtful alternative for defining the word rigor in upper-level math and physics electives. Another is our collective hand-wringing in placing a communication course in one of the liberal arts new categories.

A fundamental conflict seems to exist between the CCGB's mission for fostering a common curriculum, and the decentralized decision-making at the department level. Sadly, lines in the CCGB also seem to be drawn between departments that are accredited and those that are not. The former are physics-based, while the latter are not. Members of the CCGB are not all Associate Director of Undergraduate Programs, and thus may not all be familiar with all policies carried out in their departments, or represent the morale of their own undergraduate students. Our staff should be encouraged to attend meetings and to share their unique insights.

At first sight, the CCGB seems to focus on details, while failing to tackle important issues facing undergraduate education in the College. Such crucial issues include: How can we provide proper incentives to departments to admit more transfer students, as Day Hall suggests? How far should majors be allowed to set affiliation standards that exceed graduation requirements? Should we administer placement tests in Math and Physics to all transfer students? How can we re-energize a meaningful independent major? How can we coordinate courses with similar contents across the College? How can we re-energize advising? Should we devise other ways to ensure quality in our courses than web-based student surveys? Etc.

In short, the CCGB appears powerless to uphold the standards that created it. In the face of rapid progress, by which entirely new fields have become part of engineering (e.g., quantitative biology), it is not surprising that departments are tempted to require more knowledge of their graduates. Given the diminished state of breadth in our programs, I am resigned that it should not be the CCGB’s role to second-guess the curricular wisdom of individual departments.

The CCGB, along with ENGRG 150, were created at a time when engineering education looked different: there was no web and hardly any e-mail; freshmen did not all live on North Campus and had no cell phones. The Engineering faculty believed in breadth and depth. Times have changed. It is time to reinvent the CCGB by giving it new goals.

The meeting adjourned at 9:00 a.m.