## CCGB Meeting Agenda, January 29, 2010

1. Approval of minutes
2. Undergraduate announcements
3. Renumbering ENGRD 2610 to ENGRD 3610 (Baker)
4. Report on post-course assessments (Gries)
5. Reports on what departments think of the Sustainable Energy Systems Minor
6. Reports on what departments think of the proposed College Learning Outcomes
7. Update on removing thermo from physics course
8. 1-credit EXCEL course?

## CCGB Minutes, December 4, 2009

**Ex-Officio:** K. Dimiduk, B. East, L. Schneider, F. Shumway  
**Other:** M. Bazley, B. Howland, T. Jordan, C. Pakkala

**Approval of Minutes:** The minutes of the 11/13/09 CCGB Meeting were approved as written.

**Undergraduate Announcements:** B. East asked staff and faculty members to pay attention to students over the next couple of weeks because our students are stressed this time of year. If faculty or staff members notice student issues, they should contact the Advising Office. D. Gries stated that finals are not supposed to be given during the last week of the semester. This is too big a burden on students because they have project sets due, etc. University rules say that no finals are to be given during study week or during the last week of the semester.

**Sustainable Energy Systems Minor:** T. Jordan stated that the Sustainable Energy Systems Minor will be open to all undergraduate students across the university. The proposal is co-sponsored by BEE, CBE, and EAS. They have had a lot of student input in developing the minor. R. Evans’ class drafted up their version of what they wanted the minor to look like. About 15 other universities have this type of thing. The minor would require 18 credits. It is important for the students to have an exposure to a broad range of energy issues and that the topics are connected. There are 4 breadth categories: Energy Systems Analysis, Energy Sources and Technologies for a Transition to Sustainability, Natural Systems Impacted by Energy Production and Use, Policy/Economics/Business/History/Ethics/Risk Analysis. Some courses focus on traditional forms of energy, and some on renewable; students need 2 courses from the energy sources category.

L. Lee asked what pre-requisites would be required for these 4 areas. T. Jordan replied that departments haven’t analyzed how easily the students could complete this minor. There are contents and pre-requisites listed (as appropriate) per course. M. Walter said that there is no problem with BEE students doing these courses. The problem may be with those students outside Engineering.

D. Gries said that Area 4 is the only area with lower-level courses. The other areas contain upper-level courses. T. Jordan said that one of the Area 2 courses has no pre-requisites. The minor is evolving and contains a lot of courses, college-wide. Each field will be designing courses with some energy component and their students will have a background in it. How many students complete this is limited by their background.

W. Philpot stated that an amazing array of courses is available, and it seems that there are many ways that students could complete this via a mixing and matching of courses. T. Jordan said that other departments can co-sponsor this minor. There is no one body of students that already has preparation for the minor.
F. Shumway asked if the minor committee would be open to requests for substitutions from students if they find something they think is relevant. T. Jordan replied that the committee would review all requests. F. Shumway asked about breadth in the minor and wondered if the plan was to have some note that no more than 2 courses out of 6 or whatever can be used for the major. T. Jordan replied that she doesn’t think that many courses across the categories are required for a major. As the course list evolves, there may be more major requirements that co-exist with these courses.

A. Zehnder asked if there is a standard rule for double counting courses for majors and minors. F. Shumway replied that in the handbook there is a statement that in BME no more than 2 courses can be double-counted for a major and minor.

A. Ruina stated that he doesn’t know why minors exist. T. Jordan responded that minors exist to try and organize breadth and depth of background for students who want to go on to do this type of work in the future. Students like minors. L. Lee said that minors are for organized work outside the major. They are an additionally coherent set of work outside the major. M. Walter stated that a lot of students from many disciplines are very interested in energy and this gives them a home to do this. M. Bazley said that she has spoken with a lot of students who are interested in sustainable energy. If we didn’t go with a minor, it would be good to have a list of faculty who can address these topics.

L. Pollack said that students could take this minor and steer it in many directions. She wondered if the minor shouldn’t be more directed. The way it is currently structured makes it seem that there are too many courses to choose from and that a coherent minor couldn’t be done. T. Jordan said that CBE will have a sustainable energy minor, there will be one in EAS, etc. There could be 4 separate energy minors because it is a very interdisciplinary topic. No one department controls the teaching for this. In the fourth category, courses will be used from across the university. W. Philpot asked who will maintain the course list and decide on petitions. T. Jordan replied that the organizational strategy is that curriculum oversight will be done by the Curriculum Committee, including a representative from each sponsoring department. The Curriculum Committee will read petitions and make sure the curricular drift is consistent with whatever courses are added or deleted or changed. CBE has volunteered to oversee that students are properly adding the right courses, etc.

D. Gries stated that maintaining the course list will be hard. W. Philpot said that deciding about petitions will also be harder. He predicted that we will see a lot of interest from the students and this minor will be appreciated. D. Gries said that the only problem may be that students in a major may not need a lot of extra courses, primarily students in BEE. A. Zehnder said that students in MAE could do this with maybe one extra course. W. Philpot said that CEE students would likely need 2-4 courses to complete the minor. C. Cohen said that students could do a lot of courses as technical electives. He is concerned that most of the courses are advanced and the students would need to take them as juniors or seniors. That may be difficult for some students. M. Walter said that he thinks minors are entered into during the junior year.

T. Jordan said that there is nothing about sustainable energy systems at the introductory level. They are high-level applications.

B. East said that when our students go into the world and get jobs, they are competing with other students who have minors on their transcripts, and they should be able to get a minor to be more competitive. A. Ruina said that if students need some expertise in a field, they should be able to gain that. We need to clarify what a minor is about. It shouldn’t be just a student showing that they did extra work. They need to have some expertise in an area.

D. Gries said that none of the departments allow their students to minor in something they have a major in. He will look up the minors legislation.
D. Gries requested that each department review the minor, determine what their students would need to complete it, and then come back to the CCGB. W. Philpot asked the CCGB members to take this information back to departments to see what their faculty think about this. The CCGB will revisit this in January.

Assessment of Student Learning: D. Gries said that there are 14 different standards that ABET needs to look at. He went to the Middle States meeting in September. We need to assess things. If we don’t, the Feds come after the Middle States. Cornell needs to do an assessment of student learning. Engineering already has assessment for its ABET-accredited majors.

Vice Provost Laura Brown set up a core assessment committee including Associate Deans. The committee meets bi-weekly to see how an assessment of student learning can be done in various colleges. Faculty should view this as a positive thing and can actually improve things. We have never had college learning goals, but we need to do that. The Curriculum Committee (which has been D. Gries and D. Bell) needed to look at course proposals. We need a College Curriculum Committee (not the CCGB) to look at things at the major level. We have developed some student learning goals for the college. Course assessments can provide a confirmation of student skills. Teamwork and professional and ethical responsibilities are important. We need to oversee that majors and the ECP are doing their jobs. We have assessments from the ABET-accredited departments. Other departments will need to do assessments and review their goals. We need departments on the assessment bandwagon by 2010. Our faculty should buy into the learning goals.

The CCGB representatives can go back and discuss these things with their department and come back to the CCGB with proposed revisions. These should be out where students can look at them. This will be put on the website eventually. We only need an assessment from the instructor, not examples of finals and student work. All department in Engineering will need to provide assessments, because they all have core courses. We will have workshops on this. We will attempt to do this with a minimum of effort and maximum of gain. Teachers need to look at evaluations and adjust their courses accordingly.

B. East said that K. Dimiduk will help individual faculty members if they need it. D. Gries said that he is hoping to put this information on the Engineering website in January or February. Departments need to see if their goals are appropriate. He will talk to AEP and ORIE about this in January. L. Pollack said that templates are helpful. It will be good if people know what information they need to collect--the sooner the better. D. Gries said that we will look at this issue in January.

The meeting adjourned at 8:58 a.m.