CCGB MINUTES
April 24, 1998


Members Absent: J. Hopcroft

Ex-Officio:  D. Cox, D. Maloney Hahn, F. Shumway, P. Clancy

Others:  S. Dennis-Conlon, Charles McCulloch

Minutes:  J. Abel, Chair, CEE:  Minutes of April 17, 1998 approved as distributed.

Announcements:
1. Minors:  J. Abel, Chair, CEE:  At the College faculty meeting on Monday, April 20th the faculty approved the minors proposal.  D. Maloney Hahn has prepared a draft outline to be used for submittal of minor proposals to the CCGB (attached).
M. Duncan, ChE:  Due to previously arranged departmental event, the ChE faculty were unable to attend the faculty meeting.  The ChE faculty was unanimously opposed to the minors proposal.
P. Kintner, EE:  How was the faculty meeting publicized?
J. Abel, Chair, CEE:  An e-mail was sent to all College faculty, and the meeting was announced two weeks ago and last week in the CCGB.

2. Freshman Advisors:  J. Abel, Chair, CEE:  The final numbers of freshman advisors for each department were distributed via e-mail and hard copy yesterday (attached).

3. Advisor Evaluations:  D. Maloney Hahn, Advising:  At a meeting with the field coordinators the advisor evaluations were discussed.  Each field indicated a good return of evaluations, around 90-100%.  The evaluations are still being returned to the Advising Office.  The results will be distributed mid-summer.

4. Engineering Fair:  D. Maloney Hahn, Advising:  As discussed in the CCGB earlier this year, the Engineering Fair was held in Willard Straight Hall this past week.  The event was well attended by students, pre-students, and alumni.  More faculty participation may be in order for next year.

5. Course Evaluations:  F. Shumway, Advising:  The course evaluation deadline has been extended until the end of finals week.  The tabulated results will be distributed as soon as possible.

6. Student Services Strategic Planning:  D. Maloney Hahn, Advising:  Student Services is looking to identify some long term goals and priorities.  In order to do this, feedback from the faculty on their perception of Student Services is needed.  The best way to get this feedback in a timely manner would be to use a focus group.  The CCGB is a natural choice for a focus group as this committee knows more about student services and the undergraduate students than any other group in the college.  How does the CCGB view Student Services?  What are Student Services strengths and weaknesses?  Can this topic be discussed prior to the end of the semester?
J. Abel, Chair, CEE: If there is room in the agenda next week, a mechanism to obtain feedback for Student Services will be discussed. Possibly e-mails can be sent to either Ken or John and put into an anonymous form for Student Services.

**Department of Statistical Science:** C. McCulloch, Chair, Department of Statistical Sciences: This department was formed in October as a formally named department but really is a joint venture of faculty in several university departments (handout attached). The department has faculty members from A&S, Engr., and ILR involved. The first task addressed was to get a Master of Professional Studies program proposal moving forward through the university and state approval bodies. The dept. is now working towards programs for undergraduate students. CALS currently has a major of Statistics and Biometry with a very high demand for these type of students. The Department of Statistical Sciences is looking for feedback from engineering as to which direction the dept. should head and whether the dept. should start with a major or minor for undergraduates. The minor program might be easier to begin as a major takes about a year from the submittal of paperwork to get approved.

C. Van Loan, CS: Step one should be the development of a list of courses that students should take if interested in statistical science. A minor would be a great way to package this and at the same time create guidelines for advisors to follow.

J. Abel, Chair, CEE: A copy of minors legislation will be forwarded to Statistical Sciences. An option might be to offer a concentration in statistics that would be open to all students across the campus. The concentration could be then listed on a student’s transcript. Information should come to the CCGB for dissemination to students.

D. Cox, Asst. Dean: The Dean’s office did not realize that the statistics courses were cross-listed with engineering. Communication needs to be tightened between the Statistical Science dept. and Student Services.

P. Kintner, EE: It would be beneficial to have more substantial information from the Statistical Science dept. to comment on. It is also important to note that ABET has a statistics requirement.

D. Ruppert: Participating faculty from engineering have 0% time in statistics and 100% time in their home department. OR&IE could put together a minor in statistics. This would enable engineering students to participate in a centrally located program and would give them better access to faculty and undergraduate coordination. There are lots of reasons to have a statistics minor in OR&IE rather than the Statistical Sciences Dept.

C. McCulloch, Chair, Dept. of Statistical Sciences: The Statistical Sciences Dept. has ties to faculty in both OR&IE and EE.

C. Van Loan, CS: The students in engineering are the most statistically astute in the university.

J. Abel, Chair, CEE: What is the next step?

C. McCulloch, Chair, Dept. of Statistical Sciences: I will be contacting both the EE and OR&IE depts. to talk about the creation of a minors program.

J. Abel, Chair, CEE: We will assume that OR&IE and Statistical Sciences will communicate on this matter and get back to the CCGB.

**Computing Requirements:** J. Abel, Chair, CEE: The 1991 report and guidelines adopted by the CCGB from the sub-committee, Computing and Computing Applications, was distributed a few weeks ago, and all Board members were asked to review them. The Computing and Computing Applications Sub-Committee consists of D. Grubb (MS&E) chair, P. Clancy, C. Van Loan, K. Hover and a member of the EE faculty. The plan for today is a round table in which each dept. rep can give current thoughts and concerns regarding the computing requirement.

C. Van Loan, CS: What are the computing applications in each major? Are students meeting these requirements naturally?
D. Ruppert, OR&IE: Computer science is very important to students in OR&IE, in which ENGRD 211 or 212 is required. There are some feelings that students are not as computer literate as they need to be. Students use computers in almost all courses but are not taught programming without the computer requirement. If the computer requirement was eliminated OR&IE would continue to require ENGRD 211.

J. Abel, Chair, CEE: Is computing so pervasive in the curriculum that students get enough computer applications without the computing requirement?

C. Van Loan, CS: CS 100 is also an integral part of the computing requirement.

P. Kintner, EE: Electrical Engineering strongly recommends ENGRD 211. Matlab applications are taught in the math courses, which has applications of programming. Electrical Engineering students see a significant amount of Matlab. These type of courses are not taught as programming but rather a tool which is learned by doing.

D. Grubb, MS&E: Students are getting more and more computer applications in their regular courses but MS&E is not sure that it is enough. Most students in MS&E fulfill the computing requirement by taking ENGRD 241. If the computing requirement was dropped students would probably not take ENGRD 241.

J. Jenkins, T&AM: Math 293 or 294 includes three computer exercises with Matlab. In the linear algebra courses, half the students have no trouble but the other half do. The sophistication of instructors and students will improve as time goes on. Emphasis of computing applications in the math courses vary from instructor to instructor.

R. Kay, GS: Geology would have the same feedback as the MS&E dept. More computer applications are appearing in classroom but this may not be enough.

F. Wise, A&EP: Most of the students in A&EP take ENGRD 264. A good fraction of A&EP students take a computer design course as an elective. If a computing course is not requirement than some things, such as efficiency and algorithm, may not be addressed. ENGRD 264 also fulfills the technical writing requirement. Students could also take ENGRD 211 or 222.

C. Van Loan, CS: In CS 100 numerical stability may scare students. Some of the topics discussed do show up in freshman courses.

M. Duncan, ChE: 75% of Chemical Engineering students take ENGRD 241 while the other 25% take either ENGRD 211 or MAE 389. If the computing requirement was dropped students would not take these courses. Students in ChE courses are being taught spreadsheets and Icarus and writing code for data processes. M. Duncan, speaking for himself only, would drop the computing requirement.

P. Clancy, ChE, Chair of the Computing Policy Committee: Doesn’t believe that students are as good at computing as they ought to be and would like to see more programming being taught.

J. Abel, Chair, CEE: There needs to be better leverage with computer information and skills. All students in Civil and Environmental Engineering are required to take ENGRD 241 but may substitute ENGRD 222 for it. CEE sees the discipline of numerical analysis as very important to students. The programming in 241 is ancillary to the numerical analysis content. CEE would not drop the ENGRD 241 requirement if the computing requirement was eliminated.

K. Gebremedhin, ABEN: Agriculture and Biological Engineering students take ABEN 151 which is equivalent to CS 100. Matlab is introduced later in Math 293 and 294. Most students take either ENGRD 264 or 241 to satisfy the technical writing requirement. ABEN also has 400 level courses which satisfies the computing requirement.

D. Bartel, M&AE: Mechanical and Aerospace Engineering students are feeling a need for more computer competency. Solid modeling and Matlab are being specified by recruiters more and more. The students have no strong complaints regarding CS 100. Some students found the introduction to Matlab, in Math 293 and 294, too incidental depending on the instructor. Students wished they had more background with Matlab. 60% of M&AE students take M&AE 381 to fulfill the computing
requirement while the other take ENGRD 211 or 241. ENGRD 222 is Matlab driven starting with plotting and with foci on efficiency and stability throughout.

J. Jenkins, T&AM: What is the perception of the CS dept. of the evolution of CS 100 as students become more sophisticated as they enter Cornell?

C. Van Loan, CS: The spread of computing knowledge within the students coming into engineering is bigger and growing larger. Out of the approx. 700 freshman students around 500 of them take CS 100. The pace of the class is what throws students. Ideally students should not take CS 100 until the second semester. The correlation of computing in high school and college is small. A student may acquire computer language skills in high school but not analytical skills. Students in CS 100 are very mindful of what others know. CS 100a is taught in the spring and CS 100b with a calculus component is taught in the fall. The theme is engineering; design and build, with clean interfaces just like a physical building.

J. Abel, Chair, CEE: The syllabus between ENGRD 241 and 222 is about the same. The differences are that in ENGRD 241 spreadsheets as well as Matlab skills are emphasized, and applications from a number of different engineering disciplines are employed. ENGRD 222 seems to take a more numerical analysis point of view.

C. Van Loan, CS: Half of the depts. believe that the computing requirement is being met with courses students take in their depts. while the other half are not sure. If the computing requirement is dropped, will it be OK with the faculty in each dept.?

D. Grubb, MS&E: We also need to look at the outcomes. What are students supposed to have learned about computing by the time they graduate?

J. Abel, Chair, CEE: Some students are graduating without programming skills or not enough.

J. Jenkins, T&AM: The charge of the Computing Policy Sub-Committee should be to also look at CS 100. What are the objectives and are they being met?

C. Van Loan, CS: Can CS 100 be taught in Matlab vs Java?

P. Kintner, EE: Can we circulate information about what these courses are actually teaching? Especially to freshman and sophomore advisors?

C. Van Loan, CS: Should CS 100 be delivered in Matlab or Java? Large departments may have different experiences. The college needs to look at the common experience for all freshman.

J. Abel, Chair, CEE: Next week the main topic of discussion will be the ABET gear-up. If you are not the principal person who will be involved, please invite those people that will be.

Meeting adjourned at 9:00 am.

**Agenda for Friday, May 1, 1998:**

1. Approval of Minutes, April 24, 1998
2. Announcements (Hover, Abel) [Pro-rated Tuition, Architecture Concentration, CCGB Subcommittees, Business Courses for Engineering Undergraduates]
3. ABET Planning (Hover)
4. Feedback on Student Services in the College