Master of Engineering Committee Meeting
March 13, 2002
8:00 – 9:00am
240 Carpenter Hall


Guests: K. Biesecker

Absent: B. Cady, L. Cathles, J. Jenkins

Jim Bartsch called the meeting to order at 8:00am.

February MEC Minutes:
The MEC members reviewed the February 2002 MEC minutes and a motion was made to approve the minutes. Approved.

Howard Partnership Update:
Associate Dean Mike Isaacson brought the MEC up to date on the proposed Howard University Partnership Program. Mike Hayes and Associate Dean Isaacson visited Howard University in late February and discussed a pipeline of students for the program. Professor Mike Spencer and John Belina have come up with an undergraduate course of studies for the Howard students that would be equivalent to courses they would have taken in ECE. They came up with a set of courses for Signal Processing, Communications, Information Systems and Computer Engineering. Howard University is in the process of revising their curriculum to reflect the courses that the students need in order to join Cornell’s M.Eng. program. Associate Dean Isaacson affirmed that the Pipeline Program is starting with ECE and everyone involved is excited about extending this program to other fields. He explained that fields would need to appoint a liaison to review Howard’s existing curriculum, and the fields currently being considered to participate in the Pipeline Program are Civil & Environmental and Chemical & Biomolecular Engineering. Michel Louge and Mark Eisner expressed interest in discussing the possibility of MAE and ORIE participation. Associate Dean Isaacson is anticipating the initial participating students to range between 2-6 with a goal of a dozen participating students each year. If students can meet the admission criteria, he hopes they could begin in fall 2002. He is quite sure that industrial funding will be available for the accepted Howard University students. In closing, Associate Dean Isaacson asked the MEC for approval to proceed with the Howard partnership ECE. He would like to solidify guidelines for other fields for years to come. The fields would agree on a sequence of courses (determined by the field and Howard University) in addition to determining preexisting GPA
requirements and conditions so that Howard University students can begin the application process. A motion was made, approved unanimously.

**International TA Training Presentation:**
Mike Hayes opened this discussion by reminding the MEC of Dean Power’s visit at the February MEC meeting. Mike has been speaking with the ITA Program people in addition to the College’s Engineering TA Development Program coordinators. He has created a 3-point presentation that incorporates information that Dean Power sent to Mike following the February meeting. He asked the MEC to provide him with feedback so he can create a formal proposal asking for the M.Eng. TA exemption from the F’02 ITA Program. He indicated that Dean Power is fully supportive of our request for exemption. Mike Hayes will write a formal proposal to her based on the feedback he receives from today’s meeting.

The three main points of the proposal are:

- The language issue and the formal screening interview.
- Complete participation in the College’s Engineering TA Development Program – From Mike’s discussions with the Programs’ representatives, not all fields require that their TAs attend. Dean Power has clearly stated that all international M.Eng. TAs will be required to participate if we are granted exemption from the ITA Training Program.
- Evaluation of the effectiveness.

**ITA Screening Interview:**
The ITA Program will do the formal screening interview, and Mike has discovered that they are eager to work with us and are definitely there to help us. They have indicated that they would like faculty involvement – ideally, a consistent person going through the process, but any faculty involvement will be welcome. Their involvement allows the departments more of a voice in the interview process. If faculty isn’t involved in the interview process, we won’t be allowed to argue a student’s case. Claude Cohen indicated that the ITA inquires as to the role of the student TA to better assess their ability. The interviews are approximately a ½ hour long and would take place in Caldwell Hall. Bruce Kusse asked when the interviews would be scheduled to take place, and Mike indicated that he would speak with the ITA Office about setting up special interview times to alleviate the need for the international students to arrive on campus early. If students require additional language instruction, we will need to comply with that decision.

**College of Engineering TA Development Program:**
Dean Power is requiring the participation of all TAs in the Engineering College’s TA Development Program. We will need the help of the MEC in getting the TAs there. Tammy Shapiro offers Grading Sessions for the GAs, and your Graders could be involved with those. Bruce Kusse pointed out that frequently GAs don’t
begin working until the spring semester. Mike indicated that there is a spring semester version of these training sessions. The GA participation is not currently mandatory, but Mike indicated that he feels they would benefit from attending. Larry Newman indicated that the proposal should reflect that the GAs will be encouraged to participate in the appropriate training sessions, but they shouldn’t be exempted from attending. Mike offered to have Tammy Shapiro attend an MEC meeting to explain the program.

**Evaluation Follow-up:**
The College of Engineering is “hit and miss” in our participation in the evaluation process of both the ITA as well as the college-wide Engineering TA Development Program. If we are going to make the programs stronger, we need to increase our participation in the evaluation process. Email reminders are sent regarding the evaluation returns – ⅓ to ½ are typically returned. Our involvement with the evaluation process is important. ORGSPE will earmark every course at the M.Eng. and M.S. level with international TAs and write evaluations on them. We will also ask faculty to submit evaluations on their international TAs. Graeme Bailey pointed out that by assessing only the international TAs, we have no normalization; nothing to compare the international TAs against. Mike will address that point. The instructors need to be involved at some level. ORGSPE will take on the responsibility of reporting to the grad school on the process. Michel Louge reminded Mike that a few departments are undergoing ABET review, and he doesn’t feel comfortable asking one or two professors to participate in the ITA review process without some sort of reward.

Michel Louge asked Mike if the Engineering departments would need to contribute toward the cost of the ITA Program if we are granted exemption from the Program, and Mike assured him that there would be no cost to the departments – the College of Engineering assumes the expense. Mike also reminded the MEC that the proposal for exemption is only for the 2002-03 academic year. Future exemption will hinge on the evaluations. Hardcopies of Mike’s slides and Dean Power’s email were distributed to the MEC. John Belina asked Mike if he would suggest a substitution of “an alternate method” rather than an exemption from the ITA Program, and Mike agreed. Mike finalized his presentation by telling the MEC the proposal draft would be a 1-2-page document that would be posted on the web for review. He would like to get the final proposal to Dean Power by March 22nd. John Belina requested that Mike post the College’s Engineering TA Development Program curriculum and provide the MEC with the numbers of international M.Eng. TAs affected.

**International Grad Deferral Discussion:**
Mark Eisner opened the discussion regarding two related timing issues with respect to international students who come for the M.Eng. program and stay for their Optional Practical Training (OPT). Students ask if they can defer receiving their diploma until August so they won’t start their OPT until September. Their I-
20 is good for a full year from the date they begin their OPT. The International Students & Scholars Office (ISSO) is telling students not to apply for their OPT until they are close to the end of their 9 month stay (typically they are encouraged to apply 2 weeks before their graduation date). If the student has been in this country earlier than our registration, the 9 months will have elapsed by the time the application reaches the Vermont office and the student runs the risk of being turned down. Mark asked if other departments are experiencing the same problem. Michel indicated that MAE sends the students to ISSO for guidance, and John Belina said ISSO indicated that as long as the dates on the student’s I-20 form are consistent with their graduation date, it’s not an issue. Graeme indicated that last spring the Vermont office became stiff on this and several students were turned down. Michel suggested that the departments refer these situations to ISSO, and Jim Bartsch encouraged departments to send their students interested in OPT to the ISSO early.

M.Eng. Financial Returns:
Michel Louge reminded the MEC of how the M.Eng. financial returns are calculated (refer to the December 2001 MEC minutes). Michel’s presentation will concentrate on the 70% that are returned to the departments. Michel distributed two pages of PowerPoint slides to assist with his presentation (please refer to the March 13, 2002 MEC meeting minutes and attachments at http://www.engr.cornell.edu/grad/staff/staff-site-login.cfm, password ezra.).

The 70% figure is distributed by using a non-linear formula calculated in the following manner:
- The number of full-time equivalent faculty = F
- one share per student up to an enrollment of F/2;
- two shares per student enrolled between F/2 and F;
- four shares per student enrolled above F.

The original rational was to encourage small departments to grow their M.Eng. program beyond the F equivalent to receive a substantial return.

The “Enrollments 1996-2001” overhead shows cumulative enrollments in all engineering departments.

The “Student/faculty ratios 1996-2001” overhead was shown, and Michel explained that the departments with the largest student to faculty ratio would derive the largest returns.

The “Cumulative returns 1996-2001” overhead outlines the amount of money each department received over the course of those 5 years.

The “Gains and losses 1996-2001” overhead reflects Michel’s evaluation of the linear formula (top half of graph) compared against the return that the departments would have received if the formula was “straight” or proportional to
the number of students in the department. The linear formula results are significantly different than the results from the straight formula.

Michel indicated that he is offering no solution to this problem but if the original intent was to encourage small departments to grow their M.Eng. programs, this formula has failed. He suggested that the MEC work together to find a solution. Graeme indicated that ignoring the student to faculty ratio would leave faculty overworked in small departments with large M.Eng. student enrollments because of the teaching and project responsibilities. Mike Hayes reminded the MEC that the Directors and Chairs had to approve the original formula and we may discover that they don’t want to change it. Michel responded that several people he spoke with about his findings were not aware of these facts. Claude Cohen informed the members that as of this year Cathy Long is counting full faculty lines given to each department whereas she previously counted the number of lines occupied. The change has significantly affected the department budget of Chemical and Biomolecular Engineering, but the larger departments won’t be as affected as the smaller departments. Mike Hayes reminded the MEC of the pending impact that the new dean could have. John Belina indicated that since this agreement was made, this has been a revenue stream and has been factored into our department budgets. Electrical & Computer Engineering gave back three instructor salaries so Dean Street could make this deal with the Provost – it’s not all incremental monies.

Jim Bartsch asked the MEC what we should do. Michel indicated that we can’t ignore it, and Graeme feels that we need to address it based on the feeling of inequity – collegiality is fragmented. Straight linearity is wrong because of the impact on the departmental load, especially on the small departments. If you have numbers above the faculty lines, small departments gain a significant benefit but if you are basing it on the number of students, the benefit is much diminished. John Belina argued that the larger fields would find it to be equally as burdensome because class size is increased as well as the project work.

Graeme suggested that a few people get together to discuss a revision that would have a more “Robin Hood” effect. Michel indicated that it could be argued that this should be addressed at the Chair level, but a subcommittee of interested fields is one solution. The committee must involve department managers and people who have the financial interests of their department at heart. Michel reassured the MEC that he wasn’t anticipating that changes would happen immediately – it would be too traumatic for the departments who rely on the funds. Graeme noted that ORIE is not one of the largest departments and they have an aggressive faculty to student ratio. Based on the charts provided, OR’s M.Eng. program has grown strong thanks to Mark Eisner’s understanding of the existing formula. He stated that the larger element might be the underlying mystery of the formula and recognizing that there is a clearly intended “carrot”. The information that we now have about the formula can be used in different ways to grow their programs.
John Belina reminded the MEC that the formula isn’t just to encourage the growth of the small fields – it’s to encourage the growth of all fields. The return isn’t related to just your field. If one department’s numbers increase, other departmental numbers decrease -- it’s highly variable and the incentive part of this formula is difficult to make work.

It was decided that 3-4 MEC volunteers will form a subcommittee that would be charged with exploring the issue and make recommendation for further (if any) to the MEC.

Meeting adjourned at 9:08am.