To: Dean Satish Udpa, College of Engineering

From: Professor Indrek S. Wichman, EGSC Chair (AY: 2011-2012)

Date: May 23, 2012

At the start of the academic year the EGSC began by evaluating potential priorities for discussion as a committee, while also recognizing that as the AY evolved other issues could “percolate upward” to the EGSC.

Here is the list of issues that EGSC sought to prioritize at the first two meetings (Sept. 6 and Sept. 20, 2011).

1. Graduate Recruiting
   - Cross-department access to applicants with multi-disciplinary interests
   - Joint graduate degree programs
   - Timely responses to applicants
   - GRE processing times, I-20 / visa processing issues
   - Admissions standards, waiver processes
   - Admissions profiles

2. Graduate Student Retention
   - Discussion of retention issues (data collection, reporting)
   - Graduate student groups (department, college)
   - Opportunities for informal, social interactions (sports, movies)
   - Graduate Program Rankings
   - US News & World Report
   - NRC

3. Qualifying Exams
   - Discussion of what each department does now

4. Fellowship funding for graduate students in the College of Engineering

5. Summer Undergraduate Research Program
   - Utility for recruiting graduate students
   - Utility for preparing students for grad study (at MSU or elsewhere)

6. Educational and Professional Development Options
   - Block course scheduling
   - Workshops and forums, particularly for research centers
   - Methods of teaching evaluation for faculty (student surveys, faculty peer feedback, etc.)

Many of these issues were extensively discussed. The issues that were of greatest impact on the EGSC and which were discussed the most were:

- **Fellowships**: The EGSC felt that fellowships were crucial to the future of the College. The example of the CEE department is illustrative. Due to a gift by a CEE alumnus the CEE graduate department can fund students each year with fellowship support as they take first-year courses, pass qualifying exams and search for viable advisors with funded research projects. CEE is an outstanding model for the goal of our COE. It is rare that a COE
professor places a student on a research contract starting the first semester that the student enrolls at MSU: there is a period of incubation wherein the student proves him/herself acceptable of future financial (RA) support. The fellowships allow the process from enrollee to fully funded RA to evolve in a way that minimizes first-year COE faculty commitment and exposure to a costly choice.

- **Capital Campaign:** Since not all departments are as fortunate as CEE to have a source of funding (effectively, an endowment) of the kind described in the above bullet point, the EGSC felt it was imperative that the following message be communicated to the Dean and all of the COE Department Chairs: *In the coming Capital Campaign we must, as a College of Engineering, seek to generate endowments sufficient to fund fellowships for a large fraction of our first year graduate students. This is a crucial COE need.*

- **Graduate Symposium:** The EGSC wished to emphasize that this symposium was, firstly, an excellent idea; secondly, that it was brought off extremely well by the faculty and staff involved in organizing it; thirdly, the graduate symposium should continue and be improved where possible; and fourthly, it should be used as a recruiting tool for our very best undergraduates. The graduate symposium was an example of the MSU COE at its best.

- **Graduate Recruiting:** The purpose of the EGSC discussion of this issue was to provide ideas and potential future directions in MSU COE recruiting. The faculty members of the EGSC were in agreement that our greatest resource as a COE, after a productive and outstanding faculty, is our graduate students. Without excellent graduate students our research programs inevitably suffer. Our EGSC discussion focused on top programs we were aware of as individuals and their outstanding recruiting efforts for excellent students. One example (which was not an engineering college) was the Johns Hopkins Program in International Relations. This outstanding program did the following for all of its admitted graduate students: (1) sent them a recorded welcoming speech by the dean of the program; (2) sent them a book written by a faculty member of the Johns Hopkins faculty which the admitted graduate student was to later use in his/her program; (3) arranged an online Q & A session which the admitted students could log into to ask questions about tuition, living arrangements and the like, which were often difficult to ask and resolve alone on a case-by-case basis. The EGSC realized that not all of these outstanding practices would fit exactly into the MSU COE model. For example, instead of sending the admitted students a book, perhaps we might send copies (electronic) of five or so papers published in top journals by members of the specific department. We could send other materials to the students as well (ideas are plenty). A welcoming speech could be recorded by the dean as it is a thoughtful, personal and gentle touch. One might also imagine Q & A sessions of the kind mentioned.

- **EGR 811:** Dr. Mark Urban Lurain of the COE staff discussed this course, its delivery and its content with the EGSC. This course has a history: It was first developed in the years prior to the arrival of Dean J. M. Fouke (JMF). Current EGSC member (and AY 2011-2012 chair) I. S. Wichman was on the EGSC at that time and was one of the principals involved in that course development. When JMF was appointed as dean she, and Associate Dean Ronald C. Rosenberg (RCR) decided to eliminate this course, which had by then run successfully for several years. When the present COE Dean Prof. S. Udpa was appointed it was once again decided to develop this type of a course as a tool for teaching prospective future academicians on aspects and challenges of the teaching profession. Developing a course is a difficult and time consuming process, mostly because extensive research is done by committee (in this case the EGSC) on best practices elsewhere and into methods that
appear to generally work. The discussions and meetings are lengthy, detailed and exhausting, and require a large commitment of both time and energy by the involved faculty. In addition, each engineering college in the United States such as MSU has its own distinct needs, history and characteristic features that must be accounted for: this also requires serious attention. The lost years under JMF and RCR are unfortunate since MSU could, by now, have been one of the “model” colleges in this teaching aspect. It should also be noted that a very important feature of engineering college rankings is the placement of its graduates as professors in top engineering and applied science colleges and departments: when one of our graduates is appointed professor at an excellent university (such as Purdue or Notre Dame, for example) MSU gains much prestige. This cannot be underrated: it was one of the important original motivations for developing this graduate teaching course prior to the JMF/RCR administration. Dr. Urban-Lurain’s presentation was excellent and informative: it appears this course, EGR 811, is now in good hands. One can only hope that is continues to not only survive but also thrive as the COE moves forward.

- **Course Approvals:** Numerous courses were reviewed and approved by the EGSC.
- **Fitch-Beach awards:** A large part of the EGSCs effort dealt with the Fitch-Beach award process. All of the students were outstanding but the committee was almost unanimous in choosing the best graduate student award. This was encouraging because all of the students were excellent. Our feeling as a committee (except for one member) was that this is a commendable and valuable activity on the part of the COE. Year-to-year improvements are possible: these have been carefully noted and also documented by Associate Dean for Graduate Studies M. Koochesfahani.

**Other Issues:**

- An issue that was not extensively discussed but which could be discussed at greater length in the coming year (2012-2013) is **Educational and Professional Development**. Here matters such as block course scheduling (in order to streamline teaching schedules and free up limited faculty time for proposal writing and concentrated research) and workshops/forums for research centers (such as the CVRC, for example) in order to promote and encourage outside participation could be discussed.
- Another issue that was mentioned but also warrants more extensive discussion is for research-active faculty to take regular trips to locations and agencies of potential future funding. It was the almost universal experience of the EGSC that meeting and speaking with potential sponsors at agencies such as EPA, ONR, AFOSR, DOE, NIH and others led firstly to valuable contacts, secondly to research ideas and finally to funded proposals.
- Additional issues are always welcome as they “percolate upward” to the EGSC.