MEMORANDUM

To: Dr. Fred Hartmeister, Dean
    Graduate School

From: Dr. Pamela Eibeck, Dean
      College of Engineering

Date: October 22, 2008

Subject: Response to Chemical Engineering Graduate Program Review

Cc: Dr. Naz Karim, Chair, Chemical Engineering Department

The Chemical Engineering Department went through the Graduate Program Review in the spring of 2008. The following outcomes of the Review were communicated to the Department by the Program Review Chair:

1. Program Review and Vision: Excellent
2. Faculty Productivity: Excellent
3. Quality and Quantity of Graduate Students and Graduates: Good +
4. Curriculum and Program of Study: Good
5. Facilities and Resources: Satisfactory-

6. Overall Program Assessment: Good +

The responses of the Department to the above evaluations of the Chemical Engineering Graduate Program are as follows.

3. Quality and Quantity of Graduate Students and Graduates
   Comments: “The Department is not competitive in terms of the levels of funding for first-year students ($1750/mo vs $2200 - $2500/mo at top-tier schools). Only 5-6 T.A. positions are available for graduate students (about 15% of the total number of students). Graduate students are also saddled with $3,500 in fees ($5,000 in the first year).”

Response: The Department agrees with the above assessment of the Committee. In order to retain and recruit better graduate students the Department increased the stipend in FY 2009 by
6%, making the PhD stipend to $1,850/m. Efforts are being undertaken by the College and the Department to compensate the students $3,500 for their in-state tuition; the issue has not been resolved yet.

4. Curriculum and Program of Study
Comment: The students also indicated that, while the variety of classes offered within the department is adequate, they would like the opportunity (and knowledge of opportunities) to take classes in other departments that might be more germane to their research specializations. There was a consensus opinion that a technical communication class would be a welcome addition to the curriculum.

Response: The grad students have full access to classes offered by other Departments. However, a student’s Program of Study determined by the Committee, thesis advisor, and the Departmental Graduate Advisor. The Departmental Graduate Committee will study the option of adding technical communication for all the students in the graduate program.

Comment:
Another suggestion made was that the policies and procedures for the BS/MS degree be clarified and that the department might also consider a non-thesis option for that degree.

Response: The Departmental Graduate Committee is actively considering the “non-thesis” MS option. It is already in the catalog; however, this is not actively pursued in the Department. A decision will be taken in the FY 2009.

5. Facilities and Resources:
Comments: It was pointed out during discussion and in the document provided that the department currently occupies about 61% of the space needed for the level of research that is carried out in the Department. Once the current renovation project is completed, the department will pick up about 2,500 square feet of space. Even with this renovation, the department will still be 25% short of the space suggested according to Coordinating Board guidelines. The Chemical Engineering building is one of the oldest on campus, and lacks proper ventilation. If the department has not put the ventilation reconstruction on a HEAF-CIP request, it is suggested that they do so.

Response: The amount of space for the research conducted by the faculty is adequate; however, additional space has to be provided by the institution in the near future. The major problem is that Chemical Engineering laboratory spaces are distributed in five different buildings, which make it difficult to have cohesive research group activities. As the Department hires more faculty members and as the number of Departmental of PhD students grows, the research laboratory and the office spaces may become limiting factors for the growth of the Department. The Department has no control over increasing the research space; it has to be accommodated by the College. The Department will ask for appropriate ventilation reconstruction funds during the HEAF-CIP request phase in 2009. The building is old, and as such suffers from issues with sewer smell. The Physical Plant is aware of the ventilation problems.
Faculty Retention:
Comments: Though it was not mentioned in the report, it was brought up during the Program Review briefing (by the Vice President of Research) that retention of young faculty members is an issue that needs to be resolved.

Response: The Department recognizes that some young faculty members have left the Department in the last two years. Most of these were due to personal and family reasons. As our faculty members become more productive and excel in funded research, other universities will try to recruit them away from Texas Tech. However, it is up to the University, the College, and the Department to match and make competitive counter offers to the departing faculty. The Department wants to be pro-active so that this situation does not arise. The Department provides active mentoring (all untenured professors have formal mentoring committee) to young faculty members. Also, a Faculty Retention Committee has been set up to study the issue of retention at TTU. This committee is chaired by Dr. Brandon Weeks; the other Committee members are Dr. Michelle Pantoya of Mechanical Engineering and Dr. Ron Larson, who is the ex-Department chair of Chemical Engineering at the University of Michigan, and serves on the External Advisory Board of Chemical Engineering at TTU. The Committee will study peer institution data and develop a report, and this will be discussed by the general faculty in faculty meetings. Appropriate steps will be taken to implement the recommendations.

6. The summary statement of the Program Review Committee is as follows:
The Department of Chemical Engineering at Texas Tech is poised to move to the next level with regard to its graduate program. As with many programs on campus, this will not be accomplished without a resource base. Although there are some things that can be done to the program gratis to improve some of its internal workings (and these are detailed in other parts of this report), improving the number and quality of graduate students will not come without a price tag. The problem of improving the level of graduate student is not uncoupled to having adequate resources, both with regard to infrastructure and start up, to allow for a productive faculty to become even more productive and to hire new faculty members who will help propel the Department of Chemical Engineering into top fifty status.

Response: The Department agrees with the summary statement, “The Department of Chemical Engineering at Texas Tech is poised to move to the next level with regard to its graduate program. As with many programs on campus, this will not be accomplished without a resource base…… improving the number and quality of graduate students will not come without a price tag.” The resources given to the Department for graduate education are not adequate to maintain a nationally competitive and successful PhD program. In almost all the top 50 Chemical Engineering Departments in the country, the University and the Department support the first year of new graduate students. This relieves the faculty of the burden of supporting students from their external research grants when the students are mostly taking courses and hardly doing any research. This model is almost universal in the top 50 Chemical Engineering Departments in the nation.

The Department also agrees with the statement, “problem of improving the level of graduate student is not uncoupled to having adequate resources, both with regard to infrastructure
and start up, to allow for a productive faculty to become even more productive and to hire new faculty members who will help propel the Department of Chemical Engineering into top fifty status." The resources available to the Department to provide competitive start-up to new faculty and to retain high performing faculty members are inadequate. TTU as whole will have to develop strategies for providing competitive start-up and retention packages for top candidates and faculty members. The Department is embarking on a fund raising activity through the Chemical Engineering Academy, in conjunction with the College of Engineering, to raise funds to mitigate some of these resource problems.