

VI. Conclusion

The goals and critical success of the department are fundamentally related to departmental efforts to (1) grow the number of undergraduate majors, (2) increase the number of graduate students and PhD and Masters degrees awarded, (3) attain research prominence as measured by scholarship and funding, and (4) meet our enormous service teaching obligations.

One of the facets of most mathematics departments which have measured national recognition and prominence is a vibrant and sustainable post doc program. Such departments attract promising young researchers who augment and expand the research programs of those departments and create expanding networks for continued research as they leave. The creation of a vibrant and sustainable post doc program is considered by most faculty within the department as a critical component which needs to be addressed to meet item (3). There is a substantial percentage of the active researchers in the department who originally came to the department on a “quasi post doc” basis as a two-year appointed visiting assistant professor (with an expectation that they would interact in the department’s research community) and eventually were recruited to a tenure-track position. However, in recent years that mechanism has been disrupted with administrative requirements that visiting assistant professor appointments have teaching load expectations of four courses per semester.

Relative to item (4), the rapid growth in teaching responsibilities (with the growth of the university) has resulted in larger class sections. This has required the use of classrooms, sometimes not suitable for mathematics instruction, located in several buildings around the campus. The department is in dire need of one or more large lecture rooms that are designed for mathematics instruction.

Space – office space, research lab space – is a critical limitation. The department has converted the office space formerly occupied by the Southwest Collection into cubicles that are now used by graduate teaching assistants, lecturers, and the Missouri Club, which is a tutorial service provided by the department. This arrangement has created security problems that make this area untenable for permanent use by graduate students or lecturers. The move of the Southwest Collection also left three levels of library stacks that are unsuitable, because of ADA (disability) compliance issues, for any use but storage. Two of these levels have been deeded to the Vietnam Center. This space, as well as the office space, could be utilized to create the larger classrooms that are needed to accommodate the teaching demands placed on the department. As the number of graduate students has increased, as well as the number of lecturers used to teach our increasing course enrollments, the need for adequate office space has become more acute. Renovation support which would address the conversion of the space formerly occupied by the Southwest Collection to classroom and office facilities, is critical in this regard.

With respect to item (1), the Department of Mathematics and Statistics can continue to increase the number of undergraduate majors through a range of activities that do not depend on significant financial support from the university. For instance, the department has a successful record of fund raising activities that provide scholarships for undergraduate majors. The support of TexPREP will remain an important priority that enhances the diversity of our undergraduate population while improving outreach to local schools.

On the other hand, items (2) & (4) depend in large measure on continued university support. The ability to grow the graduate program was primarily achieved by increased recruiting efforts and the use of dedicated funds for course support (Course Fees) to fund graduate student appointments. However, our continued growth in terms of supported full-time graduate students has reached a level so that we are having to cap the number of students to whom we can make offers of support.

Currently the department supports 74 graduate teaching assistants from budgeted salary funds for graduate teaching assistantships and another 14 graduate students from other funds (Course Fees & Graduate Tuition). It is a priority of the department to maintain an adequate level of funding to support our GTA's and RA's. Appendix I includes data that provides a comparison of financial support provided to graduate students in mathematics and statistics for Big 12 schools. When sorted by minimum net compensation for TAs, the department ranks eighth in the Big 12. Insufficient resources to maintain and grow the graduate program will not only adversely affect our ability to teach our large service load, but would diminish graduate degree production and negatively impact faculty research and the national stature of our research and graduate programs.

The self-study document raises some questions which need to be reviewed:

1. On page 6, there is evidence of a decreasing trend in the number of graduate degrees awarded in Mathematics over the last several years – this contrasts with the fact that at the same time the number of supported graduate students in the program has increased steadily over that same time frame. Are there specific causes? Are there items which can be addressed or ameliorated?
2. On page 37, there is evidence of a differential in the entering GPA between master's and doctoral students. Is it statistically significant? If so, what measures do we need to consider or implement in our recruitment processes?
3. On page 56, there is a monotonically decreasing pattern in the number of Graduate School Fellowships dollars which have been awarded to graduate students in the department. Part of that trend relates to fellowships offered to incoming students for the purpose attracting them to Texas Tech who then later declined. Are there other specific causes? Are there items in our recruiting processes which can be changed which would positively impact this issue?