I. Program Overview

The Department of Mathematics and Statistics is one of the largest departments on campus, with 46 tenure track faculty slots and about 92 graduate students that are supported full time as graduate teaching assistants or research assistants. The department awarded its first masters degrees in 1930 and since then over 850 masters degrees have been awarded. The Ph.D. program was approved in 1965 and the first doctorate was awarded in 1967. As of August 2009, the department had awarded 167 Ph.D.s.

The departmental administration consists of the chair, associate chair, director of graduate studies, and director of undergraduate studies. Support staff includes a supervisor, a technical typist, a graduate and undergraduate secretary, a receptionist, an office assistant and two systems administrators. The administrators and secretarial staff are housed in an office complex on the second floor of the Mathematics building.

The department carries the largest teaching load of any department at Texas Tech. During the last academic year, the department taught nearly 59,500 semester credit hours. This represented a slight increase over the average number of semester credit hours (58,245) taught over the last six academic years. Enrollment in mathematics courses continues to rise and during the current fall semester, the department taught 30,571 semester credit hours, its highest level to-date.

The number of full-time undergraduate majors decreased from 2004 through 2007, but has increased since 2007, with the current number being 167. The number of full-time graduate students has increased from 2004 through 2009 (with the exception of 2006). This year, 2009, the number of full-time graduate students is 101, which is an all-time high for the department. Each of the last two academic years the department produced five PhDs; its highest output was the 2005-06 academic year, when the department graduated 12 PhD’s. The number of undergraduate and masters degrees awarded has remained relatively stable, with an average of about 39 bachelors and 19 masters per year. Although the number of majors and degrees awarded may not seem particularly large given the size of the department, the enrollment and degree statistics compare very favorably with the peer group (University of Kansas, University of Oklahoma, Oklahoma State University) that is part of this review. In addition, the growth in the number of majors, at both the graduate and undergraduate level, is contrary to national trends in mathematics. According to data collected by the Conference Board of the Mathematical Sciences, during the 1990’s the number of junior-senior mathematics majors in the United States dropped by more than 22%, the number of bachelor’s degrees awarded in mathematics fell by 19%, and the number of graduate students in mathematics dropped by nearly 23%.

The department has an ambitious and productive faculty. Two faculty members hold the distinction of Paul Whitfield Horn Professor. One faculty member has been appointed as the Dick and Martha Brooks Endowed Professor. Since 2003, faculty members have been recognized at the university and local level as recipients of the Barnie E. Rushing, Jr. Faculty Distinguished Research Award, Arts & Sciences Outstanding Researcher, Professing Excellence Award, Phi Beta Kappa Professor of the Year, Hemphill-Wells New Professor Excellence in Teaching Award, Honors College Outstanding Faculty Member. In addition, in the last six years, three faculty members have received the President’s Excellence in Teaching Award.
The scholarly productivity and reputation of the faculty and the effectiveness of the graduate program is reflected in its classification as a Group II mathematics department as determined by the American Mathematical Society and based on data provided by the National Research Council. The 56 departments in the group are listed in Appendix J. For the last four years, the faculty has collectively published an average of 66 articles each year in refereed journals (exclusive of articles appearing in referred conference proceedings). This represents about 1.5 publications per core faculty member per year. Importantly, there has been a notable increasing trend in the number of joint faculty-student publications over the last six year. The department has a good record of securing support from federal agencies. Since 2004 the department has averaged $1,543,852 in new funding each year (as calculated by home department). The department has been particularly successful in receiving support from the National Science Foundation. The numbers of NSF grants that were awarded to Texas Tech during the fiscal years 2004-2009 was 97. Of those grants, 18 were awarded to principal investigators within the department and two other grants included Co-PIs from the department (see Appendix L.)

The department makes a concerted effort to maintain strong ties with alumni and friends. An annual newsletter is being currently prepared for distribution to more than 2,000 alumni and friends highlighting departmental activities and alumni achievements. The department's efforts to maintain contacts with alumni and friends have been rewarded by a significant growth in departmental endowments in recent years. Currently, the total endowment figure exceeds $170,000. The department has eight graduate endowed scholarships and sixteen undergraduate endowed scholarships. Additionally, the department has successfully sought STEM funding from NSF for undergraduate and graduate scholarship support. Each of the last two years, the department has awarded over $135,000 in scholarships to more than 70 mathematics and statistics students.

The department is involved in both local and professional outreach and service. The department has been the home of TexPREP-Lubbock since 1986. This summer enrichment program is targeted toward but not limited to, students who are members of minority groups or females. For the seventh time, the department hosted the Emmy Noether High School Mathematics Day. More than 160 female junior high and high school students along with 10 local teachers attended this event this past year. The department received external funding during the past year that will support the establishment of mathematics clubs for junior high school female students at local schools. The department has also hosted a number of professional conferences during the past several years. Annually, the department hosts the Red Raider Mini-Symposium that attracts some of the most prominent scholars in the world, whose expenses have been supported by Horn Professor Ruymgaart. During the past two years, grants from the National Science Foundation have provided travel support for more than 35 early career faculty from around the world to attend the Red Raider Mini-Symposium.

With several hires in recent years, the Department of Mathematics and Statistics now benefits from a vibrant growing young faculty. With continued leadership from senior members the department will continue to maintain strong research and graduate programs while also conscientiously attending to its large teaching obligation.