Unit Assessment Report - Four Column

Texas Tech University

Program - AS_Statistics (MS)

CIP Code: 27.0501.00
Degree Program Coordinator: Kent Pearce
Purpose Statement: An M.S. degree in statistics consists of 36 hours of graduate work including 3 hours of credit for a departmental report or 6 hours of credit for the master?s thesis. Up to 3 hours of graduate work are permitted in other areas such as agriculture, biology, business, economics, engineering, psychology, sociology, or fields as approved by the graduate advisor.

Outcomes	Means of Assessment & Criteria / Tasks	Results	Action for Improvement & Documentation of Action for
Program - AS_Statistics (MS) - Strategic Outcome 1 - Increase enrollment and promote student success: We will grow and diversify our student population in order to improve higher education participation and supply a well-equipped, educated workforce for the State of Texas. (TTU 2010-2020 Strategic Plan Priority 1) **Outcome Types:** Strategic **Start Date:** 09/01/2009 **Outcome Status:** Inactive	**Assessment Method:** Total enrollment in the degree program.		
	Assessment Method: Enrollment of new students in the degree program (new freshman, new transfer students, new graduate)		
	Assessment Method: Mean Class Rank of entering freshmen (if available)		
	Assessment Method: Mean ACT/SAT scores for entering freshmen majors (if available)		
	Assessment Method: Ethnic diversity of the first-time entering freshman class in the major or degree		
	Assessment Method: Mean GRE scores for entering graduate students (if applicable and available)		
	Assessment Method: First-year retention rate for majors or degree seekers		

Outcomes	Means of Assessment & Criteria / Tasks	Results	Action for Improvement & Documentation of Action for
	Assessment Method: Second-year retention rate for majors or degree seekers		
	Assessment Method: Four- and Six-Year Graduation Rates in the major or degree program.		
	Assessment Method: Master's Graduation Rate		
	Assessment Method: Doctoral Graduate Rate		
	Assessment Method: Doctoral Time to Degree Completion		
	Assessment Method: Total degrees awarded (annual Fall, Spring and Summer) in the major or degree		
	Assessment Method: For doctoral programs only, total number of Ph.D. awarded (Fall, Spring, and Summer) in the report year, number of other doctorates awarded (Ed.D.'s, DMA's, etc.).		
Program - AS_Statistics (MS) - Strategic Outcome 2 - Strengthen Academic Quality and Reputation: We will attract and retain the best faculty in the world in order to enhance our teaching excellence and grow our number of nationally recognized programs. (TTU 2010-2020 Strategic Plan Priority 2) **Outcome Types:** Strategic **Start Date:** 09/01/2009 **Outcome Status:** Inactive	**Assessment Method:** Total enrollment in the degree program		
	Assessment Method: Enrollment of new students in the degree program (new freshman, new transfer students, new graduate)		
	Assessment Method: Mean Class Rank of entering freshmen (if available)		
	Assessment Method: Mean ACT/SAT scores for entering freshmen majors (if available)		

Outcomes	Means of Assessment & Criteria / Tasks	Results	Action for Improvement & Documentation of Action for
	Assessment Method: Ethnic diversity of the first-time entering freshman class in the major or degree		
	Assessment Method: Mean GRE scores for entering graduate students (if applicable and available).		
	Assessment Method: First-year retention rate for majors or degree seekers.		
	Assessment Method: Second-year retention rate for majors or degree seekers.		
	Assessment Method: Four- and Six-Year Graduation Rates in the major or degree program.		
	Assessment Method: Master's Graduation Rate		
	Assessment Method: Doctoral Graduation Rate		
	Assessment Method: Doctoral Time to Degree Completion		
	Assessment Method: Total degrees awarded (annual Fall, Spring and Summer) in the major or degree		
	Assessment Method: For doctoral programs only, total number of Ph.D.'s awarded (Fall, Spring, and Summer) in the report year, number of other doctorates awarded (Ed.D.'s, DMAs, etc.).		
Program - AS_Statistics (MS) - Research and Advanced Mathematics - Students will demonstrate knowledge of advanced mathematical topics and conduct their own	**Assessment Method:** Assessment will utilize surveys of the thesis and report advisory committees	09/14/2011 - Thesis committees were surveyed as to student mastery of advanced concepts and preparedness to conduct independent research.	

Outcomes	Means of Assessment & Criteria / Tasks	Results	Action for Improvement & Documentation of Action for
research. **Outcome Types:** Student Learning **Start Date:** 07/01/2006 **Outcome Status:** Active	**Assessment Method Category:** Post-Evaluation	See attached document "Advanced Topics Mastery - Thesis Committee Survey 2011" for **Result Type:** Criterion Met **Action Status:** No Action Needed **Related Documents:** Advanced Topics Mastery - Thesis Committee Survey 2011	
	Assessment Method: Assessment will utilize surveys of instructors teaching core graduate courses. **Assessment Method Category:** Post-Evaluation	05/31/2009 - Instructors of prelim sequences were surveyed as to their students competency. See attached document "Advanced Topics Mastery - Core Course Survey 2009" for results. **Result Type:** Criterion Not Met **Action Status:** Action In Progress **Related Documents:** Advanced Topics Mastery - Core Course Survey 2009	11/04/2010 - Review the core sequences: curriculum, graduate texts, passage rates ――――――――――――――――――――
		05/31/2008 - Instructors of prelim sequences were surveyed as to their students competency. See attached document "Advanced Topics Mastery - Core Course Survey 2008" for results. **Result Type:** Inconclusive **Action Status:** Action To Be Defined **Related Documents:** Advanced Topics Mastery - Core Course Survey 2008	
		05/31/2007 - Instructors of prelim sequences were surveyed as to their students competency. See attached document "Advanced Topics Mastery - Core Course Survey 2007" for results. **Result Type:** Inconclusive **Action Status:**	

Outcomes	Means of Assessment & Criteria / Tasks	Results	Action for Improvement & Documentation of Action for
		Action To Be Defined **Related Documents:** Advanced Topics Mastery - Core Course Survey 2007	
Program - AS_Statistics (MS) - Oral and Written Communication Skills - Students will demonstrate effective oral and written communication skills. **Outcome Types:** Student Learning **Start Date:** 07/01/2006 **Outcome Status:** Active	**Assessment Method:** Assessment will utilize surveys of the thesis and report advisory committees **Assessment Method Category:** Post-Evaluation **Criterion:** 80% or higher of identified students in the surveys will be characterized as having effective oral and written communications.	09/14/2011 - The advisory committees were surveyed as to their students competency. See attached document "Graduate Communication Skills 2011" for results. **Result Type:** Inconclusive **Action Status:** Action To Be Defined **Related Documents:** Graduate Communication Skills	
		05/31/2010 - The advisory committees were surveyed as to their students competency. See attached document "Graduate Communication Skills 2010" for results. **Result Type:** Criterion Met **Action Status:** No Action Needed **Related Documents:** Graduate Communication Skills	
		05/31/2009 - The advisory committees were surveyed as to their students competency. See attached document "Graduate Communication Skills 2009" for results. **Result Type:** Criterion Not Met **Action Status:** Action To Be Defined **Related Documents:** Graduate Communication Skills	
		05/31/2008 - The advisory committees were surveyed as to their students competency. See attached document "Graduate Communication	

Outcomes	Means of Assessment & Criteria / Tasks	Results	Action for Improvement & Documentation of Action for
		Skills 2008" for results. **Result Type:** Criterion Met **Action Status:** No Action Needed **Related Documents:** Graduate Communication Skills	
		05/31/2007 - The advisory committees were surveyed as to their students competency. See attached document "Graduate Communication Skills 2007" for results. **Result Type:** Criterion Not Met **Action Status:** Action To Be Defined **Related Documents:** Graduate Communication Skills	
Program - AS_Statistics (MS) - Trends of Industry, Govt, and Research - Students will demonstrate knowledge of mathematical materials that reflect the needs and trends in industrial, governmental, and academic research environments. **Outcome Types:** Student Learning **Start Date:** 07/01/2006	**Assessment Method:** Assessment will be based on surveys of employers conducted 1 year after graduation. **Assessment Method Category:** Employer Survey **Criterion:** 90% of the surveyed employers will report satisfaction with the training in the foundations of mathematics required for their employment.		
Outcome Status: Active	**Assessment Method:** Assessment will utilize a final program student self efficacy survey and interviews with randomly chosen graduating seniors. **Assessment Method Category:** Survey - Student **Criterion:** Post-graduate surveys will report a 95% success rate for graduates seeking professional or academic employment.	05/31/2010 - A survey of the masters recipients showed that 80% of the students either were employed or else admitted into a PhD program. **Result Type:** Criterion Not Met **Action Status:** Action In Progress	11/04/2010 - Revised the assessment method to measure the effectiveness of the preparation of graduates for needs and trends in employment by assessing the perspectives of the employers about the preparation of our graduates

Outcomes	Means of Assessment & Criteria / Tasks	Results	Action for Improvement & Documentation of Action for
		05/31/2009 - A survey of the masters recipients showed that 90% of the students either were employed or else admitted into a PhD program. **Result Type:** Criterion Met **Action Status:** No Action Needed	
		05/31/2008 - A survey of the masters recipients showed that 96% of the students either were employed or else admitted into a PhD program. **Result Type:** Criterion Met **Action Status:** No Action Needed	
		05/31/2007 - A survey of the masters recipients showed that 100% of the students either were employed or else admitted into a PhD program. **Result Type:** Criterion Met **Action Status:** No Action Needed	
Program - AS_Statistics (MS) - Establish Foundation for Graduate Study - Prospective PhD students will demonstrate knowledge of those mathematical concepts prerequisite for continued graduate study. **Outcome Types:** Student Learning **Start Date:** 07/01/2006 **Outcome Status:** Active	**Assessment Method:** Each year the department will review the success rate, over the previous five-year window, of students passing the prelim requirement for advancement into the doctoral program. **Assessment Method Category:** Post-Evaluation **Criterion:** 75% of the students who take the prelims in the previous five-year window will pass the prelim requirement for advancement into the doctoral program.	09/14/2011 - The attached file "Prelim Passage Rates 2011" reports base passage rates for seven five-year windows from 2001-2005 through 2007-2011. Generally, the passage rates show an increasing trend from 56.8% for 2001-2005 to 82.4% for 2007-2011. **Result Type:** Criterion Met **Action Status:** No Action Needed **Related Documents:** Prelim Passage Rates 2011	
		11/04/2010 - The attached file "Prelim Passage Rates 2010" reports base passage rates for six five-year windows from 2001-2005 through 2006-2010. Generally, the passage rates show an increasing trend from 56.8% for 2001-2005 to	11/04/2010 - Revised the assessment method to measure the successful completion of the prelim requirement as opposed to the passage rate of individual prelim

Outcomes	Means of Assessment & Criteria / Tasks	Results	Action for Improvement & Documentation of Action for
		69.2% for 2006-2010. **Result Type:** Criterion Not Met **Action Status:** Action To Be Defined **Related Documents:** Prelim Passage Rates 2010	exams 11/04/2010 - Co-sponsor with the graduate student organization (SIAM) prelim boot camps to facilitate review and preparation for the prelim exams
	Assessment Method: 80% of students taking preliminary examinations will pass the sequences of exams required for admittance into the doctoral program. Students seeking admittance into graduate programs beyond the masters degree will show a 90% acceptance rate. **Assessment Method Category:** Course Level Assessment **Criterion:**	12/31/2009 - Preliminary exams were administered to 55 candidates. In 2009, 69% of the candidates passed the exams. **Result Type:** Criterion Not Met **Action Status:** Action To Be Defined	
		12/31/2008 - Preliminary exams were administered to 31 candidates. In 2008, 81% of the candidates passed the exams. **Result Type:** Criterion Met **Action Status:** No Action Needed	
		12/31/2007 - Preliminary exams were administered to 32 candidates. In 2007, 75% of the candidates passed the exams. **Result Type:** Criterion Not Met **Action Status:** Action To Be Defined	
		12/31/2006 - Preliminary exams were administered to 42 candidates. In 2006, 33% of the candidates passed the exams. **Result Type:** Criterion Not Met **Action Status:** Action To Be Defined	

Outcomes	Means of Assessment & Criteria / Tasks	Results	Action for Improvement & Documentation of Action for
		12/31/2005 - Preliminary exams were administered to 43 candidates. In 2005, 53% of the candidates passed the exams. **Result Type:** Criterion Not Met **Action Status:** Action To Be Defined	
Program - AS_Statistics (MS) - Modeling and Computational Skills - Students will show knowledgeable of the applications of statistics and demonstrate modeling and computational skills. **Outcome Types:** Student Learning **Start Date:** 07/01/2006 **Outcome Status:** Active	**Assessment Method:** Assessment of students' computational skills in the use of the statistical package SAS will be based on their performance in the courses STAT 5371 and STAT 5373 as assessed by surveys of their instructors and as further assessed by their thesis and/or report advisors **Assessment Method Category:** Post-Evaluation		
Program - AS_Statistics (MS) - Teaching Skills - Students employed as GTAs will identify and practice good teaching skills required for both academic and industrial employment. **Outcome Types:** Student Learning **Start Date:** 07/01/2006 **Outcome Status:** Active	**Assessment Method:** Each semester the department will conduct faculty classroom observations of each GTA assigned to teach an undergraduate class. The qualitative and quantitative reports from the classroom observations will be reviewed and discussed with the GTAs. Each semester the university student evaluations will be administered to each undergraduate course to which a GTA is assigned. **Assessment Method Category:** Course Level Assessment **Criterion:** Of the GTAs surveyed, 80% of them will have a score of 4.0 or higher (out of 5.0) on both the faculty observation reports and the student evaluations.	09/14/2011 - Student evaluation scores for GTAs for 2006 -2010. **Result Type:** Criterion Not Met **Action Status:** Action In Progress **Related Documents:** GTA Evaluation Scores 2010 01/31/2010 - Student evaluation scores for GTAs for 2006 -2009. **Result Type:** Criterion Not Met **Action Status:** Action To Be Defined **Related Documents:** GTA Evaluation Scores 2009	09/16/2011 - Meet with each student each semester for whom the previous semester student evaluation scores are below 3.0 to discuss concerns, problems, needs and goals for improvement. 11/04/2010 - Revise the faculty evaluation procedures to add a quantitative component to the faculty classroom observations 11/04/2010 - Meet with each student each semester for whom the previous semester student evaluation scores are below 3.0 to discuss concerns, problems, needs

Outcomes	Means of Assessment & Criteria / Tasks	Results	Action for Improvement & Documentation of Action for
			and goals for improvement.
	Assessment Method: All GTA's without prior mathematics teaching experience (at least one year) at either secondary or college levels will take Math 5360L: Special Topics in Pedagogy. 80% will pass with a grade of B or higher. Assessment will utilize results from pre- and post-course surveys. **Criterion:** B or higher	12/31/2009 - In 2009-10, 100% of the students enrolled in Math 5360: Special Topics in Pedagogy passed the course with a B or higher. **Result Type:** Criterion Met **Action Status:** No Action Needed	
		12/31/2008 - In 2008-09, 100% of the students enrolled in Math 5360: Special Topics in Pedagogy passed the course with a B or higher. **Result Type:** Criterion Met **Action Status:** No Action Needed	
		12/31/2007 - In 2007-08, 100% of the students enrolled in Math 5360: Special Topics in Pedagogy passed the course with a B or higher. **Result Type:** Criterion Met **Action Status:** No Action Needed	
		12/31/2006 - In 2006-07, 100% of the students enrolled in Math 5360: Special Topics in Pedagogy passed the course with a B or higher. **Result Type:** Criterion Met **Action Status:** No Action Needed	