August 2006

PROGRAM-LEVEL ASSESSMENT PLAN

Degree Title: B.A. in Mathematics

Purpose of degree program (Limit to approximately 50 words): This degree provides traditional liberal arts training with a specialization in mathematics to prepare students to teach mathematics at the K-12 level, to work in the private sector or government careers that require logical reasoning and problem solving skills, or to enter a post baccalaureate degree program.

	EXPECTED LEARNING OUTCOMES	METHODS OF ASSESSMENT
1	Students will understand the basic concepts and applications of differential and integral calculus of one and several variables, and develop the basic skills therein.	All students will complete the equivalent of MATH 1351, Calculus I, MATH 1352, Calculus II, MATH 2350 Calculus III with a grade of C or higher. Overall student performance will utilize uniform departmental final exams that include instructor assessment of course performance as determine by surveys included with final exams. This will include an assessment of student performance on basic Calculus 1 questions embedded in the Calculus 2 final and basic Calculus 2 questions embedded in the Calculus 3 final.
2	Students will gain a mastery of logic, rigor and proof.	All students will complete MATH 2360, Linear Algebra, and the writing intensive courses Math 3360, Foundations of Modern Algebra I, and MATH 4350, Advanced Calculus I with a grade of C or higher. Other assessments will include: a review of students' portfolio of formal technical writings from MATH 3360 and MATH 4350; results from pre- and post-course student self efficacy surveys from these courses; and surveys of instructors teaching the courses.
3	Students will be knowledgeable in application of mathematics and problem solving in the physical sciences and engineering.	Assessment will be based on results from pre- and post-course student self efficacy surveys from MATH 3354, Differential Equations I, or MATH 3350, Higher Math of Engineers and Scientists, as well as surveys of instructors teaching the courses.
4	Students will develop the appropriate skills required to communicate technical mathematics.	Review of students' portfolio of formal technical writings from MATH 3360 and MATH 4350 will be conducted.
5	Students will become familiar with the use of computer algebra systems as both learning and problem solving tools.	Assessment will include a review of archived course worksheets and group projects from MATH 3430, Computational Techniques for Science and Mathematics, course portfolios from MATH 4371, Basic Computer Literacy and Programming, and surveys of instructors teaching the courses.

6	Students will gain substantial conceptual understanding and skill acquisition in an elective mathematical area of their choosing, depending on their career aspirations.	Students will choose electives from the following areas: Statistics: MATH 4342, Mathematical Statistics I, MATH 4343, Mathematical Statistics II; Applied Mathematics: MATH 4354, Differential Equations 2, MATH 4310, Introduction to Numerical Analysis I; Pure Mathematics: MATH 4360, Foundations II, MATH 4351, Advanced Calculus II; Teaching: MATH 4331, Advanced Geometry. Assessment will utilize a final program student self efficacy survey and interviews with randomly chosen graduating seniors.
7	Students earning teaching certificates will develop a understanding of elementary mathematics at the K-12 levels.	Of those students taking the TExES exam, 75% will pass.
8	Students will gain broad knowledge of the humanities, social sciences, physical sciences, fine arts, foreign language consistent with the liberal arts philosophy of the College of Arts and Sciences	Students will take the core courses as determined by the College of Arts and Sciences and minor department not in the sciences, economics, or exercise sport science. Refer to individual departments' assessments of learning
9	Graduating students will demonstrate a basic knowledge and understanding mathematics that exceeds performance as measured by national comparative data.	Seniors will take the online Major Field Examination designed by the Educational Testing Service and 80% of students will score in the top quartile.