

MAJOR PROGRAM ASSESSMENT PLAN

BA in Mathematics

Student Learning Goals/Objectives	Courses Resulting in Outcomes/Goals	Activities Resulting in Outcomes/Goals	Assessment Measures/ Criteria/Rubrics	Timetable
<p>1. Mathematics majors (MAT) will master a rich and diverse set of mathematical ideas and techniques from across the core courses of single and multivariable calculus, discrete mathematics, linear algebra, probability, modern algebra, and real analysis.</p>	<p>MAT 161-162-263; MAT 270; MAT 202; MAT 381; MAT 300; MAT 301; MAT 417; MAT 491</p>	<p>Problem solving sessions in calculus courses, homework, quizzes, exams, projects in designated courses.</p>	<p>ETS Major Field Test in Mathematics. Overall scores, and subgroup scores for calculus and algebra, will be assessed and results will be compared with comparable four-year institutions.</p>	<p>2010</p>
<p>2. Mathematics majors (MAT) will understand the nature of proof and construct well-structured and valid mathematical arguments.</p>	<p>MAT 270; MAT 300; MAT 301; MAT 417; MAT 491</p>	<p>Students will critique and construct proofs as a part of homework, quizzes, exams, and in-class activities in the designated courses. Students will select representative samples of their graded quiz/exam work demonstrating accomplishment in the area of proof and maintain a portfolio of the samples in their advisor's office.</p>	<p>Portfolio of student written proofs from designated courses assessed with a rubric.</p>	<p>2011</p>
<p>3. Mathematics majors (MAT) will choose appropriate mathematical approaches for analyzing new situations and solving multi-step and open-ended problems.</p>	<p>MAT 161-162-263; MAT 202; MAT 381; MAT 300; MAT 301; MAT 417; MAT 491</p>	<p>Students will regularly solve routine, nonroutine, and applied problems as part of problem solving sessions in calculus and in the course of completing homework, quizzes, exams, and in-class activities in the designated courses.</p>	<p>ETS Major Field Test in Mathematics. Subgroup scores for solving routine, nonroutine, and applied problems will be assessed and results will be compared with comparable four-year institutions.</p>	<p>2012</p>

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4. Mathematics majors (MAT) will communicate his/her mathematical ideas and results, both orally and in writing, with clarity and precision.	MAT 300; MAT 301; MAT 417; MAT 491	Students will regularly engage in activities that foster written and oral communication skills in the designated courses. Criteria for evaluation will be shared with students.	MAT 491 Capstone Research in Mathematics final paper and presentation to math department faculty. Rubrics contain criteria related to evaluation of oral and written work.	2013
5. Mathematics majors (MAT) will use appropriate technology in solving problems.	MAT 161/163–162/164–263/264; MAT 202; MAT 381; MAT 491	Students will use technology to explore and solve problems in the designated courses. Students will select representative samples of their graded quiz/exam work demonstrating their success in the use of appropriate technology and maintain a portfolio of the samples in their advisors office.	Portfolio of student work demonstrating their ability to solve problems by utilizing appropriate technology from designated courses assessed with a rubric.	2014