

## BSE in Math

Learning Outcome	Data Collection and Analysis	Results of Evaluation	Use of Evaluation Results																											
<p>General Education Outcome</p> <p>Demonstrate proficiency in basic knowledge of College Algebra topics.</p>	<p>The final examination in MAT 104 College Algebra will be used to determine the level of mastery of the topics in College Algebra. The examination is written each semester by a committee of faculty members who do not teach the course during that particular semester, and the examination material covers specific course objectives which have been defined by a committee of departmental faculty. All college algebra students take this common final exam during an exam period that is dedicated solely to this course. Following the administration of the final exam, an item analysis will be performed to determine areas of weakness and strength.</p>	<p>Analysis of fall 2005 semester grades are shown in the following table.</p> <p>The objective number corresponds to the published objectives for College Algebra (MAT 104). The final exam questions were matched to these 8 objectives. The number of students that demonstrated mastery of each objective was computed.</p> <table border="1" data-bbox="760 940 1193 1430"> <thead> <tr> <th>Objective Number</th> <th>Mastery %</th> <th># of exam questions for that objective</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>55%</td> <td>2</td> </tr> <tr> <td>2</td> <td>47%</td> <td>6</td> </tr> <tr> <td>3</td> <td>55%</td> <td>3</td> </tr> <tr> <td>4</td> <td>75%</td> <td>3</td> </tr> <tr> <td>5</td> <td>72%</td> <td>5</td> </tr> <tr> <td>6</td> <td>58%</td> <td>11</td> </tr> <tr> <td>7</td> <td>65%</td> <td>1</td> </tr> <tr> <td>8</td> <td>45%</td> <td>1</td> </tr> </tbody> </table>	Objective Number	Mastery %	# of exam questions for that objective	1	55%	2	2	47%	6	3	55%	3	4	75%	3	5	72%	5	6	58%	11	7	65%	1	8	45%	1	<p>Since 11 questions matched with objective number 6, this objective may be too general. A committee from the faculty will examine this objective to decide if it should be made into several specific objectives. One question for each objective 7 and 8 is not enough to judge mastery; however, not much course time is devoted to these two objectives.</p>
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<p>Major Field Outcomes</p> <p>Demonstrate understanding of fundamental ideas, concepts, and applications</p>	<p>ETS Major Field Test</p>	<p>Seven students took the online version of the test in May 2006. The timing was bad as 5 of the students were preparing for examinations and three students were finishing student teaching. The mean score was 140 which is the 20<sup>th</sup> percentile.</p>	<p>The department will determine a more appropriate time for the students to take the test. Currently we do not have sufficient</p>																											

of mathematics.			information regarding the test content nor sufficient data from our students to determine a target score for our students. We also plan to offer review sessions prior to the testing date next year.
Demonstrate the ability to communicate mathematics.	<p>In each of the 400-level mathematics content courses, the students will read an article from the area of content covered in the particular course. This article will be chosen by a committee of faculty members who teach the 400-level content courses. The student will write a synopsis and critique of the article.</p> <p>Approximately 50-75% of the paper should be devoted to the synopsis of the article which should demonstrate that the reader understands the purpose of the article as well as the major mathematical concepts present in the article. The remainder of the writing will be devoted to a critique of the article. The grading of this paper will be done by a committee of faculty members who teach the 400-level content courses as</p>	The committee used a rubric to evaluate the writing and reached consensus on the scores. On a scale of 1 to 5, the scores ranged from 1 to 4 with 8 students scoring 3 or better and 8 scoring below 3.	The department will continue this type of writing assessment by gathering data in all 400-level courses in fall semester. We will track those who made below 3 on the first assessment and look for improvement in later assignments. If the department deems it necessary, this assignment may be included in the 300-level content courses as well.

	<p>prescribed by a rubric developed by the faculty members on this committee. The results will be analyzed by the mathematics faculty.</p>		
<p>Performs appropriate mathematics career skills.</p>	<p>Survey of graduates: A list of graduates, both BS and BSE, will be obtained from Alumni Services. The first survey will be sent to graduates of 5 to 7 years ago. Rationale: Experience on the job for at least 5 years will aid in ability to judge preparation. The survey will be repeated bi-annually. The survey will be designed and analyzed by a committee of mathematics faculty. Some questions will be likert-type questions (rating scale of 5 high to 1 low) and some will be short answer questions. Rating numbers from the likert-type questions will be averaged. Any question that averages below a 3 will be marked as an area for improvement. The short answer questions will be analyzed in a qualitative sense with attention to common threads or trends. Example short answer question: What skills or mathematics topics</p>	<p>Results pending. The first survey will be mailed in fall semester.</p>	<p>After an examination of the present program, changes will be considered based on information from the survey analysis.</p>

	are emphasized in your work that DSU could have better prepared you to use?		
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