

Name of Program: General Education -- Math	Date: 2005/2006 Last Revised 6-01-06
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Competencies/ Student Learning Objectives	Measures Methodology	Expected Results/Standards	Actual Results		Analysis	Action / Recommendation
<p>The Student will be able to:</p> <p>A. Demonstrate the ability to convert and calculate physical quantities:</p> <ol style="list-style-type: none"> 1. perform unit conversions 2. calculate physical quantities 3. show evidence of data <p>B. Analyze and solve word problems</p> <ol style="list-style-type: none"> 1. show evidence of application of appropriate mathematical operations 	<p>Direct measure: Selected Instructors will embed mathematical questions in classroom examinations and forward the results to the FACS math team. A random sample of 35 papers will be selected from the sample pool.</p>	<p>Each student will score a minimum of a 3 on each math skill</p>	<p>Math classes from fall semester (no credit hr. criteria)</p> <p>A1 3.417 A2 3.61 A3 3.39</p> <p>B1 3.64</p> <p>(Sample was comprised of AA, AS and AAS students)</p>	<p>Spring semester non-math classes- students with 45+ credit hours</p> <p>A1 3.28 A2 3.52 A3 3.57</p> <p>B1 3.857</p> <p>(Sample was largely comprised of AA/AS students)</p>	<p>Students met expectations. There were slight inconsistent differences between the two groups; this suggests that although most students take required math courses as freshmen, skills are retained through their sophomore year. Students were able to do the problems but did not use dimensional analysis as well as they could have. Mean scores would have been higher if the scoring instrument had allowed partial credit for writing in formulas rather than drawing pictures; students' knowledge of formulas indicates their understanding of mathematical concepts. Although all mean scores were above a 3, (acceptable) future analysis needs to reflect comparison of students receiving differing degrees because their math requirements differ.</p>	<p>Math instructors will emphasize dimensional analysis more strongly in required math courses.</p> <p>The rubric will be revised to allow for partial credit being awarded for formulas.</p> <p>The sample for the next assessment cycle will be large enough to include 25 students seeking AA/AS degrees and 25 students seeking AAS/ADN degrees.</p> <p>The team recommends establishing an assessment day where sample selection for the FACS teams would mirror the process used for the administration of the CAAP this past spring.</p>
<p>The Student will be able to:</p> <p>A. Demonstrate the ability to convert and calculate physical quantities</p> <p>B. Analyze and solve word problems</p>	<p>Indirect measure: Students will respond to the following questions on the <i>Graduating student General Education survey</i></p> <p>#7 The instruction I received at NECC has helped me to analyze and solve word problems in mathematics</p>	<p>Students will rate the instruction and the skill level they have achieved at NECC as 3 or above.</p>	<p>#7 3.91</p>		<p>Students met the expectation.</p> <p>They agree that they have the basic skills for the identified general education objectives. They attribute their skill level to the education that they received at NECC.</p>	<p>Continue to provide a high quality of instruction in general education math courses.</p>

Competencies/ Student Learning Objectives	Measures Methodology	Expected Results/Standards	Actual Results	Analysis	Action / Recommendation
	<p>#8 The instruction I received at NECC has helped me to strengthen my mathematical skills in converting and calculating physical quantities</p> <p><u>Skill level & NECC impact</u> #18 Solve word problems in mathematics</p> <p>#19 Use math to convert and calculate physical quantities</p> <p>(See 2006 Complete report for description of process and results)</p>		<p>#8 3.90</p> <p>Cross Tabulation results</p> <p>#18 189/204 responses were 3 or above and attributed impact to NECC</p> <p>#19 176/196 responses were 3 or above and attributed impact to NECC</p>		
<p>C. The student will demonstrate math skills.</p>	<p>Direct measure</p> <p>Collegiate Assessment of Academic Proficiency (CAAP) mathematics exam.</p>	<p>Students will score within 5 points of the national norm on the math sections of the CAAP exam.</p> <p>National Norm = 56.1</p>	<p>AAS 55.8</p> <p>AA/AS 55.7</p> <p>See CAAP Analysis and Report Spring 2006 for more specific results and break down in scores of specific areas.</p>	<p>Both groups were strongest in pre-algebra but showed weaknesses in other areas.</p> <p>Students met the expectation; however, the weaker areas as identified in the CAAP analysis seem to coincide with the fact that a good share our AA students take <i>Foundations of Math</i> because it transfers to WSC. This is unique because most other 4-year college require intermediate algebra or above.</p> <p>See CAAP Analysis and Report Spring 2006 for in depth analysis</p>	<p>Math department instructors need to review the 2006 report and implement classroom strategies to strengthen math skills above the pre-algebra level.</p> <p>In looking at transfer education, the results of this assessment should be shared in dialogues regarding transferability.</p>
<p>C. The Student will be able to demonstrate Math Skills</p>	<p>Indirect measure</p> <p>Career Services Employer Satisfaction Survey: Survey was sent to employers of 2004 NECC graduates and included an item that asked employers to rate the employee's math skills.</p>	<p>The mean score of past students math skills will be rated by their employers as a 3 or above on a 4 point scale. (good or excellent)</p>	<p>Mean score 3.03</p> <p>97/128 students were rated as good or excellent. The responses were as follows:</p> <ul style="list-style-type: none"> ▪ Excellent-39 ▪ Good- 58 ▪ Fair- 12 ▪ Poor-1 ▪ Not Applicable-11 	<p>The team is satisfied with the results. They seem to correspond with findings of other measures.</p>	<p>This is the first time the survey was administered with the general education goal categories. Future administration of the survey will yield comparison data.</p>