

COURSE SLO ASSESSMENT REPORT, SCC

Department: Mathematics Course: 170—Pre-Calculus

Year: 2012 Semester: Fall

| 1) Outcome to be assessed | 2) Means of assessment and criteria of success | 3) Summary of data collected | 4) Analysis of data | 5) Plan of action/what to do next |
|--|--|---|--|---|
| <p>SLO #2</p> <p>Formulate and analyze mathematical models for a variety of real-world phenomenon and use mathematical and technological tools to determine the veracity of the model.</p> | <p>Four questions on the departmental final exam will be assessed.</p> <p>A student will be considered “successful” on a question if they showed appropriate work and were correct up to a minor computational error.</p> <p>The SLO will be met if 70% of students are successful on each question.</p> | <p>157 finals from 5 different sections offered in Spring and Fall of 2012 were analyzed.</p> <ul style="list-style-type: none"> • Question 1 (model rational function from graph): 68.8% overall rate of success. • Question 2 (model a trig function from graph): 58% overall rate of success. • Question 3 (exponential word problem): 56.1% overall rate of success. • Question 4 (series word problem): 49% overall rate of success. | <p>Though overall none of the questions reached the 70% success rate, there was significant variation among the 5 different sections. In one section, all the questions were above 70% successful. In two of the sections, 3 out of the 4 questions were above 70% successful. In the remaining two sections, none of the questions were above 70%.</p> <p>The trig question was successful in only one of the sections.</p> | <p>Convene a subgroup to review the final exam. Consider splitting the final into non-calculator and calculator portions to allow changes in how the graphical questions were asked.</p> <p>Determine if supplementary material is needed for certain topics. The current textbook is weak on modeling.</p> |

Sections

| Question Type | A | B | C | D | E | Aggregated |
|---------------------------|-------|-------|-------|-------|-------|------------|
| Modeling a graph-rational | 78.9% | 52.4% | 88.9% | 91.3% | 52.8% | 68.8% |
| Modeling a graph-trig | 52.6% | 47.6% | 55.6% | 82.6% | 61.1% | 58.0% |
| Exponential word problem | 81.6% | 16.7% | 83.3% | 91.3% | 38.9% | 56.1% |
| Series word problem | 81.6% | 16.7% | 83.3% | 73.9% | 19.4% | 49.0% |