

COURSE SLO ASSESSMENT REPORT, SCC

Department: _____ Physics _____ Course: _____ 227 _____

Year: _____ 2012 _____ Semester: _____ Spring _____

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>Systematically analyze problems involving electromagnetic phenomena by applying one or more problem solving techniques including calculus, conservation laws, and Maxwell's equations.</p>	<p>Each of the free response problems was rescored using a rubric from 1 to 5. A single problem may have multiple concepts that were being evaluated. An area of success for the class would be at least 70% of students being successful and a successful student will have accumulated at least 70% of the assessment points possible.</p>	<p>There were 27 students enrolled by the end of the semester although only 26 students attempted the final exam. Student success was poor in the areas of Electric Fields and Charge Densities on the first midterm exam and Faraday's Law on the final exam. 21 out of 27 students were at the successful level by the end of the term with an average of 77.8% of assessment points earned by the students. As in the past there were a few students that passed the course (60%) that were not successful (70%) for this SLO.</p>	<p>Students improved their success on charge density from ~38% on the first midterm to ~78% on the final exam. Correctly computing the electric field is dependent on the charge density and this explains this improvement in that calculation. Faraday's law continues to be the most disappointing topic covered. It is the most challenging and is also the last topic covered because it requires the previous material. DLAs have improved success on Gauss' and Ampere's Law.</p>	<p>A workshop will be provided on Faraday's law during the Fall 2012 semester to see if that supplemental presentation can help improve results in that topic. The results continue to show that many students are grasping the material at a level which indicates that they will be successful in future courses in the physical sciences and engineering.</p>

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<p>Investigate physical phenomena using appropriate equipment and methods, make valid comparisons with theoretical predictions, and communicate those results.</p>	<p>An individual assessment activity was given to students covering several of the measurements, apparatuses, and calculations that they were asked to do during the semester. Each portion of the assessment was worth 1 point and a student could earn 0, 0.5, or 1 point for it. A total of 10 points were possible with a student needing a score of 7 or greater to be successful.</p>	<p>There were 26 of the 27 enrolled students that completed the assessment with 11 of those 26 being successful. The average score for the students was between 6 and 7.</p>	<p>While the number of successful students dropped from last Spring, this assessment forced students to show important knowledge on more topics than the previous version. Students struggled with the oscilloscope and had difficulty finishing the graphing exercise but most were able to start the graph correctly and properly diagram how to assemble a circuit which involved series and parallel combinations of resistors.</p>	<p>Enough time may not have been given to properly complete this activity. There were many students that seemed to be on the right track but were not able to complete everything in the time allotted. This same assessment will be given during the Fall but additional time will be provided to see if there is any change in the results.</p>