Course SLO Assessment Report - 4-Column

El Camino College

El Camino: Course SLOs (MATH) - Math (GE and Non-Science Majors)

Course SLOs	Assessment Methods & Standard and Target for Success / Tasks	Results	Action & Follow-Up
El Camino: Course SLOs (MATH) - Math (GE and Non-Science Majors) - ECC: MATH 120 - Nature of Mathematics - SLO #2 Solve Application Problems Using Graphical Methods - Solve application problems using graphical methods such as: 3-ring Venn diagrams, truth tables, Euclidean, Riemannian and Lobachevskian geometries. (Created By El Camino: Course SLOs (MATH) - Math (GE and Non-Science Majors)) **Course SLO Assessment Cycle:** 2016-17 (Spring 2017) **Input Date:** 11/21/2013 **Course SLO Status:** Active	**Assessment Method Description:** Sample Question: A survey of 100 customers at Ralph's produces the following data: • 44 like Cheerios. • 37 like Raisin Bran. • 40 like Rice Krispies. • 5 like Raisin Bran and Rice Krispies only. • 10 like Rice Krispies and Cheerios only. • 3 like Raisin Bran and Cheerios only. • 18 like all three. (a) Construct a Venn Diagram and answer the following questions: (b) How many like only Raisin Bran? (c) How many who are loyal to just one of the breakfast cereals? (d) How many do not like any of the three cereals above? Alternate Question: Applications of Sets. A survey of ECC students, collected the data below: 52. participate in running (or jogging) 27. participate weight lifting 38. participate in a team sport (baseball, volleyball, soccer, etc.) 15. participate in running and weight lifting 23. participate in running and a team sport 8. participate in weight lifting and a team sport 3. participate in all three activities. 43. participate in none (or refused to answer (a) Construct a Venn diagram for the above activities, with cardinalities in the regions formed by the overlapping circles. Using the Venn Diagram, answer the questions below: (b) How many participate only in running? (c) How many participate exactly one activity? (d) How many participate exactly two activities? (e) How many ECC students were surveyed altogether? **Assessment Method:**	12/08/2013 - All 5 sections of Math 120 (0708, 0710, 0711, 0712, 0714) participated in this SLO. Here are the results: * 152 students were assessed * 89 students (58.5%) scored a "3", 21 students (13.8%) scored a "2", 23 students (15.1%) scored a "1" and 19 students (12.5%) scored a "O". * Overall passing rate is 72.3% (scoring a 2 or 3) and 28% did not pass. There is one section that used the alternate question and the success rate for that particular section was only 48%. Perhaps, this slightly skewed the overall success rate. Since there was a success rate of 72%, this exceeds the target of 70% set for this assessment. Here are some suggestions from the participating instructors on how to improve the success rate for this particular SLO: 1. Instructors can meet with the few students who did not do well to see how to improve their understanding. 2. One method that I use to introduce sets is to have an example where they, the students, have to answer whether they belong in that set, and then put their name on the appropriate set on the board. Then we add another set and see who needs to move their name to the overlap. The rest of the time when discussing sets I refer back to that example to help understand the overlapping part that seems to so often confuse the students. 3. A instructor used premade notes where the Venn diagrams were premade and we went region by region. Student could see how each region was being calculated. This also, helped color coding and labeling the regions to create an equation. 4. This semester, when showing how to solve Venn diagram problems, I drew an "exploded" Venn diagram, and addressed each portion separately. This helped students understand how to count the "does 2" portions (leaf shaped), and subtract the "does all three" for the final Venn diagram. 5. I think my students didn't apply themselves to this question because it wasn't on an exam. I think next time I'll be sure to include it on the Final exam.	12/10/2015 - Send out the SLO assessment problem at the very start of the semester so that instructors can plan accordingly and give the assessment in a timely manner. It also gives instructors time to proofread and give any suggestions/changes before the assessment is given to the students. **Action Category:** SLO/PLO Assessment Process

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	Exam/Test/Quiz **Standard and Target for Success:** Based on Rubric below, It is expected that 70% of the students will score 2 or higher on this SLO. Rubric: 0 – No Understanding (This means the student makes lots of errors when constructing the Venn Diagram and cannot answer the questions correctly). 1 - Some Understanding (This means the student makes a few mistakes when constructing the Venn Diagram, which results in errors in answering the questions). 2 - Most understanding (This means the student makes a minor error EITHER in constructing the Venn Diagram OR answering the given questions). 3 - Complete Understanding (This means the student constructs the Venn Diagram accurately and answers all of the questions correctly). **Related Documents:** Math 120 SLO Fall 2013.docx	**Standard Met? :** Yes **Semester and Year Assessment Conducted:** 2013-14 (Fall 2013) **Faculty Assessment Leader:** Linda Ho and Megan Granich **Faculty Contributing to Assessment:** Alice Martinez, Tatiana Roque, Rusty Reece and Ed Barajas **Related Documents:** Math 120-SLO Data Fall 2013 Results.docx Math 120-SLO Data Summary Fall 2013.docx	
El Camino: Course SLOs (MATH) - Math (GE and Non-Science Majors) - ECC: MATH 130 - College Algebra - SLO #2 Solve Problems using Graphical Methods - Solve problems using graphical methods involving a variety of functions, such as: polynomial, rational, radical, exponential, and logarithmic. (Created By El Camino: Course SLOs (MATH) - Math (GE and Non-Science Majors)) **Course SLO Assessment Cycle:** 2016-17 (Spring 2017) **Input Date:** 11/21/2013 **Course SLO Status:** Active	**Assessment Method Description:** Students were asked to graph a logarithmic function. Specific details of the rubric were provided to each instructor (see rubric below under standard and target for success): Test Question: Graph the function f(x) = log (x-2) **Assessment Method:** Exam/Test/Quiz **Standard and Target for Success:** We are optimistic that at least 60% of the students will receive a score of 2 or 3 based on the rubric below for this SLO: A score of 0 means no understanding - left the paper blank A score of 1 means some understanding - have a rough sketch with no points (x, y) given/labeled A score of 2 means most understanding - graph is correctly drawn with some points (x,y) given or	12/16/2013 - A total of 261 students participated in the SLO assessment (13 sections). The percentage of students who scored a 2 or 3 was 65.134%. Thus, the targeted goal (60%) was met. 12.644% (33out of 261) scored a 0, 22.222% (58 out of 261) scored a 1, 26.054% (68 out of 261) scored a 2, 39.080% (102 out of 261) scored a 3. **Standard Met? :** Yes **Semester and Year Assessment Conducted:** 2013-14 (Fall 2013) **Faculty Assessment Leader:** Eduardo Morales **Faculty Contributing to Assessment:** T. Meyer, G. Scott, R. Sibner, P. McDonnell, F.A. Esmaeili, A. Tatlilioglu, R. Ho, A. Khorram, and T. Trinh	01/23/2018 - Here are some recommendations for future improvement that were collected by the instructors who participated in the assessment of this SLO: 1. Review graphing logarithmic functions several times during the semester. This can be done when covering transformation of functions, inverse functions, exponents & logarithmic functions. Graphs can be discussed through the use of a table, through the use of transformations, and using a graphing calculator. 2. It is important to remind students that the x and y-axis can have different scales and review how to graph the vertical asymptote for log functions. Moreover, students need show more details (intercepts, vertical asymptote,

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	labeled but doesn't include the vertical asymptote A score of 3 means complete understanding - graph is correctly drawn with the vertical asymptote and some points (x,y) are given/labeled. **Related Documents:** Math 130-0736 TMeyer SLO-2 Fall2013 (1).docx Math 130-0750 PMcDonnell SLO-2 Fall2013.docx Math 130-0752Sibner Teacher SLO-2 Fall2013 (1).docx Math 130-9791 GScott SLO-2 Fall2013 (1).docx Math 130-9792 ATatlilioglu SLO-2 Fall2013 (1).docx Math 130-9793 ATatlilioglu SLO-2 Fall2013 (1).docx MATH-130-0742-SLO-FALL 13-AVID KHORRAM.docx		graph several points) when graphing a logarithmic function. 3. Students can be reminded that a log function can be graphed by first graphing the inverse function (exponential function) and then interchanging the roles of the x and y-values. 4. The instructor needs to spend more time on the topic of graphing a logarithmic function and not rush through this content. **Action Category:** Teaching Strategies
El Camino: Course SLOs (MATH) - Math (GE and Non-Science Majors) - ECC: MATH 150 - Elementary Statistcs with Probability - SLO #2 Probability - Compute probability of an event by applying the basic assumption in classical probability and using addition rule and multiplication rule for contingency tables. (Created By El Camino: Course SLOs (MATH) - Math (GE and Non-Science Majors)) **Course SLO Assessment Cycle:** 2016-17 (Spring 2017) **Input Date:** 12/12/2013 **Course SLO Status:** Active	**Assessment Method Description:** See attached, SLO QUESTION: Suppose that the gender and the eye color of students in a class of 40 people are distributed as follows: Brown Green Total Male 13 9 22 Female 8 10 18 Total 21 19 40 (Leave all answers in fraction form) a. What is the probability that you pick a green eyed male at random? b. What is the probability the person you chose has brown eyes or is a female? c. What is the probability that you pick a green eyed male twice in a row without replacement Score according to the following criteria: 0 –No understanding Student got none of the probabilities correct 1 –Some understanding Student got one of the probabilities correct 2 –Most understanding Student got two of the probabilities correct 3- Complete understanding Student got all of the probabilities correct You can use the following table to help tally your student results: Score of 0 1 2 3	12/12/2013 - Out of 568 students assessed out of three points, 62 received a 0, 108 recieved a 1, 188 received a 2, and 210 received a 3 10.9% got a zero, 19% got a score of 1, 33.1% got a score of 2 and 37% got 3. This states that 70.1% of students scored a 2 or higher on this SLO This shows that our students have an ability to compute the probability of an event using the addtional rule and multiplication rule for contingency tables. Our students have had many opportunities to compute probabilities and respond to questions related to probabilities in both class and for homework. 21 sections participated out of 28 with a total of 568 students Non Participating Instructors: Nguyen, Diem <dnguyen@elcamino.edu>, El-Abyad, Abdelwahab <aelabyad@elcamino.edu> The following instructors did not participate, but were not on the initial mailing list for the SLO: M. Can, J. Mediza, P. Stoddard, C. Vanish, E. Ndoumna **Standard Met? :** Yes **Semester and Year Assessment Conducted:** 2013-14 (Fall 2013) **Faculty Assessment Leader:** Ambika Silva	05/20/2017 - Raise the target for success from 60% to 65% **Action Category:** SLO Assessment Process

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	Tally After the SLO has been graded, please fill out the survey with the number of students with each score, as well as your thoughts on improving students' success at: http://www.statcrunch.com/5.0/survey.php?surveyid=6294&code=MWKUU **Assessment Method:** Exam/Test/Quiz **Standard and Target for Success:** based on rubric, it is expected that 60% of students will score a 2 or higher on this SLO **Related Documents:** Math 150 FA2013 SLO Question and Reporting Instructions.docx Math 150 FA2013 SLO Question and Reporting Instructions.docx	**Faculty Contributing to Assessment:** L. Wapner, Jasmine Ng, Sue Bickford, Zachary Marks, Bob Horvath, Anna Hockman, L. Wang, Jose Villalobos, Gayathri Manikandan, James Wan, Junko Forbes, May Xu, David Yee, Jose Martinez, Perry McDonnell, Beyene Bayssa, Wendy Miao **Related Documents:** SLO Data M150 FA2013.xlsx	
El Camino: Course SLOs (MATH) - Math (GE and Non-Science Majors) - ECC: MATH 160 - Calculus I for Biological, Management and Social Sciences - SLO #2 Sketch graphs of functions - Identify the intercepts, relative extrema, inflection points, and concavity, and use this information to sketch graphs of functions. (Created By El Camino: Course SLOs (MATH) - Math (GE and Non-Science Majors)) **Course SLO Assessment Cycle:** 2016-17 (Spring 2017) **Input Date:** 11/21/2013 **Course SLO Status:** Active	**Assessment Method Description:** Graph the function f(x) = 2x^3 - 4x^2 + 2x . Use the original function to find x and y-intercepts. Use derivatives to find relative extrema, intervals of increase and decrease and points of inflection. Indicate all points on your graph. **Assessment Method:** Exam/Test/Quiz **Standard and Target for Success:** It is expected that 70% will score 2 or 3 on the rubric below showing mastery of graphing concepts using Calculus. Rubric 0 –No understanding Problem is not attempted OR The graph is obviously copied from a graphing calculator. Points are identified by their location but not by their funtion(e.g. The point (1, 0) is on the graph but is not identified as an x-intercept and a relative minimum.) 1–Some understanding Graph is correctly drawn with points identified by type but no calculations have been done. 2 –Most understanding Graph is essentially correct but with one major set of points poorly done or not calculated or	12/12/2013 - Here are the results out of 5 sections with a total of 149 students: 51 students received 3's (34.2%) 58 students received 2's (38.9%) 26 students received 1's (17.4%) 14 students received 0's (9.4%) Results met and exceeded expectations with scores of 2 and 3 on the rubric comprising 73.8% of 149 students. Individual section scores ranging from 69.6% to 82.1% out of a total of 5 sections. Overall, the students are doing very well on a difficult topic. Suggestions from instructors teaching the course included: (1) Quizzing the students on the concepts earlier in the course so that remediation on weak topics could be done. (2) Perhaps testing after the sections on graphing logs and exponential functions as graphing on those sections helps solidify and simplify polynomial graphing in previous sections. (3) Testing graphing examples with more whole numbers as intercepts and critical numbers than decimals. **Standard Met? :** Yes	12/11/2017 - It is our goal to increase the success rate on this SLO from 70% to 75%. **Action Category:** SLO/PLO Assessment Process

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	drawn properly. For example, extrema points are shown but not points of inflection. 3- Complete understanding Graph is correctly drawn with all intercepts, extrema and inflection points correctly calculated and identified.	**Semester and Year Assessment Conducted:** 2013-14 (Fall 2013) **Faculty Assessment Leader:** Lynn Beckett-Lemus **Faculty Contributing to Assessment:** Ndoumna, Gizaw, Ho, Yang, Beckett-Lemus	
El Camino: Course SLOs (MATH) - Math (GE and Non-Science Majors) - ECC: MATH 161 - Calculus II for Biological, Management and Social Sciences - SLO #2 Compute and Interpret Derivatives - Compute and interpret partial derivatives and apply these skills to application problems. (Created By El Camino: Course SLOs (MATH) - Math (GE and Non-Science Majors)) **Course SLO Assessment Cycle:** 2016-17 (Spring 2017) **Input Date:** 11/21/2013 **Course SLO Status:** Active	**Assessment Method Description:** Test Question: In order to treat a certain bacterial infection, a combination of two drugs is being tested. Studies have shown that the duration of the infection in laboratory tests can be modeled by D(x,y)=x^2+2y^2-18x-24y+2xy+120 where x is the dosage in hundreds of milligrams of the first drug and y is the dosage in hundreds of milligrams of the second drug. Determine the partial derivatives of D with respect to x and with respect to y. Find the amount of each drug necessary to minimize the duration of the infection. **Assessment Method:** Exam/Test/Quiz **Standard and Target for Success:** It is expected that 50% of the students will receive a score of 2's and 3's based on the rubric below on this SLO. Standards or Rubric: • A score of 0 corresponded to “no understanding”, which is writing irrelevant math. • A score of 1 corresponded to “very little understanding”, which is the student was able to find partial derivatives but was not able to apply the Second-partials Test. • A score of 2 corresponded to “most understanding”, which is in addition to determining the partial derivatives, the student determined the critical numbers, applied the Second-Partial Test for relative extrema but failed to find the minimum value. • A score of 3 corresponded to “complete understanding”, which is the student was able to determine the partial derivatives, determine the critical numbers, apply the Second-Partial Test, and finely be able to determine the minimum value. A student scoring 0 or 1 was unsuccessful at mastering the skills needed to apply the Second-Partial Test for relative extrema in solving	01/21/2014 - There was only one section of Math 161 in Fall 2013 and it was a very small sample size that was tested. Out of a total of 25 students, there were four 3's, zero 2's, fourteen 1's and seven 0's. This means that only 16% of the students passed this SLO and 84% of students did not pass. This obviously did not meet the expectation of our targeted goal of 50%. A large portion is because 14 students, who scored 1's, had failed to follow instructions to use the second derivative test. **Standard Met? :** No **Semester and Year Assessment Conducted:** 2013-14 (Fall 2013) **Faculty Assessment Leader:** Dr. Hamza Hamza and Linda Ho **Faculty Contributing to Assessment:** Jacob Epstein **Related Documents:** Math 161-0828- SLO-2 Fall2013 Epstein.docx	01/12/2018 - More emphasis will be focused on the applications of the second derivative test to reinforce the concept and to achieve the target success rate of 50% on this SLO. **Action Category:** Teaching Strategies

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	application problems. A student scoring 2 or 3 is deemed to be successful. **Related Documents:** Math 161-0828- SLO-2 Fall2013 Epstein.pdf		