Assessment: Course Four Column

SPRING / SUMMER 2016

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

ECC: MATH 120:Nature of Mathematics

Course SLOs	*Assessment Method Description*	*Results*	*Actions*
SLO #1 Solve Loan Problems - Apply techniques of simple and compound interest to solve loan and annuity problems. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2015-16 (Spring 2016) **Input Date:** 11/21/2013	**Exam/Test/Quiz -** Tom Angelo needs to borrow $1500 to expand his farm implement maintenance business. He learns that the local bank will lend him the money for 2 years at a rate of 10% compounded quarterly. Tom's grandfather offers to lend him the money for 2 years with simple interest rate of 10.5%. In both situations, assume payback is lump sum at the end of the term. Should Tom borrow from the bank or his grandfather in order to save more money? Explain. **Standard and Target for Success:** It is expected that 65% will score 2 or 3 on the rubric below which shows mastery of solving loan problems. Rubric: 0 –No understanding (Student left problem blank or wrote irrelevant math) 1 –Some understanding (Student was able to compute either compound interest or simple interest but not both)	**Semester and Year Assessment Conducted:** 2015-16 (Spring 2016) **Standard Met? :** Standard Not Met A total of 138 students were assessed (6 out of 6 sections). The results are as follows: 55 students received a 3 (39.86%) 22 students received a 2 (15.94%) 46 students received a 1 (33.33%) 15 students received a 0 (10.87%) Results did not meet expectations. 55.80% of the 138 students scored a 2 or 3. All sections used the proposed SLO question. 2 out of 6 sections exceeded the 65% target. Suggestions from instructors teaching the course included: 1. Consistently remind students to do well on their homework exercise and practice outside class. 2. Do practice problems in class by making them to participate in the discussion 3. Advise students to use all possible resources. 4. Engage students in class. Let them be active learner 5. Encourage students to ask questions whenever they did not understand the problem. 6. Help students develop interest in this topic by explaining how it is applied in their daily life.	**Action:** It is our goal to meet the target success rate of 65% for this SLO assessment by incorporating the suggestions given by the instructors (see "suggestions from instructors teaching the course). (05/23/2020) **Action Category:** SLO/PLO Assessment Process

Course SLOs	Assessment Method Description	Results	Actions
	2 –Most understanding (Student was able to compute both compound interest and simple interest) 3- Complete understanding (Student was able to compute both compound interest and simple interest and find the difference in two interests)	7. Implement more examples or study guides in class. 8. Look for other methods used by other instructors and possibly incorporate them. 9. More frequent reviews plus assigning a project using real life data. 10. The math division could assign more time for the class (its only 3 units). 11. Add a question on the math contest form requiring students to articulate their reasoning. (05/23/2016) **Faculty Assessment Leader:** Junko Forbes **Faculty Contributing to Assessment:** R. Reece, L. Hinkley, J. Martinez, B. Beyene	
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. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2016-17 (Spring 2017) **Input Date:** 11/21/2013	**Exam/Test/Quiz -** 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:		

Course SLOs	Assessment Method Description	Results	Actions
	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? **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:		

Course SLOs	Assessment Method Description	Results	Actions

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
Exam/Test/Quiz - Application Problems using Graphical Methods: VENN diagram. Sample question attached.
Standard and Target for Success:
Based on the rubric below, it is expected that 70% of the students will score a 2 or higher on this assessment.

Rubric:

Course SLOs	Assessment Method Description	Results	Actions
	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 Spring 2017 VennExample.docx		
SLO #3 Analyze Voting System - Analyze voting systems, methods of apportionment and representation to further the understanding of the political process. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2013-14 (Spring 2014) **Input Date:** 11/21/2013	**Exam/Test/Quiz -** Voting Methods: Plurality with Elimination Sample question is attached. **Standard and Target for Success:** Based on the rubric below, it is expected that 60% of the students will score a 2 or higher on this assessment. Rubric:		

Course SLOs	Assessment Method Description	Results	Actions
	0 – No Understanding (This means the student uses the wrong method or leaves it blank). 1 – Some Understanding (This means the student has a general idea of how to compute Plurality with Elimination, but there are numerous mistakes). 2 – Most Understanding (This means they fully understand the method, but make a basic computational error or two). 3 – Complete Understanding (This means the student determines the winner by Plurality with Elimination correctly with no computational errors). **Related Documents:** Math 120 SLO #3 Problem		
SLO #4 Solve Application Problems - Solve application problems using basic counting principles, permutations, combinations, probability, expected value and frequency distribution. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2014-15 (Spring 2015) **Input Date:** 11/21/2013	**Exam/Test/Quiz -** Probability (Combinations/Permutations): Sample question attached. **Standard and Target for Success:** Based on the rubric below, it is expected that 60% of the students will score a 2 or higher on this assessment. Rubric: 0 – No Understanding (This means the student uses concepts other than combinations/permutations/countin		

Course SLOs	Assessment Method Description	Results	Actions
	g rule or leaves it blank). 1 – Some Understanding (This means the student uses combinations instead of permutations or counting rule) 2 – Most Understanding (This means they use permutations or counting rule, but make a basic computational error). 3 – Complete Understanding (This means the student uses permutations or counting rule and correctly computes the numerical solution). **Related Documents:** Math 120 SLO Question Spring 2015		

ECC: MATH 130:College Algebra

Course SLOs	*Assessment Method Description*	*Results*	*Actions*
SLO #1 Solve Nonlinear Inequalities - Solve nonlinear inequalities and a variety of equations such as: polynomial, rational, radical, exponential, and logarithmic. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2015-16 (Spring 2016) **Input Date:** 11/21/2013	**Exam/Test/Quiz -** Students were asked to: solve the following nonlinear inequality and write the final answer using inequality symbols, graph above number line, and interval notation: (6x+12)/(3x-9)<0 Grading rubric: A score of 0 corresponds to no understanding (Left problem blank or wrote irrelevant math) A score of 1 corresponds to some understanding (Determined critical numbers, student earns 1 point). A score of 2 corresponds to most understanding (In addition to determining the critical numbers, the student solved the inequality and wrote the answer correctly using exactly one of the three representations (inequality symbols, graph, or interval notation, the student earns an additional point for a total of 2 points). A score of 3 corresponds to complete understanding (In addition to the above, the student presents the answer correctly using all three representations, the student earns one more point for a maximum total of 3 points). Scores of 2 and 3 correspond to	**Semester and Year Assessment Conducted:** 2015-16 (Spring 2016) **Standard Met? :** Standard Not Met A total of 193 students participated in the SLO assessment (10 out of 11 sections participated). 11% (21 out of 193) scored a 0, 21% (41 out of 193) scored a 1, 23% (44 out of 193) scored a 2, and 45% (87 out of 193) scored a 3. The percentage of students who scored a 2 or 3 was 68%. Thus the targeted goal of a 70% success rate, was not met, but was close. Students were struggling with the meaning of < or >, when writing the final answer. If students had understood the difference between < and >, the success target, would have been met. The following are some recommendations for future improvement in the success rate, that were collected from the instructors who participated in the assessment of this SLO: 1. Have students solve in class practice problems of this type and determine difficulties they have in solving them. 2. Tell students to use publisher's online computer support or free online support websites to practice solving more problems and analyze solutions. 3. Direct students to solve nonlinear inequalities in pairs in class and explain their work to each other. 4. Tell students to read the question clearly and be detail oriented. Stress the difference between < and >. 5. Give students a quiz on the problem of solving nonlinear inequalities, prior to having them take an exam with such a problem. Analyze the mistakes after the quiz. 6. Show students the graph of the inequality and explain what it means to be less than 0 or greater than 0.	**Action:** Give students a quiz on the problem of solving nonlinear inequalities and analyze the mistakes after the quiz. Include such a problem on an exam as an SLO question, after the mistakes from the quiz have been thoroughly analyzed. (05/25/2017) **Action Category:** Teaching Strategies

Course SLOs	Assessment Method Description	Results	Actions
	students being successful and scores of 0 and 1 correspond to students being unsuccessful. **Standard and Target for Success:** We are optimistic that at least 70% of the students will earn a score of 2 or 3.	(05/25/2016) **Faculty Assessment Leader:** Milan Georgevich **Faculty Contributing to Assessment:** A. Shihabi, A. Stillson, M. Georgevich, C. Watson, V. Avakyan, R. Zambrano	
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. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2016-17 (Spring 2017) **Input Date:** 11/21/2013	**Exam/Test/Quiz -** 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) **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 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:**		

Course SLOs	Assessment Method Description	Results	Actions
	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		
SLO #3 Solve Problems Using Sequences and Series - Solve problems using sequences and series. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2013-14 (Spring 2014) **Input Date:** 11/09/2015	**Exam/Test/Quiz -** Students were asked to solve the following problem on an exam: The fifth term of an Arithmetic Sequence is -3 and the eighteenth term is -29. (a) Determine the General Term (b) Use the result from (a) to calculate the twenty-fifth term. **Standard and Target for Success:** The rubric was based on a 4 point scale with the lowest being 0, corresponding to No Understanding, 1 corresponding to Some Understanding, 2 corresponding to Most Understanding, and 3 corresponding to Complete Understanding. Students who earned a 2 or 3 were deemed Successful at mastering this SLO, while those scoring 0 or 1 were Unsuccessful. If a student left the problem blank or wrote irrelevant math, the student's score was 0. If		

Course SLOs	Assessment Method Description	Results	Actions
	the student wrote a few relevant steps, the student would earn 1 point. If the student determined the General Term, the student would earn 2 points, and if the student, in addition to determining the General Term, also calculated the twenty-fifth term, the student would earn 3 points, which is the maximum. The target was set at a 75% student success rate.		
SLO #4 Solve Application Problems - Solve college algebra level application problems and use technology. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2014-15 (Spring 2015) **Input Date:** 11/21/2013	**Exam/Test/Quiz -** The following problem was included on an exam and used as the assessment instrument for SLO #4: The fox population grows exponentially, with a growth rate of 7% per year. In 2010, the fox population was 28000. (a) Construct a function that models the fox population growth after the year 2010. (b) Use the function to estimate the fox population in the year 2023 and round the final answer to the nearest fox. The grading rubric was as follows: If a student left the problem blank or wrote irrelevant math, the student earned a score of 0. If the student identified n0 and r and wrote the exponential growth formula, the student earned a score of 1. Scores of 0 and 1 correspond to students being unsuccessful at mastering this SLO. If, in addition to identifying n0,		

Course SLOs	Assessment Method Description	Results	Actions
	the initial population and r, the exponential growth rate and writing the formula, the student constructed the function, the student earned a score of 2. If, in addition to the previous, the student plugged into the function, obtained an answer, and rounded correctly, the student earned the maximum score of 3. Scores of 2 and 3 correspond to students being successful at mastering the SLO. **Standard and Target for Success:** The target for success was that 70% of the students score 2 or 3.		

ECC: MATH 140:Finite Mathematics for Business and Social Sciences

Course SLOs	*Assessment Method Description*	*Results*	*Actions*
SLO #1 Use of Gauss-Jordan - Use the Gauss-Jordan technique to solve systems of linear equations. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2015-16 (Spring 2016) **Input Date:** 11/21/2013	**Exam/Test/Quiz -** Solve this system of equations using Gauss-Jordan Elimination: x - 2y + z = 0 2x + y - z = 1 4x - 3y + z = 1 **Standard and Target for Success:** Our goal this semester is to reach the success rate of 70% using the following rubric: 0 –No understanding (The student uses a method other than G-J elimination.) 1 –Some understanding (The student sets up the augmented matrix and then loses it.) 2 –Most understanding (Student makes a minor error in matrix manipulation OR does not fully understand how to deal with dependent systems.) 3- Complete understanding (Student does the work essentially correctly - perhaps there is a very minor error). **Related Documents:** Math 140 SLO _1 Assessment SP 2016.pdf	**Semester and Year Assessment Conducted:** 2015-16 (Spring 2016) **Standard Met? :** Standard Met A total of 25 students were assessed (we only offer one section per semester). The results are as follows: 16 students received a 3 (64%) 8 students received a 2 (32%) 1 student received a 1 (4%) 0 student received a 0 (0%) Results met and exceeded expectation of 70% success rate since 96% of the students scored a 2 or a 3. Suggestions from the instructor who teaches the section: 1. Students did in-class activities on three consecutive class meetings before being tested on this SLO. 2. Perhaps assigning take-home activity to improve future results. (05/10/2016) **Faculty Assessment Leader:** Jill Evensizer and Linda Ho **Faculty Contributing to Assessment:** Antony Hoang	**Action:** Since the results are very good on this particular SLO assessment, our goal is to use a more rigorous problem involving Gauss-Jordan Elimination next time to see if the students can still meet the challenge. (05/10/2017) **Action Category:** SLO/PLO Assessment Process
SLO #2 Use of Matrices - Solve problems using matrices. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2016-	**Exam/Test/Quiz -** Solve this matrix equation: Clearly State the values that you find for Xa, Xb, Xc, Ya, Yb, and Yc. Please see attached document for		

Course SLOs	Assessment Method Description	Results	Actions
17 (Spring 2017) **Input Date:** 11/21/2013	the actual problem since equation editor doesn't work in TracDat. **Standard and Target for Success:** Our goal this semester is to reach the success rate of 70% using the following rubric: 0 –No understanding (Student leaves the problem essentially blank) 1 –Some understanding (Student understands the need to find the inverse of the coefficient matrix, but doesn't know how to approach it correctly). 2 –Most understanding (Student found the correct inverse matrix, or made a small error, but also made errors in multiplying or interpreting the results). 3- Complete understanding (The student solved and interpreted the problem correctly or made small arithmetic errors).		
SLO #3 Use of Geometrical Approach - Solve linear programming problems using the geometrical approach. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2013-14 (Spring 2014) **Input Date:** 11/21/2013	**Exam/Test/Quiz -** Students solved a linear program problem using the goemetric approach. There were two sections of Math 140 this semester and each section used the same question but one section eliminated one of the constraints. The problem used is listed below. Maximize P = 3x + 4y Subject to: x + 2y < or = 12 x + y < or = 7 2x + y < or = 10		

Course SLOs	Assessment Method Description	Results	Actions
	x > or = 0 y > or = 0 Both sections graded the problem based on the following rubric Score of 0 - Student cannot graph and correctly shade any of the given constraints. Score of 1 - Student can correctly graph and shade one of the constraints. Score of 2 - Student can correctly graph all of the constraints, shade the correct feasible region, but they do not identify all corner points correctly. Score of 3 - Students can graph constraints, shade the feasible region, identify all corner points and determine which corner point maximizes the objective function. **Standard and Target for Success:** 70% of the students taking Math 140 will score a 2 or 3 on this assessment. **Related Documents:** Math 140 SLO for Spring 2014.docx		
SLO #4 Use of Finite Mathematics Techniques - Solve application problems using finite mathematics techniques. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2014-15 (Spring 2015) **Input Date:** 11/21/2013	**Exam/Test/Quiz -** Students were asked to solve an application problem using a Venn Diagram and the addition principle for counting. The question is below. A food store surveyed 50 of its shoppers as to whether they had purchased bacon or steak during the past week. The results were 30 had purchased bacon, 20 had purchased steak, and 8 had purchased both		

Course SLOs	Assessment Method Description	Results	Actions
	bacon and steak. a. Draw and label a Venn Diagram to numerically represent this survey. Use the Venn Diagram constructed to answer parts b and c. b. How many of these shoppers bought bacon, but not steak? c. How many of these shoppers bought neither of these two meats? Use the Addition Principle for Counting to answer part d. d. How many of these shoppers bought bacon or steak? This question will be graded according to the following rubric 0 –No understanding: Student cannot set up the Venn Diagram correctly. 1 –Some understanding Student can correctly set up the Venn Diagram but cannot answer any of the questions. 2 –Most understanding Student can correctly set up the Venn Diagram and can answer 2 of the 3 questions correctly. 3- Complete understanding Student can correctly set up the Venn Diagram and can answer all of the questions correctly. **Standard and Target for Success:** It is expected that 75% of the students will score a 2 or a 3 on this assessment. **Related Documents:** Math 140 SLO 4 Results Spring 2015.docx		

ECC: MATH 150:Elementary Statistics with Probability

Course SLOs	*Assessment Method Description*	*Results*	*Actions*
SLO #1 Computing and Interpreting Various Measures - From data or bivariate data, compute statistics and develop displays of the data that illustrate the measures of central tendency, variation, relative position, and correlation. Interpret the displays in context. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2015-16 (Spring 2016) **Input Date:** 11/21/2013	**Exam/Test/Quiz -** The following data represent the weights (in grams) of 50 randomly selected quarters 5.49 5.58 5.60 5.62 5.68 5.52 5.58 5.60 5.63 5.70 5.53 5.58 5.60 5.63 5.71 5.53 5.58 5.60 5.63 5.71 5.53 5.58 5.60 5.65 5.72 5.56 5.58 5.60 5.66 5.73 5.57 5.59 5.60 5.67 5.73 5.57 5.59 5.61 5.67 5.73 5.57 5.59 5.62 5.67 5.74 5.57 5.59 5.62 5.67 5.84 Given that Q1=5.58, M=5.6, Q3=5. 67, use IQR/Fences (instructor's choice) to determine if there are any outliers. **Standard and Target for Success:** It is expected that more than 70% of students will have a good or complete understanding of the specified topic and therefore score "2" or "3". These expected percentages are according to the following rubric: Rubric suggestion:	**Semester and Year Assessment Conducted:** 2015-16 (Spring 2016) **Standard Met? :** Standard Met A total of 1083 students (22 out of 31 sections) participated in the SLO assessment . 7.5 % of the student (81 out of 1083) earned "0" 13.1% of the student (142 out of 1083) earned "1" 27% of the student (292 out of 1083) earned "2" 52.4 % of the student (568 out of 1083) earned "3" The percentage of students who scored a 2 or a 3 was 79%. Thus the targeted goal of a 70% success rate was met. For the one section which used a different question, 62.5% passed with 2 or 3 (Please see attached document). Here are the suggestions from instructors teaching the course: 1. Assess the SLO, go over mistakes and misconceptions with students, then assess again. 2. Use different teaching styles to approach topic from different angles including by hand boxplots and technology for visual aids like TI graphing calculators, STATDISK, EXCEL, STATCRUNCH 3.Create activity and let students practice enough on hw before assessing SLO. 4.SI coach always provides peer help. 5.Make videos to strengthen the knowledge. (06/14/2017) **Faculty Assessment Leader:** Diaa Eldanaf **Faculty Contributing to Assessment:** Khorram, Eldanaf, A Martinez, R. Wong, Chen, Forbes, Schult Roman, C. Huang, Sibner, Yee, Barajas, C. Nguyn, Hockman, J Wan, Ryan, Marks, Wapner. These instructors did not participate: Robertson, D. Nguyen, Hemmer, N. Choi, Zeitzew, Xu, Ross, Fogel	**Action:** Action: Give students a quiz on the problem involving SLO #1 (Computing and Interpreting Various Measures) and analyze the mistakes after the quiz. Include such a problem on an exam as a SLO question, after the mistakes have been thoroughly analyzed. (06/14/2017) **Action Category:** Teaching Strategies

Course SLOs	Assessment Method Description	Results	Actions
	3 Student finds IQR/Fences and has a clear statement about outliers. 2 Student finds IQR/Fences but does not have a clear statement about outliers. 1 Student uses only the numbers given to determine outliers. 0 Student leaves the problem blank Category- Number of students 0 –No understanding 1 –Some understanding 2 –Most understanding 3- Complete understanding Total number of students		
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. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2016-17 (Spring 2017) **Input Date:** 12/12/2013	**Exam/Test/Quiz -** The following contingency table shows the survival status and demographics of passengers on the ill-fated Titanic. see attachment for table a. What is the probability that a randomly selected passenger is a woman who survived? b. What is the probability that a randomly selected passenger is dead? c. What is the probability that two randomly selected passengers are a boy who died and a		

Course SLOs	Assessment Method Description	Results	Actions
	girl who survived? d. Construct a relative frequency bar graph of the survived passengers. Interpret, in percentages, the difference between the relative frequencies of “women who survived” and “men who survived”. **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 **Exam/Test/Quiz -** The following contingency table shows the survival status and demographics of passengers on the ill-fated Titanic. See attachment for table (under related document) a. What is the probability that a randomly selected passenger is a woman who survived? b. What is the probability that a randomly selected passenger is dead? c. What is the probability that two randomly selected passengers are a boy who died and a girl who survived? d. Construct a relative frequency bar graph of the survived passengers. Interpret, in percentages, the difference between		

Course SLOs	Assessment Method Description	Results	Actions
	the relative frequencies of “women who survived” and “men who survived”. **Standard and Target for Success:** It is expected that at least 70% of students will score 2 or above on this SLO objective. All of the participating instructors choose the suggested questions to conduct except for one instructor who chose a similar problem of her own (please see attached) **Related Documents:** SLO_17_documents.zip		
SLO #3 Central Limit Theorem - Use the Central Limit Theorem to compute probabilities concerning the distribution of the sample means and comparing these to the probabilities of the related random variable. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2013-14 (Spring 2014) **Input Date:** 05/01/2014	**Exam/Test/Quiz -** Instrucotrs were asked to use a similar problem or the suggested problem below. Suggested Problem: The Boeing 757-200 ER airliner carries 200 passengers and has doors with a height of 72 in. Heights of men are normally distributed with a mean of 69.0 in and a standard deviation of 2.8 in. a. If a male passenger is randomly selected, find the probability that he can fit through the doorway without bending. b. If half of the 200 passengers are men, find the probability that the mean height of the 100 men is less than 72 in. c. When considering the comfort and safety of passengers, which result is more relevant: the result from part (a) or the probability from part (b)? Why? d. When considering the comfort		

Course SLOs	Assessment Method Description	Results	Actions
	and safety of passengers, why are women ignored in this case? Scoring Rubric 0 – no understanding (Left problem blank or wrote irrelevant math) 1 – some understanding (Wrote down a few relevant steps) 2 – most understanding (Made only a minor mistake) 3 – complete understanding (Complete the entire problem correctly) **Standard and Target for Success:** It is expected that at least 60% of students will score 2 or above on this SLO objective. Most of the participating instructors choose the suggested questions to conduct this SLO assessment. Others have chosen to use a similar problem of their own **Related Documents:** Question_n_Rubrics		
SLO #4 Confidence Intervals and Hypothesis Testing - Compute the confidence intervals and conduct hypothesis testing for a variety of parameters, and perform non-parametric hypothesis testing. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2014-15 (Spring 2015) **Input Date:** 11/21/2013	**Exam/Test/Quiz -** With a previous contractor, the mean time to repair a pothole was 3.2 days. A city councilman thinks that the new contractor's mean time to repair a pothole is higher than 3.2 days. He randomly selects a sample of 12 pothole service calls and obtains the following times to repair (in days): 6.2 4.3 7.1 2.9		

Course SLOs	Assessment Method Description	Results	Actions

5.4 3.7 5.5 0.7
7.5 5.6 2.6
1.7

Is there enough evidence to support the councilman's claim? (Use a=0.05 level of significance). Show all the steps of an appropriate hypothesis test. Assume all conditions are satisfied for your chosen hypothesis test.

Standard and Target for Success:
Our goal this semester is that 70% of these students will score a 2 or a 3 on this SLO using the following rubric:

Students will receive a score of 0 - 3 based on how many of the following three things they include in their answer:

- Recognizes and correctly sets up a Hypothesis test including: Stating null & alternative hypothesis & rejecting/failing to reject null hypothesis
- Finds the correct test statistic
- Writes a conclusion with the correct decision and that references the original questions (contractor's time)

Score of 3: Does everything correctly (minor errors are accepted)
Score of 2: Completes TWO of the key concepts correctly
Score of 1: Completes ONE of the key concepts correctly

Course SLOs	Assessment Method Description	Results	Actions
	Score of 0: Completes NONE of the key concepts correctly or leaves the problem blank **Reviewer's Comments:** The question that we used to assess this SLO is a typical example of a medium difficulty problem for hypothesis tests.		

ECC: MATH 161:Calculus II for Biological, Management and Social Sciences

No data found for the selected criteria.

ECC: Math 165:Calculus for Business and Social Sciences

Course SLOs	*Assessment Method Description*	*Results*	*Actions*
SLO #1 Compute and Interpret Derivatives - Determine limits, classify types of continuity of functions, use derivatives to find increments, rates of change and tangent lines, and compute first and second derivatives of functions including partial derivatives. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2015-16 (Spring 2016) **Input Date:** 11/09/2015	**Exam/Test/Quiz -** See attached **Standard and Target for Success:** It is expected that 60% will score a 2 or 3 on the rubric below which shows the mastery of solving limit problem using Calculus. Rubric: 0 – No Understanding (This means the student leaves it blank). 1 – Some Understanding (This means the student initially computed 0/0, but stopped at that point) 2 – Most Understanding (This means the student initially computed 0/0, but factored incorrectly, resulting in an incorrect answer). 3 – Complete Understanding (This means the student initially computed 0/0, factored correctly, canceled correctly and got the correct numerical limit) **Related Documents:** Math 165 SLO Problem Spring 2016.docx	**Semester and Year Assessment Conducted:** 2015-16 (Spring 2016) **Standard Met? :** Standard Met A total of 118 students were assessed (5 out of 5 sections). The results are as follows: 54 received a 3 (47.76%) 17 received a 2 (14.41%) 21 received a 1 (17.79%) 27 received a 0 (22.88%) Results met the target 60% mark, with 71 of the 118 (60.17%) scoring a 2 or a 3. Though the target was met, it is noted that the vast majority of students who did not score a 2 or 3 appeared to be struggling with algebraic steps. This involved the factoring of the denominator and numerator in order to "reduce" the expression enough so that the limit would then exist. If students had a better foundation of basic algebra skills, the success rate would have been much higher. It was not necessarily the lack of calculus skills needed to correctly solve the given problem. The following are some recommendations for future improvement in the success rate, that were collected from the instructors who participated in the assessment of this SLO: - Review numerous examples in class as a means of guided practice before having the students work on similar problems in groups. - Assign numerous HW problems that are of similar difficulty level and type as the one assessed in this SLO. - Go over more HW problems within this topic; conduct more Q&A sessions - Have students work on similar problems on the board,	**Action:** It is our goal to raise the target success rate for this SLO assessment from 60% to 65% by giving a similar limit problem prior to assessing the SLO question and going over the various mistakes with the students to enhance their understanding. (04/26/2017) **Action Category:** SLO/PLO Assessment Process

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		perhaps as part of a "think-pair-share" activity (04/26/2016) **Faculty Assessment Leader:** Megan Granich **Faculty Contributing to Assessment:** Megan Granich, Natalie Koch, Alice O'Leary, Juan Martinez **Related Documents:** Math 165 SLO Problem Spring 2016.docx	
SLO #2 Compute and Interpret Integrals - Evaluate integrals and improper integrals using a variety of methods, including substitution and by parts. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2016-17 (Spring 2017) **Input Date:** 11/09/2015			
SLO #3 Sketch Graphs of Functions - Identify the intercepts, asymptotes, relative extrema, inflection points, and concavity, and use this information to sketch graphs of functions. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2017-18 (Spring 2018) **Input Date:** 11/09/2015			
SLO #4 Solve Application Problems Using Calculus - Use single-variable and multi-variable calculus methods to solve application problems in business and economics, including marginal revenue, marginal profit and marginal cost. **Course SLO Status:** Active **Course SLO Assessment Cycle:** 2018-19 (Spring 2019) **Input Date:** 11/09/2015			