Assessment: Course Four Column

Courses (MATH) - Math

MATH 095:Elementary Algebra

Course Outcomes	Assessment Measures	Results	Actions
Graphs - Graphs of linear equations, inequalities. **Course Outcome Status:** Active **Next Assessment:** 2016-2017 **Start Date:** 05/18/2012	**Exam -** Graph linear equations and inequalities **Criterion:** NA	**Reporting Period:** 2016-2017 **Criterion Met:** N/A Chp. 3 Exam 73% taken Problem # 5: 90.9% 6: 60.6% 7: 69.7% 8: 60.6% 9: 45.5% 11: 63.6% 12: 57.6% 13: 78.8% 14: 45.5% 17: 45.5% Final Exam 60% Taken Problem # 13: 55.6% 19: 44.4% 20: 92.6% (10/25/2017)	**Action:** All of the success percentages that are below 50% here involve graphing by plotting points, which surprisingly indicates to me that the students had a better grasp on graphing using the slope of the line and the intercepts. The problems were missed because of students having trouble "plugging in" values, especially when the equation was not solved for y. I should increase the number of this type of problem on the homework assignments. (10/25/2017)
Solve linear equations and inequalities - Solve linear equations and inequalities **Course Outcome Status:** Active **Next Assessment:** 2021-2022 **Start Date:** 10/25/2017	**Exam -** Chapter 2 Exam Problem # 5, 6, 7, 9, 10, 11, 12, 23, 24, 25 Final Exam Problem # 1, 2, 3, 4, 9, 10, 11 **Criterion:** NA	**Reporting Period:** 2016-2017 **Criterion Met:** N/A Chp. 2 Exam 87% taken Problem # 5: 94.9% 6: 76.9% 7: 84.6% 9: 35.9%	**Action:** I'm happy with the majority of these results. The low success percentage problem on the final was on solving linear inequalities and corresponded to problem #24 on the chapter 2 exam which was also a low score. Possibly I could help with this by

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		10: 51.3% 11: 69.2% 12: 69.2% 23: 76.9%% 24: 38.5% 25: 87.2% Final Exam 60% Taken Problem # 1: 92.6% 2: 74% 3: 75% 4: 79.2% 9: 29.2% 10: 92.6% 11: 81.5% (10/25/2017)	including inequality problems on each review. The other problems that were missed on the chapter 2 exam all involved fractions. This is a known challenge for this level of student. Possibly I could help with more fractions required in the non-assessed assignments. (10/25/2017)
Determine and analyze the slopes of lines - Determine and analyze the slopes of lines **Course Outcome Status:** Active **Next Assessment:** 2021-2022 **Start Date:** 10/25/2017	**Exam -** Chapter 3 Exam Problem # 15, 16, 18, 19, 21 Final Exam Problem # 14, 15, 16, 17, 21 **Criterion:** NA	**Reporting Period:** 2016-2017 **Criterion Met:** N/A Chp. 3 Exam 73% taken Problem # 15: 51.5% 16: 75.8% 18: 27.3% 19: 60.6% 21: 15.2% Final Exam 60% Taken Problem # 14: 44.4% 15: 18.5% 16: 44.4% 17: 40.7% 21: 63.0% (10/25/2017)	**Action:** I'm very unhappy with most of these results. Though the students could graph using the slope, they were unable to use the slope to create equations for lines and also had trouble finding slope given two points (both terribly important in higher courses). I will be adding more slope problems to the non-assessed work to address this. (10/25/2017)
Set up and solve a variety of applied problems using algebraic techniques - Set up and solve a variety of applied problems using algebraic techniques **Course Outcome Status:** Active **Next Assessment:** 2021-2022 **Start Date:** 10/25/2017	**Exam -** Chapter 2 Exam Problem # 8, 21, 22 Chapter 3 Exam Problem # 1, 23 Chapter 5 Exam Problem # 19, 20, 21, 22 Chapter 6 Exam	**Reporting Period:** 2016-2017 **Criterion Met:** N/A Chp 2 Prob # 8: 33% 21: 87% 22: 31%	**Action:** These were "word problems", which are always challenging. The high percentage chapters (3 and 5) had applications that were more like a straightforward problem. The chapter 5 problems were mostly

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	Problem #22, 23 Chapter 11 Exam Problem # 11 Final Exam Problem # 5, 7, 12, 26, 32, 37 **Criterion:** NA	Chp 3 Prob # 1: 79% 23: 82% Chp 5 Prob # 19: 76.5% 20: 94.1% 21: 97.1% 22: 55.9% Chp 6 Prob # 21: 43% 22: 29% 23: 32% Chp 11 Prob # 11: 33% Final Prob # 5: 26% 7: 89% 12: 67% 26: 33.3% 32: 29.6% 37: 0% (10/25/2017)	scientific notation and the low percentage problem #22 was when the students were asked to evaluate a problem given in scientific notation. I think I might try having a separate review with just work problems before the final to help the students remember the types of problems we talked about. (10/25/2017)
Add, subtract, multiply, divide, simplify, and factor polynomials - Add, subtract, multiply, divide, simplify, and factor polynomials **Course Outcome Status:** Active **Next Assessment:** 2021-2022 **Start Date:** 10/25/2017	**Exam -** Chapter 5 Exam Problem # 8, 9, 10, 11, 12, 13, 14, 23, 24, 25 Final Exam Problem # 23, 24, 27, 28 **Criterion:** NA	**Reporting Period:** 2016-2017 **Criterion Met:** N/A Chp 5 Exam 75% taken Problem # 8: 67.6% 9: 35.3% 10: 82.3% 11: 85.3% 12: 61.8% 13: 67.6% 14: 73.5% 23: 67.6% 24: 64.7% 25: 61.8%	**Action:** The low percentage problems on the final were problem 23, which dealt with subtracting polynomials and corresponded to problem 9 on the chapter 5 exam (also low). The other was using long division and corresponded to problem 24 on the chapter 5 exam. The problem with the subtraction was actually with distribution both times. Students would forget to distribute the – sign through the polynomial being subtracted. A

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		Final Exam 60% Taken Problem # 23: 29.6% 24: 70.3% 27: 37% 28: 100% (10/25/2017)	more pointed review of the distributive property is needed. (10/25/2017)
Factor polynomials and solve equations by factoring - Factor polynomials and solve equations by factoring **Course Outcome Status:** Active **Next Assessment:** 2021-2022 **Start Date:** 10/25/2017	**Exam -** Chapter 6 Exam Problem # 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21 Final Exam Problem # 29, 30, 31, 33, 34 **Criterion:** NA	**Reporting Period:** 2016-2017 **Criterion Met:** N/A Chp 6 Exam 62% taken Problem # 1: 53.6% 2: 64.3% 3: 60.7% 4: 71.4% 5: 75% 6: 71.4% 7: 67.9% 8: 32.1% 9: 57.1% 10: 39.3% 11: 50% 12: 64.3% 13: 25% 14: 21.4% 15: 21.4% 16: 28.6% 17: 60.7% 18: 75% 19: 42.9% 20: 35.7% Final Exam 60% Taken Problem # 29: 70.3% 30: 51.9% 31: 51.9% 33: 29.6% 34: 70.4% (10/25/2017)	**Action:** I'm very disappointed with most of these results. The lowest percentages are on problems that involve factoring trinomials of the form ax^2+bx+c where a?1. I think more learning material on this subject might help since these problems are not that difficult once you understand the procedure. I will find or create another video for the students to look at for this chapter. Surprisingly, factoring difference of squares and sum/difference of cubes binomials also had very low success rates here. This might have been because there was not much time between the exam and the section where these were discussed. (10/25/2017)
Solve quadratic equations using	**Exam -** Chapter 11 Exam	**Reporting Period:** 2016-2017	**Action:** The students were clearly

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other quadratic methods - Solve quadratic equations using other quadratic methods **Course Outcome Status:** Active **Next Assessment:** 2021-2022 **Start Date:** 10/25/2017	Problem # 8, 9, 12, 13, 14, 15, 16, 17, 18, 19, 20 Final Exam Problem # 38, 39, 40 **Criterion:** NA	**Criterion Met:** N/A Chp 11 Exam 53% taken Problem # 8: 58.3% 9: 75% 12: 37.5% 13: 37.5% 14: 25% 15: 33.3% 16: 29.2% 17: 33.3% 18: 33.3% 19: 33.3% 20: 33.3% Final Exam 60% Taken Problem # 38: 37.0% 39: 25.9% 40: 0.4% (10/25/2017)	not prepared well in this last chapter. The most common errors all seemed to have to do with the square root on the quadratic formula. This concept was reviewed with a section from chapter 10 before the sections on chapter 11 were given. Maybe I should set a minimum grade requirement on the section 10.1 quiz to make sure they have the concept before moving on? I dislike setting minimum grade requirements for homework since that can cause trouble with students who work so I am not sure. (10/25/2017) **Follow-Up:** This course had a large number of students not complete, with 20.8% dropping the course, and still more simply not completing the course though they did not drop. As can be seen, by the end of the course, only 60% of the students who were still in the course even bothered to take the final exam. Together with the drops, this means 54.7% of the original students did not even complete the course. I had feedback that students were concerned about the number of proctored exams required since many of them had to find non-GBC testing locations. Because of this, my largest planned change to the course is to reduce the number of proctored exams to put less burden on the students. (10/25/2017)