Math 70 Master Syllabus

Course Outcomes:

The successful Math 70 student is able to:

accurately use the order of operations in order to reduce an expression, including those with absolute values, signed numbers, fractions, and/or decimals.

add, subtract, multiply, and divide fractions and decimals

explain when and why to use common denominators when performing operations on fractions

identify whether a number is a whole number, an integer, or a real number

simplify and evaluate algebraic expesssions

solve and simplify linear equations

intepret a point on a line in the context of a word problem

interpret the slope of a line in the context of a word problem

graph linear equations in two variables

determine the intercepts of a given line whether from a graph or from an equation

determine whether a basic equation is linear or exponential

determine from a table of values whether an equation is linear or exponential

solve systems of linear equations

solve a variety of world problems based on linear equations or systems of linear equations

manipulate exponential expressions, and use scientific notation

factor quadratic and other polynomial equations

solve quadratic equations

identify whether an equation is linear, quadratic, or exponential

If time:

basic simplifying of square roots and knowing $x^2 = 25$ means $x = \pm\sqrt{5}$

basic use of quadratic formula

Possible/Rough Timeline:

Week 1: Order of Operations/signed Numbers/operations with Real Numbers

Week 2: Algebraic expressions/order of operations/algebraic properties

Week 3: Solving Algebraic equations in one variable/modeling with albegraic equations in one variable

Week 4: Inequalities in one variable/introduction to lines through modeling and graphing

Week 5: Linear equations in two variables, introduction of exponential equations

Week 6: Systems of linear equations (with lots of modeling)

Week 7: Catch-up, parallel and perpendicular lines, more modeling with lines and systems of equations of lines

Week 8: Integral exponents, Quadratic equations, factoring

Week 9: Continue quadratics

Week 10: Review/Catch-up

<u>Materials</u>

Textbook: Beginning and Intermediate Algebra, 4th edition, by Miller, O'Neill, Hyde

Optional online platforms: Connect or Aleks