

## Math 95 Master Syllabus

### Course Outcomes:

#### The successful math 95 student can:

solve linear equations in two variables

solve word problems involving linear equations and systems of linear equations

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

accurately and efficiently perform calculations with real numbers including fractions, decimals, signed numbers, absolute value, etc.

identify equations as linear, exponential, or polynomial

factor quadratic and other polynomial expressions including when the leading coefficient is not 1.

solve quadratic equations by factoring, using the square root property, or using the quadratic formula

perform operations involving polynomial and rational expressions

solve equations containing rational expressions

simplify and perform operations involving radicals/rational exponents

solve equations involving radical expressions

apply the rule of functions including accurately applying function notation

find the largest possible domain and range of a function from its graph

find the largest possible domain of a linear, quadratic, square root, or rational function from its graph or equation

solve compound inequalities

identify the vertex and intercepts of a quadratic function (in vertex form or standard form)

solve word problems involving quadratic equations

recognizes exponential vs. linear modeling. The student knows linear means increasing by a constant amount while exponential means increasing by the same percentage.

solve absolute value equations

solve simple absolute value inequalities by finding the  $x$ -intercepts

solve systems of non-linear equations involving quadratic and linear equations.

### Possible/Rough Timeline:

Week 1: Review Linear Equations with an emphasis on modeling, lots of interpreting of the slope, intercepts, points/Quadratics and factoring

Week 2: Factoring/system of linear equations, system of equations with both lines and quadratics, recognizing exponential vs. linear vs. quadratic equations with modeling

Week 3: Catch-up, Rational expressions and equations

Week 4: Continue Rational expressions and equations

Week 5: Introduction to function notation/domain and range

Week 6: Absolute value equations, compound inequalities

Week 7: Absolute value inequalities, rational exponents, radical expressions

Week 8: Radical equations, catch-up, quadratics

Week 9: Quadratics

Week 10: Catch-up/Review

Materials

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

Optional online platforms: Connect or Aleks