**Revised Learning Objectives – Math 110**

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| Learning Objective |
| **110-1** | Concept of Function |
| Students will be able to… |
|  | Identify if a relationship is a function and justify with the definition of a function. |
|  | Demonstrate proper use of function notation. |
| Given any of the four representations of a function, (algebraic, table, graph, contextual), students will be able to … |
|  | Identify independent and dependent variables. |
|  | Identify domain and range using interval or inequality notation.\*\*for all functions not listed in 110-2 |
| **110-2** | Families of Functions |
| Students will be able to identify, solve for, and/or interpret the characteristics of each family of functions as appropriate (linear(L), exponential(E), logarithmic(G), power(P), polynomial(Y), quadratic(Q)): |
|  | Intercepts |
|  | Rates of Change |
|  | Asymptotes |
|  | End Behavior |
|  | Domain and Range (using interval or inequality notation). |
|  | Maximum and Minimum |
| Given any of the four representations of a function, students will be able to … |
|  | Identify the function family |
|  | Match to an equivalent representation |
|  | Create an equivalent representation |
| Students will be able to write the equation for |
|  | A linear function (from the vertical intercept and a rate OR from two points) |
|  | A piecewise function (from a table, graph or context) |
|  | An exponential function (from the vertical intercept and a rate, from the vertical intercept and another point, or from financial information) |
|  | A power function (from context) |
| Given any of the four representation of a function, students will be able to identify and apply simple transformations: |
|  | Horizontal/vertical shifts |
|  | Horizontal/vertical axis reflections  |
| **110-3**  | Modeling with technology |
| Given data, students will be able to … |
|  | Identify the most appropriate model based both on technology and the context of the situation and justify reasoning. |
|  | Use technology (regression) to find a curve of best fit. |
| **110-4** | Algebraic Manipulation |
| Students will be able to perform the following manipulative skills and interpret the results: |
|  | Given input, find output. |
|  | Given output, find input. |
| Students will be able to perform the following manipulative skills with algebraic expressions and equations: |
|  | Use the rules of integer and rational exponents to simplify simple expressions. |
|  | Rewrite a logarithmic equation into exponential form and vice versa. |
|  | Factor simple equations.  |
| **110-5** | Systems |
| Given a system of linear equations… |
|  | Write equations for the system (in standard or slope-intercept form). |
|  | Solve and interpret the results of a system of equations both graphically and algebraically. |
| Given a system of inequalities… |
|  | Write the system of inequalities. |
|  | Solve the system graphically. |
| **110-6** | Composition and Inverses |
|  | Perform a composition of two functions both with specific numbers and with variables. |
|  | Find the inverse of a given function using proper inverse function notation. |
|  | Given a context and a function such as t-1(4)=20, a student will be able to interpret the equation in context. |
| **110-7** | General Mathematical Skills |
|  | Explain complex mathematical concepts and procedures using appropriate mathematical terminology. |
|  | Organize and update a math portfolio as directed in a portfolio. |

Notes:

1. Based on the “Math Survey Overview”, an effort will be made to increase the exposure of Math 110 students to fractions, percentages, scientific notation, and powers of 10.