Travis Lepley

EDTL 7100

10-1-10

Unit Intended Learning Outcomes

Relations, Functions, and Graphs

Subunit One: Linear Relations and Functions

* Students will determine whether a given relation is a function and perform operations with functions. (application)
* Students will evaluate and find zeros of linear functions using functional notation. (application)
* Students will graph and write functions and inequalities. (comprehension, application)
* Students will create and interpret graphs with the graphing calculator. (comprehension, application)
* Students will write equations of parallel and perpendicular lines. (knowledge, comprehension, application)
* Students will model data using scatter plots and write prediction equations. (comprehension, application, analysis, synthesis, evaluation)
* Students will use calculator programs to model real world data. (application)

Subunit Two: Systems of Linear Equations and Inequalities

* Students will solve systems of equations and inequalities. (application)
* Students will define matrices. (knowledge, comprehension)
* Students will add, subtract, and multiply matrices. (application)
* Students will use matrices to model transformations. (application, analysis)
* Students will find determinants and inverses of matrices. (application, analysis)
* Students will use linear programming. (application, analysis, synthesis, evaluation)
* Students will exhibit satisfactory competency with the applications of the graphing calculator. (application)

Subunit Three: The Nature of Graphs

* Students will graph functions, relations, inverses, and inequalities. (application, analysis)
* Students will analyze families of graphs. (analysis)
* Students will investigate symmetry, continuity, end behavior, and transformations of graphs. (comprehension, application, analysis)
* Students will find asymptotes and extrema of functions. (application, analysis)
* Students will solve problems involving direct, inverse, and joint variation. (application)
* Students will evaluate and interpret the graphs with the graphing calculator. (comprehension, application)

Subunit Four: Polynomial and Rational Functions

* Students will determine roots of polynomial equations. (application)
* Students will solve quadratic, rational, and radical equations and rational and radical inequalities. (application)
* Students will find the factors of polynomials. (application, analysis)
* Students will approximate real zeros of polynomial functions. (analysis, synthesis)
* Students will write and interpret polynomial functions that model real-world data. (synthesis, evaluation)
* Students will use the proper techniques on the graphing calculator to evaluate the functions. (application)

Students will also be provided with extra examples to help them reach their outcomes.