University of Arkansas - Fort Smith
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General Syllabus

MATH 0301 Math Drill

Credit Hours: 1 Lecture Hours: 1 Laboratory Hours: 0

Prerequisite: MATH 0304 Beginning and Intermediate Algebra (C grade) or required placement score.

Effective Catalog: 2018~2019

I. Course Information

A. Catalog Description

Supports and enhances math skills by providing additional instructional support and math practice time for students to develop mathematical skills needed for college level mathematics courses.

B. Additional Information - None

II. Student Learning Outcomes

A. Subject Matter

Upon successful completion of this course, the student will be able to:

1. Recognize real number sense topics and perform operations therein.
2. Correctly perform operations on algebraic expressions.
3. Analyze graphs.
4. Solve equations.
5. Model data and perform critical thinking analysis on the data.

B. University Learning Outcomes (ULO)

This course enhances student abilities in the following areas:

Analytical Skill

Quantitative Reasoning: Students will assign and use numbers, read and analyze data, draw inferences, and support conclusions based on sound mathematical reasoning. Students will apply appropriate mathematical/statistical models to solve problems. Students will represent mathematical/statistical information symbolically,

visually, numerically and verbally and will interpret models and data in order to draw inferences.

Communication Skills (written and oral)
Students will communicate quantitative information proficiently. Students will compose a rough draft document analyzing a budget or statistical study written to inform their peers. Students will effectively communicate orally in a small group setting their document and discuss each individual's document in the group looking for ways to improve.

III. Major Course Topics

A. Factor different types of polynomials
   1. Greatest common factor
   2. Factoring by grouping
   3. The sum and difference of two squares
   4. The sum and difference of two cubs

B. Perform operations on radicals, operations using fractional exponents and solve radical equations containing square roots
   1. Simplify a radical expression
   2. Add and subtract radical expressions
   3. Multiply radical expressions
   4. Solve an application containing a radical expression

C. Multiply, divide, and subtract rational expressions
   1. Add and subtract rational expressions
   2. Perform operations on three or more rational expressions

D. Graph lines and determine intercepts and slopes
   1. Graph a linear equation in two variables by plotting points
   2. Identify the x-intercept and y-intercept given a linear equation and use them to graph the line
   3. Find the slope of a line given a graph
   4. Find the slope of a line passing through two given points
   5. Find the slope of a line given its equation

E. Solve polynomial and rational inequalities
   1. Solve a compound inequality in one variable involving "and"
   2. Solve a compound inequality in one variable involving "or"
   3. Solve rational inequalities

F. Formulate equations and solve application problem